

Documenting Genetics: The mapping or making of interdisciplinarity and multi-site ethnography

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Introduction

Recent years have seen an emerging trajectory within the still relatively new field of the anthropology of science and technology. This has moved beyond a focus on different publics perception and engagement with new scientific developments (Irwin & Wynne 1996) towards an examination of the dynamic interface between publics and sciences (Heath 1998, Downey and Dumit 1997) and an interest in scientists and scientific knowledges practices themselves (Marcus 1995a, Rabinow 1999, Parry 2004, Hayden 2003). Legitimate areas of inquiry have increasingly come to include a diverse range of sites, practices, experiences and perceptions in examining technological innovation, institutional and political cultures, as well as questions of identity and identification among scientists themselves. These shifts have also been accompanied by innovations and experimentation with method.

Of course an emergent anthropology of science has always benefited from the work of those in STS with long standing interest and expertise in addressing these developments. At some level the emergent 'multi-sited' focus of some of this most recent work in anthropology has been a direct beneficiary of the seminal 'actor-network' mode that has been a defining feature of STS where the emphasis is often on uncovering the hidden, latent and or invisible 'networks' that are at work in reproducing scientific knowledge or technological innovation (Callon 1986), (Latour 1987). Increasingly however there is a rich cross fertilization of theory and method between STS and anthropologists working in this field. In this sense multi-sited ethnography in anthropology of science and technology is not simply or directly a

legacy of actor network theory. In fact the emergence of this method within the discipline draws on a relational premise that has always been central to the examination and understanding of social practice in anthropology and an awareness of the transnational and global flows that are increasingly coming to define what is at stake in scientific development and innovation. Cori Hayden's book on the science and politics of bio-prospecting in Mexico and the US is one of the most recent texts to exemplify and demonstrate the value of such diverse disciplinary heritage, forging methodological and theoretical innovation in addressing recent rapid developments in biological knowledges and practice (2003). Like Hayden my own recent work on the social and cultural context of developments in breast cancer genetics points not just to the enabling effect of what might be seen as new forms of co-production but also the disjunctures, gaps and tensions implicated and generated by particular meeting points and intersections (Gibbon 2006). I have been especially interested in the ways that different publics, in particular breast cancer activists, scientists, clinicians as well as different technologies of care and risk assessment have been mobilised in and around the inherited susceptibility genes BRCA1 and 2 . Tracing the work undertaken inside and outside the clinic by these persons and the ways that knowledge, information and practices travel and are themselves produced by this movement points to the uneven yet powerful consequences of the collective work implicated in breast cancer genetics. As Deborah Heath points out locating oneself at these boundary zones illustrates the way 'new meaning appears at the intersection of trans-local displacements' (1998:520).

In this paper I want to think through some questions of innovation in relation to multi-sitedness and method in a slightly different way. Not, in this case, by considering the global flows that are increasingly at stake in developments in new genetics and biological knowledges or in terms of identifying and mapping the effect of disjunctures and gaps in forms of co-production. Instead I want to examine a process by which networks and multiple sites , far from being latent or things to be uncovered by the anthropologist, are already externalised even instrumentalised in the pursuit of so called 'good' science (Hayden 2003, see also Riles 2001). Interdisciplinarity is becoming something of an ethical passage point across a broad range of institutional agendas and research cultures but particularly between the social and natural sciences. These are initiatives in which I am increasingly and complexly embedded within as an

anthropologist working on genetics and at the interface between science and publics. As such I think they warrant greater reflexive engagement as a practice site and topic of ethnographic interest in themselves. In this paper I focus on the how one such initiative create sites, persons and objects and connections in particular ways, the kind innovative methodologies that might be required to examine these developments and the on-going tension that this reveals in the practice of ethnographic research between mapping and intervening.

I want to draw here in a fairly preliminary way on an initiative I have been involved in for the last eight months. What I anticipated would be initially a small project tangential to other research has become a highly absorbing and fascinating research process. In October of 2004 the newly established Institute of Human Genetics and Health within the institution where I work , UCL, established a fairly innovative PhD programme in which 4 students, 2 from the social science and 2 from the life sciences would undertake interdisciplinary training across the boundaries of each others respective so called 'home' disciplines. That is science students would complete courses from the arts, humanities and social science and social science students would undertake equivalent courses, spending time in laboratory and life science learning environments. The rhetoric and belief behind such an initiative lay in the expressed need for individuals who were trained to 'translate' more effectively across disciplinary boundaries to meet the kind of social, ethical and political challenges raised by changes in the scale and scope of recent rapid developments in genetics. Having witnessed at first hand the consequences of miscommunication, and mis-translation between clinical geneticists or lab scientists and patients or breast cancer activists this was a need that I fully understood and to a large extent supported. But standing at a number of boundary zones between publics/sciences or science and social science for my PhD research I was also fascinated by what it might mean to train individuals to speak across this disciplinary divide, what exactly might be at stake for the participants in this process.

An on-going fascination with visual representation (and the mis-representation) of science and scientists coalesced around the need to think innovatively about how to track and reflexively represent, engage, as well as make tangible even material the kind of subtle and complex shifts brought about by an interdisciplinary agenda. This

led to the development of a research proposal to make a documentary film about these four students experience of the training they would undertake as part of the first year of an interdisciplinary PhD programme in genetics. The response was tentatively enthusiastic from both students and staff. For the latter it was seen as an important means of evaluating the programme while the students were intrigued if, initially, a little nervous, wary as one of them said that it might turn into student Big Brother! Filming began at the end of November 2004 with the stated aim of producing a 40 minute documentary film which would provide something of a window onto interdisciplinarity and perhaps a uniquely accessible entry point for debate, discussion and learning for a wide range of audiences both within and beyond the university learning environment.

The small camera crew consisting of myself and a cameraperson have filmed the students as they traverse different 'sites' - the foreign and familiar territory of the lab bench, seminar room, science and social science conferences, debates and discussions. We have filmed them in monologue and in dialogue with me, each other and their tutors in an effort to capture, understand and document what their expectations and experiences of moving forward and back across a social science and science divide. If my PhD research led to an interest in the challenges of translating genetic knowledge or technology in its journey between the laboratory and the wider world- here although the journey was not dis-similar, the focus was on the experience of 4 mobile embodied subjects of genetic knowledge.

There are many emergent issues and areas of interest in this project, not least the variable ways that lab work has consequences for how social scientists reflect upon the complexity, even the utility of genetic knowledge or how those who routinely carry out detailed lab work, upstream of its application, engage with (the sometime equally 'hyped') social or ethical consequences of genetic research. Terms of reference between and about 'science' and 'society' have been bones of contention and points of revelation on both sides, in turns both illuminating and frustrating for different persons. There is much more to say about this process of interdisciplinarity, something I hope will emerge as the final film comes to fruition and also in written publications arising from single and co-authored work with the students themselves about the programme. But here I want to reflect in a very preliminary way on how the

film, as a research method intervenes in the practice of interdisciplinarity and in what might be seen as the making of disciplines or identities themselves as kinds of 'sites' which are both at the same time separate and connected spaces of practice.

Using documentary film as research method perhaps forces reflexivity in a way that other research tools and technologies do not, not only for the film maker but for their subjects as well. It has been striking that one of the most frequent comments from the students about having the camera present has been that it has somehow created an environment in which interdisciplinarity is practiced and made real to them. The camera has followed them as they enter the lab for the first time or confront the social science library, think about the parameters (and at times for the scientists) the boundary less and seeming immateriality of social science discourse and practice. It has charted the tentative and at least initially alienating process of a social scientists learning to use a pipette or the PCR machine, giving flesh to their own readings and reflections of more politicised rendering of 'making PCR' (see Rabinow 1996). But my and the camera's presence has also become a meeting point, a reason increasingly to congregate and a way of dialoguing, debating, reflecting on the flux generated by traversing their familiar disciplinary territory but also a means of defining disciplinary identity.

I want to illustrate some of these themes by showing you a brief clip from a discussion with two of the students I had the day after we had filmed a fairly heated debate that had taken place between the four of them. Then for the first time there had been a certain degree of tension in their discussions of genetic science and research which had at least that day reached something of an impasse. The discussion which followed the next day and which the camera and I tracked and elicited between the two male students, Adam and Robert still bore the imprint of the previous's day discussion.

[13 minute film]

I hope from this sequence its possible to see how the presence of the camera, and of course my own questioning- itself formulated with an awareness of the camera in mind, is implicated in the research process. In this instance it initiated reflexive

discussion of previous debates and dialogues and thoughts about the polarization of positions. Captured on film these dialogues index and artefact cross-disciplinary engagement and both the productivity and challenges of traversing the science/social science divide. Despite the search for common ground and the kind of concessions expressed by, the science student (Adam) in acknowledging his colleagues concerns about the currently limited utility of genetics in relation to heart disease (a concession that doesn't appear to affect his continuing to roll a cigarette!), it's also clear that identities are being forged in relation to each other here also and to a certain extent differences deepened. Witness Robert's silent response to Adam's hopeful discussion of the utility of genetic knowledge or Adam's desire for a more 'rational, correct and appropriate' scientific understanding at the end of the film.

The affect of movement as documented and to a certain extent elicited by the camera is also therefore about the positioning of selves and identities as definable and bounded 'sites' associated with their respective and somewhat different disciplinary engagement, as the semi joking caricature of a social science perspective on science at the end of the film suggests. Does the joke belie or play with the true feelings about interdisciplinarity? Is it a performative gesture for the camera or the anthropologist or an anxious expression about the impossibility of meeting points? All are possible readings. At the same time the joke and my decision to include it raises questions about the performance hidden in this dialogue as a whole and the agenda of interdisciplinarity itself. Including my own questions, responses and articulations also makes explicit at the same time that it shows the consequences of the filmmaker/ethnographer's own position and interventions. The parameters and mechanics of what Marcus terms the ethnographer as 'circumstantial activist' are at least in part made visible for critical analysis (1995b).

There is clearly a need for innovation in tracking the new trajectories and modes by which new biological knowledges and technologies are being mobilised across a diverse and increasingly global arena. I have focused on a more local set of movements where travelling is formulated in the explicitly instrumentalised mode of interdisciplinarity, a process which is becoming increasingly widespread across policy, research and education. In tentatively exploring the way that documentary film might provide novel and illuminating mode for examining and engaging with

these explicit practices and (sometimes) enforced movement making I hope to have raised further questions about how method has consequences for undertaking multi-site ethnography. Social anthropologists have for some time now been pointing to the impossibility of disaggregating theory and method and the on going need for reflection about how particular methods have consequences for ethnographic findings. I would suggest that documentary film as a methodological tool and entry point allows and enables an agenda for reflexivity at multiple levels across space and time for the participants, film maker and the current and future audiences of the film, which include anthropologists and their diverse audiences and interlocutors inside and beyond the academy. In effect it participates in and articulates its own multi-sited agenda. In this sense I hope to have highlighted how one such innovation in research method, documentary film, although not unproblematic, might also be a rich vein of analysis and insight in undertaking multi-sited ethnography

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