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BOOK REVIEW

Trivial pursuit: the case of the travelling facts

Peter Howlett and Mary Morgan (eds): How well do facts travel? The dissemination of reliable knowledge. Cambridge: Cambridge University Press, 2011, 465pp, $31.99 PB

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What happens when facts, real or hypothesised, are used in a context different to the one where they were discovered or produced? What facilitates and what hinders their inter-contextual journeys? Do they undergo any changes in the course of their travels? How fruitful are they when they arrive at a new destination? Under what conditions can we say that facts have travelled well? The sixteen essays in this volume, co-edited by Howlett and Morgan, attempt to address these prima facie alluring questions and others like them.

The volume's contributors hail mostly from the social, and in particular the historical, studies of science. Each contribution opens a window into the (occasionally bidirectional) travels of facts between contexts. The contexts are variably manifested. Sometimes they are distinct scientific disciplines as, for example, in Ramsden's essay where facts about the crowding of rats found their way from ecology to social and behavioural science. At times they involve the same discipline but are spatiotemporally separated. Valeriani's essay, for example, details the travels of architectural and construction facts from Italy to England in the Renaissance. Finally, they sometimes concern the scientific and the public domains. Oreskes' essay, for example, tells the story of how facts from the climate sciences vied with 'facts' from the Western Fuels Association's campaign against anthropogenic global warming for the public's attention. The sheer diversity of the case studies, which also includes fiction and science popularisation (Adams), medical practice and science (Ankeny), ethology and behavioural science (Burkhardt), longevity (Haycock), agriculture and technology transfer (Howlett and Velkar), biology (Leonelli), epidemiology (Mansnerus), nanotechnology (Merz), romance novels and evolutionary psychology (Schell), architecture (Schneider), hydraulics, civil engineering and flood risk management (Whatmore and Landström) and archaeology (Wylie), generates the expectation that

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important insights into the nature of facts and their travels are only a few hundred pages away. Alas, this expectation is not realised.

In the editorial preface, we are told, among other things, that the essays 'do not adopt any *one* theoretical' approach towards facts (xvi) [original emphasis]. Indeed, this attitude is promoted as a virtue: '… we take a relaxed, open view about how to study knowledge, one that coalesces around a particular object of study, facts…' (xvi). Not wanting to sound too relaxed, Howlett and Morgan add that the book's essays 'share an understanding of what facts are and a framework for answering questions about what it means for facts to travel well' (xvi). The authors of those essays do indeed share the relevant terminology, but it is far from clear that they share an understanding of facts. Morgan, for example, asserts that 'Facts are *not* fictions, theories, inferences or the merely surmised' (10) [original emphasis]. This assertion alone, despite an ad hoc attempt to deflate it (22–25), contradicts a number of assertions made by her fellow contributors. Wylie suggests that in principle 'there is no distinction between fact and fiction; historical and archaeological facts just are whatever we narrate them to be' (318). Mansnerus is happy to include all sorts of theories as facts, e.g. the microbial transmission mechanism conjecture in the Goodnight Kiss Model which she brands fact 'F9' (386). And Oreskes insinuates that facts are what a scientific community infers: 'So, if by a scientific fact we mean a conclusion that is broadly accepted by the relevant expert scientific community, then the claims of the [anti-global warming] video ["The Greening of Planet Earth"] were not, in fact, factual' (148). These and other discrepancies defeat the purpose of finding a unified answer to the question 'how well do *facts* travel?' What is disquieting about the whole project is that contributors hardly make any attempts to systematically support the particular conception of facts they embrace. Moreover, the minority who do make such attempts, for example Morgan, do not get very far and virtually ignore the vast literature on the subject, e.g. the relationship between truth and facts.

Beyond the conceptual problems, this collection suffers from a number of other issues, foremost of which is a tendency to pass off trivial claims as precious lessons. Let us begin with Morgan since her chapter summarises, among other things, the main results that emerge out of the collection as well as the Leverhulme Trust- and ESRC-funded research programme that she led and that shares the book's name. Morgan begins her chapter with a list of four travelling facts, each of which is associated with a presumably important lesson. The first lesson is that some facts travel far 'but not entirely well' (3). I do not expect many scholars of science to be stunned by this revelation. Sadly, we all have some experience in academia, not to mention in everyday life, of factual or other claims whose content ends up getting distorted (either through careless or through unscrupulous behaviour) when they travel. The second lesson is not really presented as a lesson at all, but, rather confusingly, as a series of questions relating to the travel of facts that are 'embedded in artefacts and technologies' (4). Perhaps, the intended lesson here is that artefacts can contain material clues about a bunch of things including the technology utilised to construct them. This is indeed true but a truth on which the whole subject of archaeology is premised—material clues are, of course, also the basic premise in forensics—so, once again, no light is thrown on the topic at hand. The third lesson is

that 'bad facts (poorly attested, dubious, fictional) can drive good (well-evidenced) facts out of circulation' (4). Frankly, I find the prospect that one needs to be alerted to the fact that some sections of the population can discard perfectly good facts in favour of bad ones depressing. The readers are no doubt familiar with the war being waged against evolutionary facts. Finally, the fourth lesson is that 'the careful packaging' and 'chaperon[ing]' of facts support their travelling (5). What does Morgan mean by this? She claims that facts need 'travelling companions… [ranging] from the mundane level of labels and packaging to the more material vehicles of transportation, as well as to the people involved in chaperoning, and from the various kind of institutional structures that support travelling knowledge to the technical standards that carry facts with them' (27). Although this claim is a bit more involved than the others, it is not exactly an eye-opener. Leaving aside the more banal items on the list and focusing on the last mentioned, anyone who knows a little about science knows that a set of facts/data is clearly not of much use unless it is supplemented with information about what variables were measured, whether the data have already been processed for noise and by which algorithms, which units of measurement were employed, etc. In short, such a person does not need to read a book on facts to know the key role such 'travelling companions' play.

Morgan is not the sole purveyor of trivial claims. Several other authors hawk such claims in their essays. They include Adams' claim that '[n]on-specialists are less qualified to distinguish real facts from false facts' (169), Howlett and Velkar's claim that 'technologies and facts about technologies could, and do, travel in bundles or packages' (297), Merz's claim that, in order to travel well, facts about images 'need to be packaged more thoroughly with legends and explanations that accompany the image… (372), Oreskes' claim that '… we might not expect the public to fully understand the scientific roots of scientific facts' (158), Ramsden's claim that some facts may travel well 'through the work of others [e.g. through secondary literature]' (246) and Valeriani's claim that '[a] lack of observer expertise can result in facts travelling badly—or even not at all' (68).

But what of the central question of the book? Howlett and Morgan offer a two-pronged reply to this question, each prong apparently carrying with it an invaluable insight: 'first, that facts travel well when they travel with integrity; and second, that facts travel well when they travel fruitfully' (12). Morgan explains that 'travelling with integrity' means that 'the content of the fact is maintained more or less intact during its travels' and that 'travelling fruitfully' means, for all intents and purposes, that facts 'find new *users* [and] new *uses*' (12) [original emphasis]. Consider the case of fruitfulness first. The very idea of a fact that has travelled between contexts presupposes the idea that the fact turns up in a context other than the one where it was discovered or produced. But, a different context is likely to have at least some different users, different goals and hence different uses towards which imported facts can be put. So, in effect, Morgan's (and potentially Howlett's) conception of travelling fruitfully reduces to travelling simpliciter. As such, it cannot help us distinguish between travelling well and travelling badly. Now consider integrity. Take any set of data and apply an unsystematic transformation of its values. Such a transformation is not likely to result in a set of data that travels well to, or are useful in, another context.

In short, and at the risk of belabouring the belaboured, the point about integrity is glaringly obvious.

Allow me to conclude this review with a mini diagnosis of what may have gone wrong. It seems to me that at least part of the problem is that the questions being asked, alluring as they may at first sound, invite trivial answers. Otherwise put, the authors ask the wrong questions or at least rather unspecific versions of the right questions. The collection would have benefitted from questions that are more epistemically probing. For example, 'What kind of differences, if any, are there between the epistemic standards of fact-hood employed by different scientific disciplines?', 'What would differences in epistemic standards entail for the journey of facts from one discipline to another?', 'Under what conditions ought we reasonably expect that facts in one discipline can be used as a blueprint for the development of a brand new discipline or the modification of an existing one?' and 'What is the optimal way of resolving conflict when the presumed facts from one discipline contradict the presumed facts from another?'. Attempts to address related questions were occasionally made by some of the authors, see for instance the very good essay by Burkhardt, but they were few and far between. This book is pleasant to read, offering an abundance of fascinating historical details. Just don't expect to learn much about the travel of facts from it.