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Narrative Exchange as Knowledge Transfer: The Rhetorical Construction of Opposition to GM Crops in SW England

By David Downing (University College London)

The release of genetically modified organisms into the environment and food chain in the UK has produced one of the most visible and enduring controversies of recent times. Amid ongoing claim and counter-claim by actors on either side of the Genetic modification (GM) 'debate' over the salient 'facts' or balance of risks and benefits associated with the technology, this controversy can be fruitfully seen as a struggle between contested networks of knowledge. Drawing on ethnographic data collected during recent PhD fieldwork, I focus on those, loosely defined as members of 'local food networks' in SW England, who perceive their values and cultural projects to be at risk from the deployment of this technology. In scrutinizing how distinctly 'oppositional' knowledge is created, exchanged and transformed particularly in relation to the construction and maintenance of cultural and historical boundaries, I suggest that in this arena a key vehicle of knowledge transfer is the narrative or story. A successfully deployed narrative can resolve uncertainties, or equally, dissolve undesirable certainties. Knowledge transfer thus becomes a matter of rhetoric, of persuasion, whereby skilfully deployed narratives can be viewed as analogical networks of associations—enrolling culturally appropriate characters, values and concepts—to move the targeted audience in the desired manner. I argue that such transfers must be seen not only as exchanges of networks of knowledge but also of networks of ignorance, for as the ethnographic data reveals, when the stakes are perceived to be so high, ideological coherence often outweighs empirical evidence and logical consistency. This raises a critical dilemma for the ethnographer. What should he/she do when confronted in the field by exaggerated claims or misinformation?

Introduction

The release of genetically modified organisms into the environment and food chain in the UK has produced one of the most visible and enduring controversies of recent times. Genetic modification (GM) is of intrinsic interest as a new technology with the potential to affect people's lives profoundly, through the food they eat and the environment they live in. The controversy around GM touches upon a wide range of key cultural arenas and sites of tension and contestation in contemporary society. It provides a window onto the transfer of knowledge between 'experts' and 'non-experts', the construction of perceptions of science and risk, the practice of public debate and protest in participatory democracy and the myriad transformations of an ever more penetrative globalization. It also highlights extant fractures of trust, respect and ways of doing and being between various institutions: the state, corporations, 'science', non-governmental organizations, the media, and various publics and cultural/social movements. The GM controversy is thus as much a cultural controversy as a technical one. Indeed, this controversy, I argue can fruitfully be seen as a struggle between contested networks of knowledge. Yet, what is commonly referred to as the 'GM Debate' is a debate in little more than name only; typically

there is little exchange of carefully weighed argument, not even the discussion, deliberation or consideration of opposing points. Rather than reasoned discourse, opponents trade in emotive narratives, with both sides presenting rigid, over-simplified versions of the technology and those whom either support or reject it.

An anthropological approach to the study of emerging science and technology has already revealed the increasingly complex transfer of knowledge from science into politics and practice. Important studies (Downey and Dumit 1997) have highlighted the processes by which expert knowledge, as issued from the 'citadel' of institutionalised science, is no longer received passively by those outside its walls. As new knowledge, from technological innovation, contradicts 'traditional' cultural knowledge, conflicting socially constructed accounts emerge as different local strategies of making sense are utilised in different settings by different actors. New knowledge and practice must negotiate with existing culturally held values, knowledges and meanings—all the products of complex historical circumstances. All knowledge, including scientific knowledge, is collective and partial, and credible knowledge is always local in character (Haraway 1997: 267). In other words, people's responses to technological innovation are shaped by the social networks in which they already participate, and by the successes and failures of the persuasions actors employ in an attempt to ensure the predominance of one worldview over another. How then to approach contested knowledge transfer? One possible move is through a renewed focus on rhetoric.

Rhetoric Culture Theory

The term 'rhetoric culture' was first coined in 1998 by Ivo Strecker and Stephen Tyler 'to provide a new – or rather very old – direction and sense of relevance to the study of culture by retrieving, exploring and making full use of the ancient insight that *just as rhetoric is founded in culture, culture is founded in rhetoric*' (Strecker et al 2003). Indeed, Strecker and Tyler (2009: 1) go so far to proclaim that 'rhetoric … is the decisive factor in the emergence of cultural diversity past and present'. Rhetoric, they argue, both enables and constrains us to think, speak and act intentionally in a world neither anarchic nor determined; 'it is our innate rhetorical disposition and our culturally acquired rhetorical competence which creates the 'patterns', 'styles', 'configurations', 'habitus', 'paideuma', 'ethos', 'spirit' of culture' (Strecker and Tyler 2009: 1). Rhetoric culture theory focuses on the multiple practices of discourse in which and through which cultures are performed, reproduced, contested and transformed. It does not privilege speech over writing and is responsive to all technologies of discourse. Furthermore, it does not privilege 'truth' over opinion or persuasion.

> 'Like the mythical trickster, rhetoric allows us to turn fact into fiction and fiction into fact. It tempts us to persuade ourselves – and others – to see and feel what we wish, and it leads us to limitless flights of fancy. By means of rhetoric we create phantasms, by means of rhetoric we act like demons, and by means of rhetoric we conjure up those ideas, values, moral rules, and laws that constitute the basis of culture' (ibid: 5).

Michael Carrithers (2005) also recommends the study of rhetoric to the anthropologist. He argues that 'attention to rhetoric sharpens the ethnographic eye and lays open to study the feature of social life that is so difficult to capture, its historicity, its eventfulness' largely because 'it sets argumentation, persuasion, negotiation and therefore micropolitics to the fore, and discovers a dynamic in social life that an earlier anthropology tended to ignore' (Carrithers 2005: 578). This eventfulness, or historicity, is driven by the rhetorical will 'of those who for the moment hold the floor and aim to realize a plan or intention through, and upon, others' (ibid). In this view, we are not so much culture-bearing beings, rather something more, culture-creating and culture-changing beings. Carrithers (2005) thus sees the schemas of culture as not in themselves determinative, but rather as tools that actors use *interactively* to determine themselves and others, to persuade and convince, and so to move the social situation from one state to another.

Building on the earlier work of James Fernandez (1986, 1991), Carrithers (2005, 2009) argues that a successful rhetorical effort makes a movement of mind and leads to a performance. However, whereas Fernandez claims metaphor as key to understanding culture in general, Carrithers (2009: 34) argues 'that narrative is no less pervasive and important a feature of persuasive culture'. Indeed, as Pradl (1984) argues, 'without stories our experiences would merely be unevaluated sensations from an undifferentiated stream of events. Stories are the repository of our collective wisdom about the world of social/cultural behaviour; they are the key mediating structures for our encounters with reality'.

What then is a story?[1] A story can be usefully defined as a rhetorical form of communication, which presents a sequence of events involving characters and actions, complications and resolutions, which may be positive or negative. The narration of events can encompass both the past and the future. The message to be transmitted can be made more or less persuasive by forging networks of associations, again positively or negatively, with other notions, historical personalities, historical practices, policies or problems and solutions. Association is always positional, for stories always have tellers. Tellers likewise always have intentions. In stories told verbally, there is a narrator whom the audience can see and/or hear, and who adds layers of meaning to the text nonverbally. The narrator also has the opportunity to monitor the audience's response to the story and to modify the manner of the telling. Where stories are disseminated textually, the physical nonverbal communication and real-time feedback is of course absent. Yet, through a skilfully written text, the narrative voice can be projected just as effectively. The recipients of the story, the audience, also play an active part in the exchange; they too interpret the weaving of patterns of associations inherent in a story through a matrix of their own particular intentionalities and positionalities. Moreover,

> '…stories, like metaphors, are mind expanding: just as metaphors bring in another domain of thought to a topic of speech, widening our understanding, the story can bring in a broader context, a more richly populated setting, inviting us to consider that more, and

[1] Unlike some academic disciplines (e.g. Narratology), I will treat narrative and story as synonymous, and both as discourse.

> different, events are relevant to the matter in question than we might have thought' (Carrithers 2009: 40).

The extra cognitive dimensions which stories foster are built upon the general capacity of humans to find connections between one realm and another—to think analogically—to slip from one concept to the next, to build networks of associations which bring order to the world. For Tim Ingold (1994: 334), this 'analogical drive, in short, is the very motor of the cultural process'.

Stories, therefore, are the primary means by which our understandings of the world are built and stratified. Everything has a story. Indeed, most things have many. Some will be told more often than others, equally others may be more convincingly told. Competing stories may be in direct conflict with one another for cultural primacy. The strategic use of keywords (Carrithers 2009) (terms in public life which bear a great weight of symbolic, moral and emotional meaning), frames (cf. Snow et al 1986) and the networks of association that these help foster in the minds of audiences are critical in this aspect. It is in this persuasive mode that a story lives or dies, that therefore twists dynamic culture one way or turns it another. Stories can be compact, brief, allusive and, just like metaphors, can gain force, suggestiveness and mobility through brevity. Such minimal narratives, or minute 'story seeds' (cf. Carrithers 2009), can be woven, marked or unmarked, with relative ease into everyday communication.

> 'Just as metaphors may pop up everywhere, so may minimal narratives. And when a minimal narrative finds resonance in listeners, it is because it calls up familiar information, familiar motives, familiar storylines - though it may nevertheless make unexpected connections, connections across gaps and against the grain' (Carrithers 2009: 40).

Through resonance, a brief story seed can encapsulate a vast moral tale. The simplest of phrases can lead to a slippage in imagination (Fernandez's movement, 1986, 1991) towards a self-evident, compelling outcome, the performance. Metaphor and story thus work hand in hand and are often comprised of well-known, well-worn, comfortable components. Such 'social embeddedness' (Harvey 2007) is crucial: it locates knowledge creation and transfer within resonant 'larger dramatic plots' (Konrad 2003), which provide the 'convincing social dramas' required for narrative exchange 'to achieve its scalar effects' (Harvey 2007: 180-181). Furthermore such

> '…portentous political and moral talk must, in its very nature, be broad in its references and general applicability to the whole category of people who are at once its target but ... such generality is almost certain to be deeply flawed by its infidelity to the actual world. The contrast is between the clear, simple, and unified world comprehended in the wide embrace of the rhetor and the messy mercurial divergence and contentiousness of actual experience.' (Carrithers 2009: 47).

As such there may be a tendency to oversimplify collective nouns ('us' or 'them', 'Americans' etc) and succumb to great swathes of reduction to the rich variety of human practice and experience. Yet, just as complexity is lost, so too may be

uncertainty; skilfully deployed narratives can prove great tamers of the inchoate. These are conceptualised here as spaces of the unformed, the uncategorized, the so-far chaotic; the very embodiment of uncertainty and fear. Such spaces are often 'inhabited by opaque institutional forces, among them those of markets, of commercial and industrial corporations, of distant political negotiations and religious movements, and of the administrative machines of industrial states whose powers to affect people's lives is matched by their impenetrability' (Carrithers 2009: 45).

Successful knowledge transfer, in this view, thus becomes a matter of rhetoric, of persuasion, whereby skilfully deployed narratives act as analogical networks of associations, enrolling culturally appropriate characters, values and concepts, aiming to move the targeted audience in the desired manner to resolve uncertainties. I now present two examples of such rhetoric.

Ethnographic Examples

Drawing on recent fieldwork[2], I present two narratives which represent two attempted knowledge transfers, and the resource base on which they depend, each told to destabilize undesirable practices whilst simultaneously stabilizing those deemed more culturally appropriate. They both concern the prospect of the introduction of GM crops into a defined 'local' area, in this case the southern English county of Dorset, and the potential consequences of such an introduction for alternative models of organic or local food production and on constructions of place. As Escobar (2001) reminds us, 'culture sits in places'. These stories are told by informants, loosely defined as members of 'local food networks', who perceive their values and cultural projects to be at risk from the development of this technology. The two stories presented communicate a powerful combination of economic and cultural risks. They both originate some distance from rural Dorset, the first geographically, the second imaginatively, yet in each case their successful transfer (the outcome of persuasion) plays a critical role in establishing key cultural resources that contribute to the cognitive construction and maintenance of the integrity of Dorset's local food networks. Through these stories, knowledge of others, such as persons, places and genes is transferred to Dorset from afar. Critically such knowledge, by its alterity or analogy, or equally through the qualities conveyed by the networks of associations travelling with it, is deployed to make a movement and shift the situation towards a desired cultural imaginary.

Monsanto vs. Schmeiser

The first is the tale of Canadian farmer Percy Schmeiser. Here it is as told by one of my informants (a regular shopper at a Dorset Farmers' Market):

> 'There was this case a couple of years ago where an unmarked GM crop pollinated and seeded a portion of a field of a neighbouring farm. That's the way nature works you see. However, this neighbouring farmer was sued for intellectual property theft. And that's the scary thing about GM foods. All this guy did was gather up seeds which were on his property and replant them - as he would

[2] Conducted 2006-2007

> be wise to do with any naturally occurring hardy plants which he'd developed. But now it is a crime to do so if somebody has patented those seeds. He got sued for stealing when it was his land that had been contaminated. Disgusting!' (Linda[3])

The tale of the innocent farmer sued by the corporation when patented seeds are found growing on his land is a staple of the anti-GM movement and has here successfully transferred to Dorset's local food networks. The roots of this tale, detailing the struggles of the little guy to remain free of the yoke of a corporate behemoth, lie in Western Canada, where the hero, a remarkable elderly gentleman called Percy Schmeiser, was to take an iconic stand against his oppressors. I was fortunate to meet him in 2008 as he toured the UK to publicise his story.

Schmeiser is a long time canola (oilseed rape) farmer and farm equipment dealer from the small rural community of Bruno in the Western Canadian province of Saskatchewan. In addition to a long personal history of public service in his local community, he is well known in the region as a seed developer and a seed saver – continually tailoring, over his half century of farming, his own strains to match specific local conditions. In 1998, Schmeiser received notice of a lawsuit against him by the multinational company Monsanto accusing him of patent infringement, the corporation's agents reportedly having identified unlicensed canola plants expressing genetically modified resistance to their herbicide Roundup in Schmeiser's fields. Schmeiser contested the case, claiming to have planted no such thing and highlighting the strong likelihood of accidental contamination from neighbouring farms[4].

Despite providing significant evidence that the patented genetic material was not planted deliberately or systematically on his land, the Canadian Federal Court found against Schmeiser, as did the judge hearing his subsequent appeal. He appealed again to Canada's highest courts, the final avenue open. Some five and a half years later Canada's Supreme Court ruled that under Canadian Law, Monsanto's patent on the gene was valid; wherever that gene turns up, they own it. At the same time however, as Schmeiser could demonstrate that although having infringed the patent he had not utilised the herbicide Roundup associated with this modification, he could not therefore have obtained any advantages from the contamination of his harvest. He was thus acquitted of claims for damages by Monsanto yet still saddled with enormous legal bills (circa $400,000CAD). The implications for Canadian canola farmers following these rulings were severe. Rapeseed is a rapacious and pervasive cross-pollinator whose pollen has been found to travel by wind or insect as far as 3km from source and has a higher probability for gene dispersal than other major crops. In Canada, according to Schmeiser, these modified genes are now pretty much everywhere. He says 'there is no containment, no coexistence, and therefore no choice'. If 'owned' genes can be identified in a field belonging to a farmer who has not paid the technology licence then he is open to prosecution for patent violation. Canadians can no longer grow rapeseed organically and have lost significant (principally European) external markets where GM crops are still largely rejected.

[3] The storytellers in both this and the following section have been anonymised.
[4] Greater detail is available from Schmeiser's website: www.percyschmeiser.com

The key associations cast in the telling of the story of Percy Schmeiser in Dorset are of course essentially reductive. When stripped of their complexity, subtlety and contradictions, as they so often are when used rhetorically, associations are easily transported to different arenas to be used analogically for diffuse ends. Although the story is arguably 'correct': there is no containment, there is no co-existence, there is no choice – this is only the case for rapeseed/canola and other such pernicious cross-pollinators. Such 'superweeds' are highly improbable for many other crops whose botanical characteristics vary considerably. Not all GM crops are the same, and, internationally, not all intellectual property laws are the same. Equally, not all 'biotechs' are as heavy-handed and litigious in their actions as Monsanto. By marginalising the technical detail, reductions of complexity foster a world of polarised essentialisms, creating a world of clear boundaries that can be used as a prime rhetorical resource. Genetic modification becomes something that is objectified; it is not seen as tool or process but as single thing - a 'GM' - which can be named either good or bad. By this logic, if *any* GM crops are introduced into a given locality, the practices of other local farmers who follow a different model of agriculture will be at risk.

The second common narrative exchanged in Dorset's local food network seeks a dual persuasion, that of convincing of the negative qualities of the 'GM other' whilst reinforcing the positive associations of local/organic food. Echoing the use of the Frankenstein myth that was prevalent in the early days of the GM controversy, this narrative also draws heavily from the realms of popular science fiction, this time however from a much more contemporary source.

The Terminator

The focus of this narrative, as told to me in Dorset, concerns a proposed Genetic Use Restriction Technology, which causes a plant to produce sterile seeds thus requiring the farmer who has purchased and planted them to buy new seed every year in order to benefit from the modified crop on an ongoing basis. An informant, Roger, takes up the story:

> 'So the farmer's crop is harvested, as it has been for thousands of years, and the next year he plants his fields with the seeds that he kept in reserve from the previous year's harvest and plants them, waiting for the crop to grow. Only it won't grow, because the last batch of seeds he purchased had been genetically modified to remove the reproductive and germination processes. So, even if his crop is successful, he has to go back to the GM crop manufacturer and purchase more seeds. Think this won't happen? Look up Terminator Seeds. It's happening already' (Roger, at Bridport Food Festival)

Again, this narrative, now embedded in Dorset food culture, is derived from events of far greater complexity. In the spring of 1998, the US Department of Agriculture in partnership with a Mississippi cotton seed company named Delta and Pine Land announced a new invention for plant breeders, a 'Technology Protection System', which provided a means of making plant seeds sterile. The modification entails attaching a promoter from a gene called late embryogenesis abundant to a gene that

prevents germination and then inserting this into a seed. When the seed germinates, the promoter triggers the gene, which then sterilises that plant's own developing seeds. Although unable then to reproduce, the plant is otherwise normal.

That same year, the agribusiness multinational Monsanto announced an intention to purchase the seed business of Delta and Pine Land, including all its inventions. The technology was attractive for three obvious reasons. It would protect their intellectual property from would-be pirates, and ensure ongoing sales as farmers who wanted to take advantage of the beneficial properties of the modified crop would have no option other than to return to purchase fresh seed every year, whilst simultaneously assuaging environmental campaigners that any potential genetic pollution had been contained. By removing the capacity to reproduce, the modified genes within a specific plant would not be able to escape themselves.

Anti-GM activists, of course, did not see it this way. Yet, as Lambrecht (2001) describes, but for a stroke of rhetorical genius it could all have been different. A few days after the patent for the 'Technology Protection System' was issued, which initially generated little in the way of comment either positive or negative, the international anti-biotech group Rural Advancement Foundation International (RAFI) sent out a press release condemning the technology. However, this too generated little interest. RAFI persisted, rewriting the press release but this time calling it 'the Terminator'. This proved to be the best rhetorical play since the earlier ubiquitous 'Frankenfoods'. Associating the new technique with the iconic robotic killer played by Arnold Schwarzenegger in the popular *Terminator* movies supplied a story seed particularly rich and apt, providing both a neat summation of a highly complex technological development and a chilling indictment of potential social consequences. Indeed, it proved to be such devastatingly apt shorthand that it came into wide use not just by critics but also by companies and state actors themselves.

> 'People could grasp the Terminator: It was a device by which the corporate multinationals could change the way farmers around the world had operated for millennia, and it seemed to contradict what the companies were saying about the bounty biotechnology would spread across the planet. .... "It shattered the myth that commercial biotechnology aims to feed people, which was their mantra"' (Lambrecht 2001: 112).

The Terminator proved to be a gift for activists opening as it did a variety of broad fronts on which to attack. Firstly, 'here was a technology whose sole purpose was trying to stop things that happen naturally' (Patrick Mooney, RAFI, quoted in Lambrecht 2001: 112); the genes themselves, alongside Monsanto, became a villainous character. Secondly, the Terminator would terminate not only nature but also choice. By preventing the germination of life sustaining seeds it would quietly extinguish both the plant and the 'naturalised' agriculture of those pursuing different cultural projects, such as organic farming. Terminators are thus equally lethal to the seed and alternative food practices.

The knowledge transferred in both the Schmeiser and Terminator narratives revolves around the practices of others, be they persons, companies or things; outsiders to place and other similar networked cultural projects of local food movements. These

particular 'folk devils' (cf. Stanley Cohen 1973) are known only through stories of their activities elsewhere. Where 'characters' such as Monsanto are involved, storytellers are not short of material. Even in such a globalised world, though their touch may fall only lightly on Dorset, by the force of narrative, such 'devils' can become key rhetorical resources in the battle for cultural mastery. Localised actors persuade, and are persuaded, as to the particulars of their character. They are related to certain qualities and associated to certain events through exchange of narratives that present highly selective partial accounts and histories. Effective knowledge transfer is here dependant on the resonance of associations cast. If the associations hold in the minds of the audience then temporarily stable networks of knowledge will form. In the narratives above it is those associations that pluck familiar elements of risk from the uncertainty of the inchoate through which the persuasive power flows. In these examples it is not only elements of technical and environmental risk that charge the rhetoric. The practices the rhetor enrols with GM will diminish 'us' also economically and culturally. Historical practices from other times and other places, woven into narratives, are used to delineate the alterity of the 'cultural' project from the 'uncultural' one. Boundary-making and history-making appear as central processes in this knowledge transfer.

In narrative exchange, in order for these stories to appeal to the widest audience they must be broad based and reductive in nature, hence 'such generality is almost certain to be deeply flawed by its infidelity to the actual world' (Carrithers 2009: 47). Resonance does not necessarily depend on accuracy; ideological confluence often outweighs empirical evidence. As it stands, one of the narratives discussed above is far closer to any verifiable 'reality' than the other. As early as April 1999, in the face of intense pressure, Monsanto was forced to declare that should it purchase the technology rights to Terminator technology, it would not bring it to market until studies examined its environmental, economic and social effects (Lambrecht 2001: 119). By the end of that year, with the furore still not abating, Monsanto went a step further in stating, '[t]hough we do not yet own any sterile seed technology, we think it is important to respond ... by making clear our commitment not to commercialize gene protection systems that render seed sterile' (Robert B Shapiro, Monsanto CEO quoted in Lambrecht 2001: 122). Indeed, following the United Nations Convention on Biological Diversity recommendation of a de facto moratorium on field-testing and commercial sale of Terminator seeds in 2000 (re-affirmed in 2006), seeds based on Terminator technology have never been planted commercially anywhere to date. Yet, in an uncanny similarity to Schwarzenegger's cyborg assassin (who most famously declared on screen 'I'll be back') the story has proved just as difficult to kill. Many actors in Dorset – and elsewhere in the world (see Malone 2008, Stone 2002, Shiva et al 2002) – remain convinced that all GM crop varieties are based on Terminator technology. Such ignorance could be attributed to mere gaps in knowledge or, as suggested by Proctor and Schiebinger (2008), more nefarious manufactured ignorance whether the wilful transfer of comfortable gaps or deliberate obfuscation. Whichever it may be, the simultaneity of knowledge and ignorance is striking.

When people come to know 'GM is bad' not through empirical evidence but through the transfer of anecdote and stories, associative coherence becomes the primary arbiter. This fall of empiricism leads not just to the rise of ideology but also the ascent of the imaginary, the mechanism whereby imagined potentialities become 'reality.' By this mode, Terminator genes are causing very real concern in certain communities

in Dorset, not because Monsanto have secreted them away in their modified seeds, they have not, but because in the popular imagination they *are* out there, and *are* very real. An imagined cause can still have an effect (the power of placebo turned to the negative). Indeed, more probable or likely outcomes can become marginalised in the face of more compellingly vivid products of the creative mind, stimulated, as they are, by networks of associations. We should not underestimate the power of nightmares; it is upon their construction that certain imagined futures are accepted or rejected. They are the means by which what *could* happen transforms into what *will* happen.

Conclusions

The competitive transfer of narratives is at the forefront of practice in culture-in-the-making. These stories of other people and places are deployed in Dorset as a rallying call to defend certain constructions of 'Dorset' as a place, and certain of its particular place-based ways of doing and being, from the real and imaginary practices of externalised others. The rhetoric within is evoked not to motivate actors to align to defend these other places, but also to enrol the variety of forms of cultural risk analogically drawn from these distant struggles in defence of 'their' own place. The rhetorical weaponry of the story thus creates simultaneous action; a persuasive narrative creates movement.

Carrithers (2009) argues that a successfully deployed narrative makes a move to tame the inchoate. In a situation of uncertainty such as the potential consequences of developing GM crops, a story, often by reductions in complexity to simple moral binaries or by projecting imagined outcomes as future realities, can define certainties on to which we can latch. A story can also make a movement of a different kind. It can also create uncertainty from the certain (or at least consensus, or the probable) by the manufacture of doubt, such as the presence or absence of Terminator genes. Following a manufactured uncertainty, the first movement can tame the inchoate once more, the power of nightmares restoring certainty of a different, more preferable kind; in this case that GM crops *are* dangerously and unnaturally sterile.

A well crafted story can find the certainties in the uncertain, and the uncertainties in the certain. It destabilises one network of knowledge as it simultaneously creates another. These 'serious games of culture' (Ortner 2006) are therefore not just about competing cultural 'knowledges' but also about competing 'ignorances'. A focus on narrative exchanges must therefore entail attention to not only knowledge transfer but also ignorance transfer. For as Harvey (2007: 165) states, 'ignorance [is] a necessary dimension of all human knowing'. This raises a critical dilemma for the ethnographer. What should he/she do when confronted in the field by exaggerated claims or misinformation? Should an ethnographer, when pressed, endorse the strategic transfer of ignorance as part of a commitment to cultural relativism? What if the spread of ignorance could be said to be intentionally manufactured?

Continued relations of trust and acceptance of the ethnographic situation may well depend on the response. Challenging from academic authority and potentially diluting the persuasiveness of intentionally crafted narratives may lead to a swift ethnographic exit. Indeed, an attempt at persuading one informant in the field as to the total absence of Terminator genes from the vast acreages of GM crops currently grown worldwide by this ethnographer resulted in an unfortunate knowledge transfer concerning my

own probity; my failed rhetoric quickly transformed my status from that of a benign interested researcher to that of an unwelcome agent of a corrupt state acting at the behest of the giants of agribusiness. That interview was quickly Terminated.

About the Author

David Downing was awarded his PhD by University College London in the summer of 2010. Alongside a broad interest in the anthropology of emerging science and technology, his particular research interests include genetics and biotechnology, the anthropology of food and food systems, environmentalism and protest, the internet and virtual sociality, actor-network theory, rhetoric culture theory and nature/culture debates.

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