

private or public decisions. Thus Brewer's careful analysis of what warrant there might be for a lay-person to believe an expert witness is detached from the question of the grounds that lay people *do use* to accredit an expert as authoritative. This is an empirical matter, and surely one about which experienced trial attorneys know a good deal, but it is no less amenable to philosophical analysis. In short, it would seem that a philosophy of expertise is as much a philosophy of politics as a matter of epistemology. But questions of the relations of experts to publics are not well conceived solely in terms of 'Contesting Expertise', the heading used in this book. In this collection the expertise-as-politics theme is developed only in Turner's 'What is the Problem with Experts?' and in Julia Annas's 'Moral Knowledge as Practical Knowledge', which treats the problem of expertise in the Platonic dialogues. Annas points out that for the ancients, expert knowledge included the virtue of appropriate application with clients in communities. There is a good deal of that sort of expertise still hanging about; certainly expectations of a mix of knowledge and virtue guide one's relations with auto mechanics and dentists, as well as climate scientists and economists.

This is a pioneering volume. I hope that it will be followed by monographs, and articles that will take up the issues presented here, and push them into new contexts. My suspicion is that 'expertise' is too variously used to serve as a single subject of inquiry; but that 'the roles of experts' – effectively the agenda laid out in Turner's essay – is an important focus for the work of philosophers and political theorists. That theme would build from, though not foreground, many of the issues represented here.

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Dominique Brossard, James Shanahan and Clint Nesbitt (eds), *The Public, the Media and Agricultural Biotechnology* (Wallingford: CABI, 2007). 414pp. ISBN 978 1 84593 204 6, £75.00 / \$150.00.

This book addresses the complex relationship between the public and the mass media in relation to agricultural biotechnology. The three editors, spanning a triangle between Madison-Wisconsin,

Cornell and Maryland, give space to 32 colleagues from nine countries. The preface by the editors and chapter 1 by Brossard and Shanahan are helpful in setting the scene, defining the ambition, and explaining the structure of the book.

Part 1 of the book reports on public opinion in the USA, UK, Germany, Switzerland, and Brazil. This is a helpful overview of some polling and attitude-survey activities in different contexts, but cannot be considered a summary overview. It covers the USA well, and the graphic on page 17, 'global attitudes to GM crops', shows the challenge: the international variance of opinion that needs to be explained.

Part 2 opens the theoretical ambition of this volume: to model the formation of opinions. Four models are presented: attention cycle and framing; spiral of silence; hostile media effect and pluralistic ignorance; and risk perception. The ideas of framing, attention cycle and spiral of silence seem to me particularly fertile ideas in this context, modelling public opinion as a process over time. Both models are brought to bear on the US scene, and it remains open, as Scheufele notices (p.243), whether these processes work universally in the same way. That would be an interesting question of comparative research, indeed.

The last Part brings together various experiences from the USA, Canada, the Philippines and India on how to communicate agri-biotechnological innovation successfully. Interestingly, participatory ideas like the consensus conference appear as 'strategic communication tools' in this context (chapter 13).

The book is very well produced for a social science publication, but it seems to me a missed opportunity. While the chapters are richer than I can describe in the space allowed me here, the collection lacks coherence and a common question.

It appears that the editors intended to frame their book around ideas of opinion formation across the attention cycle. Indeed, much analytic power could be expected from such an ambition. Admittedly, the opinion formation literature is sadly fragmented (agenda-setting, framing, spiral of silence, pluralistic ignorance, risk perception, etc.). Researchers must choose a particular hypothesis like they might buy the dress for all occasions; clearly not a desire that can be satisfied. What we miss is a good theory that can tell us which hypothesis works for what circumstances; and it could just be that the attention cycle idea can offer this integrative insight. However, the reader will not find answers to this urgent theoretical and eminently practical problem

in this book. The contributions do not address a common research question; rather they come across like a 'show and tell' exercise: everybody shows what they are proud of.

Nor does the book offer a solid and broad overview of the existing literature on agri-food controversies around the globe. It appears relatively late in the issue cycle, considering that this public debate has been going on since the mid-1990s in Europe and elsewhere; there is no lack of evidence. The debate over GM crops and food came later in the USA (if there ever was one, after having closed it in the 1980s); so the book's myopia in this regard may reflect the three editors' locations within US institutions with agricultural extension traditions. There is always a danger of mistaking 'globalisation' for the diffusion of a local model; there is no substitute for reading and comparing the literature when constructing a global model of public opinion formation.

The selection of contexts lacks a rationale. Why those countries and not others? Probably the selection reflects the opportunity network of the editors. Take the most common GM crop: soya. Argentina, the third largest soya producer and world leader in transgenic soya production, is not included in the analysis, neither is Japan nor China, who are major soya importers and consumers with protracted regulatory and political contexts. For the USA the book presents potentially interesting contradictory evidence on public opinion (e.g. PEW versus Environics). But there is no effort to address this either as a methodological issue or as an issue of substance.

Starting from the framing idea, the editors do not consider the implication for their own question: what about the meta-frame 'agricultural biotechnology'? The Swiss chapter addresses the Red versus Green biotechnology, and the PEW study refers to attitudes that include 'human genetic engineering'. Is the separation of agricultural from biomedical biotechnology not artificial and already a major framing effort? When and how did it occur somewhere between the 'rDNA revolution' of the 1970s and the taken-for granted world of 2005? Driving distinctions to frame public debates is a key element of strategy in technological debates.

A key issue of international comparisons is the absent covariance between public opinion and policy: opinions on GM crops do not vary in line with policy in the EU, the USA, Brazil and Argentina – all major players in this development. Argentina has largely adopted GM soya, with very little public debate, and if people are asked they seem not in favour; the same is true for the USA. What does this mean for public opinion: an irrelevant epi-phenomenon of policy making?

Finally, there is an unspoken tension between the main outlook of the book, strategic communication of agricultural technology, and the ideas of public deliberation (see chapter 13), which is not discussed. This tension is quietly resolved by assimilating 'public deliberation' to the strategic agenda of effective communication.

Interesting is the book's back cover, which advertises 'related titles' on intellectual property on seeds, WTO trade liberalisation, trade policy for GM products, and regulating liabilities. Clearly the quest for effective diffusion of agri-biotechnology to farmers and consumers needs to be seen in the context of these wider issues. But the book does not even hint at such a wider context. Rather than understanding the 'genetic engineering revolution' it seems predicated on pushing it by subscribing to the traditional division of labour: science discovers, agronomy innovates, and social science provides the market.

In conclusion, this is a weighty and glossy book, but a missed opportunity to review and integrate the evidence on opinion formation around the idea of issue cycles. Agricultural biotechnology has been debated for 10 or more years in public around the globe, and the evidence would have been ample. However, some of the chapters are nevertheless useful to read in isolation, either for particular teaching needs (issue cycle, knowledge gaps, spiral of silence, pluralist ignorance) or for local facts about perceptions of biotechnology (the country reports).

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