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2012:176:1 'Fighting Science with Social Science: Activist Scholarship in an International Resistance Project'

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Abstract:

This paper draws on a socio-historic case study of the Feminist International Network of Resistance to Reproductive and Genetic Engineering (FINRRAGE) in order to consider the ways in which activists create and develop knowledge in movements around complex emergent technologies. Using documentary and interview data, and an analytic framework drawn from Eyerman and Jamison's cognitive praxis paradigm, the paper outlines certain conditions under which activists may be able to create both social and social scientific knowledge in support of their claims. The paradigm itself is also interrogated, and suggestions made for extending and refining the framework through incorporation of theories of knowledge drawn from science and technology studies.

Keywords

social movements; knowledge; cognitive praxis; reproductive technologies; feminism; activism

Introduction

Despite the turn to activist knowledge in social movements (McCormick 2007; Casas-Cortes, Osterweil and Powell 2008; Esteves 2008), there is still a perceived gap between this and similar work emanating from science and technology studies (Welsh and Wynne 2013). In part, this is because science in social movements theory (SMT) has largely remained normative: facts produced by credentialed experts in an unbiased 'republic' (Polanyi 1962) removed from the messy social world. Movements may be framers (Snow, Rochford, Worden, *et al.* 1986), symbolic interpreters (Melucci 1985) and meaning-makers (Kurzman 2008), they may produce the 'clearly articulated social and cultural criticism coupled with alternative viewpoints that forms oppositional knowledge' (Coy, Woehrle and Maney 2008), but rarely are they accorded the status of scientific knowledge-creators in their own right. Even the cognitive praxis (CP) paradigm, which considers social movements to have specific 'knowledge interests' (Eyerman and Jamison 1991: 62) which allow them to produce as well as interpret knowledge, tends to consider movement 'knowledge' as social and informal. Despite

this lacuna, however, the paradigm still offers a useful methodology for studying how social movements develop a distinct knowledge practice. This paper will use a case study of an activist network which was undertaken as a doctoral thesis (de Saille 2012), in order to extend the CP paradigm through an examination of the use of social scientific knowledge by political activists.

The Feminist International Network of Resistance to Reproductive and Genetic Engineering (FINRRAGE) was a loose network of individuals and organisations, spread across thirty-seven countries on six continents during its international phase (1984-1997). Many of the women were also involved in campaigns against coercive population policies, particularly in India and Bangladesh, leading to an analysis which linked contraceptive and conceptive (Jyotsna Gupta, India/Netherlands) technologies together as forms of social control. After a short overview of the network's trajectory, I will discuss the processes through which FINRRAGE developed a cognitive praxis shaped by its ability to generate social scientific knowledge, in order to achieve its dual aim of creating a body of evidence to support its claims, and bringing women's voices out of the margins and into the centre of discussions of new reproductive technologies (NRT).¹ Moving from an examination of the network's tactical adaptation of the more formalised knowledge-producing structures of the academy, I will focus on a specific event aimed at creating a political opportunity for FINRRAGE women to gain access to an international policy-making body. Through these examples, I will argue that social movements are not merely interpreters, but may – under certain conditions – produce formal as well as informal knowledge. I will then end with some suggestions for incorporating insights from models drawn from STS work on knowledge and expertise, which may prove useful in helping to further clarify and extend the CP paradigm, so that it can provide a stronger conceptual bridge between the two fields.

Methodological considerations

FINRRAGE was neither a single organisation, nor was it large enough to constitute a movement in itself; and while its analysis was based in radical feminist

¹ Since this was the terminology of the time, I have chosen to retain it for this study. Although the network had a wide range of topics, I will confine most of my discussion to their work around IVF.

theories of patriarchy and all the women I interviewed identified themselves as activists, it did not engage in protest or symbolic action. The CP paradigm was chosen because it was designed to reconstruct the knowledge interests of a movement from its documentary history, thus it was the only methodology derived from SMT which appeared able to create the contextualised 'thick description' I needed in order to study the way knowledge was used in a group which did not fit comfortably into any pre-existing categories. However, the case itself quickly showed the limitations of the CP paradigm, and thus was transformed towards the goal of extending that theory (Gomm, Hammersley and Foster 2000).

According to Eyerman and Jamison, a movement's cognitive praxis is best seen as it emerges and consolidates, through the actions of an identifiable set of 'movement intellectuals' (1991: 98-99) who are formed within, not outside it. As praxis is the process by which theory is transformed into action, emergence creates a cognitive space in which 'new thoughts and ideas' (ibid: 55) can be developed to challenge normative assumptions. These are eventually diffused through academia and the market, opening institutional spaces for activists to continue the goal of changing public consciousness of an issue; thus, what appears to be the dissolution of the movement as it professionalizes may be, in the CP paradigm, a reflection of its cognitive success, even if it has not achieved its stated goals.

The case was constructed through textual analysis of archival material, supplemented by lifecourse interviews with a geographically diverse sample of women who had been involved with FINRRAGE in its international phase between 1984-1997. The documentary archive consisted of two collections comprised of approximately forty-five cubic feet of material housed at the Feminist Archive North (GB 3181 FAN), which is an independent charity situated within Special Collections at the University of Leeds. The first collection (FIN) holds the organisational papers of the British group and other documents collected by one of the founder members, Jalna Hanmer, and the second (FINDE) contains the network's research archive and organisational documents of the International Co-ordinating Group. These were supplemented by the Australian archive, which can be found online at [**LINK "FINRRAGE.ORG": <http://finrrage.org>](http://finrrage.org), and by papers and recordings given to me by the women I interviewed.

The determination of who to interview was dictated by theoretical sampling (Finch and Mason 1990), in order to create a diverse sample in terms of geography,

education, and levels of participation, and to explore gaps in my knowledge of the network. One hundred and forty-six women were identified from these documents or from personal recommendation. Overall, the demographic of FINRRAGE was 25-55 years old, very highly educated, and middle class; at least seventy-four of these women had or were working towards advanced degrees, including fifty-three PhDs,² and this was as true of women from the South as those from richer countries. However, it proved exceptionally difficult to locate women from the global South, who are significantly under-represented in my sample with regard to their actual numbers in the network, an unfortunate limitation to the research.

Twenty four women, representing eleven countries including the US, Canada, Australia, Bangladesh, Japan, India, and five European states, were eventually chosen for semi-structured lifecourse interviews which aimed at contextualising FINRRAGE as part of their personal trajectory as activists (Della Porta 1992).³ The interviews were transcribed and subjected to a thematic analysis, in constant comparison with each other as they were collected (Attride-Stirling 2001), and with the documentary data, to create a picture of both individual and network knowledge concerns and practices. The themes thus generated were then grouped into the three categories suggested by the CP paradigm. The 'cosmological' category refers to the worldview, or problem definition utilised by the movement (in this case, that patriarchy was the main cause of women's oppression), 'technological' refers to the topics of the moment (here, reproductive and genetic technologies), and 'organisational' to questions of structure and power, as well as the more familiar SMT categories of strategies, tactics and goals. In this manner, the themes were used to reveal the relationships between the three categories, and their external context. This I will describe generally in the next section, before turning to a more detailed discussion of the network's cognitive praxis.

FINRRAGE in context

² Educational data could not be obtained for sixty-nine others, so the actual numbers may be higher.

³ One respondent who had been on the Australian network mailing list, but did not consider herself to be 'in' FINRRAGE, was interviewed as a fellow activist in the same arena. All others identified as network members, more commonly referred to as 'affiliates'.

Although control of fertility was one of the central issues of the women's movement of the 60s and 70s, feminists did not generally consider *infertility* to be a politically significant topic until the mid-1980s (Pfeffer 1985). By this time, nearly all industrialised countries had IVF clinics, and scientists were experimenting with various hormonal regimes to increase egg production, as well as with multiple embryo transfer, donor eggs, freezing embryos, and embryo flushing as a form of surrogacy (see Edwards and Steptoe 1983; Leeton, Trounson and Wood 1984; also Leeton 2004). There were also number of state and national committees considering the social, ethical and legal issues involved in creating children via technology, particularly in Europe (see Walters 1987 for a comprehensive overview). However, women made up only a fraction of members on most of these committees, and the majority of the discussions centred on the morality of embryo experimentation, rather than the technologies' effect on women, both individually and as a social group.

The five women who launched the original network – Gena Corea, Renate Klein, Jalna Hanmer, Janice Raymond and Robyn Rowland – had all been working on various aspects of technological intervention into conception, pregnancy and birth, but did not come together as a collective until they presented a workshop panel on sex selection entitled 'Death of the Female?' to an audience of several hundred activists at the 2nd International Interdisciplinary Congress of Women in the Netherlands in 1984. The panel had a mobilising effect, ending with the formation of an international knowledge-sharing network, at that point called the Feminist International Network on New Reproductive Technologies (FINNRET). Structurally, it resembled a wheel, with a national contact (NC) in each country responsible for gathering local information to send to the international co-ordinator(s) (IC), who would then collate and redistribute it back to the network in the form of 'infopacks' of between 100-200 pages, which also contained the network's internal communications.

Over the next year, the papers from the panel were collectively published as *Man Made Women* (Corea, Klein, Hanmer, *et al.* 1985) and the founder group helped organise an 'Emergency Conference' which took place in Sweden in July of 1985. This drew women from the US, Europe, South Asia, and Latin America. It was at the meeting in Sweden that the organisational name was changed from a network *on* NRT, to the Feminist International Network of Resistance to Reproductive and Genetic Engineering (FINRRAGE) to reflect a re-orientation from study to action. The Sweden conference also produced a declaration which set forth the key points of

the analysis FINRRAGE intended to pursue. These were, broadly, 1) that the technologies were being developed through experimentation on women's bodies with little regard for their present or future health, or that of their children; 2) that control of reproduction through hormonal manipulation was inherently eugenic, encouraging the 'right' women to have more children while 'encouraging' poor ones to have fewer; and 3) that as an industry IVF opened the way to complete commodification of the body, and was a gateway to technologies of violence, such as biowarfare, when combined with genetic engineering (FINRRAGE 1987, see also de Saille 2012: 141).

A further four FINRRAGE conferences took place in Europe throughout the 1980s, and in Comilla, Bangladesh in 1989, and Rio de Janeiro in 1991. There were two related conferences in Germany in 1985 and 1988, both gathering over two thousand women, and a number of smaller local and national conferences in different countries, organised by FINRRAGE women in conjunction with local feminist groups. The 1990s saw a significant shift to the global South, with a series of international meetings organised by the Bangladesh affiliate, the research organisation UBINIG, in the run-up to the International Conference on Population and Development in Cairo in 1994. Affiliates in Japan, Bangladesh, India and Australia were still locally active under the name of FINRRAGE during the fieldwork period (May 2010 – September 2011), and the women themselves, particularly those who were or have since become academics, have largely continued to be engaged with the issues, but the international network has been dormant since circulation of the infopacks ceased in 1997.

Having briefly outlined the trajectory of the network, I will now look more closely at two key elements of the network's cognitive praxis: the use of tools common to social science to gather and disseminate information, and the creation of specific knowledge-actions, such as the 'Feminist Hearing on Genetic and Reproductive Technologies', which took place at the European Parliament in 1986.

FINRRAGE as a cognitive praxis

Eyerman and Jamison (1991: 106) argue that all activists are movement intellectuals in some form at some times. However, their real interest is in the 'individuals who, through their activities articulate the knowledge interests and

cognitive identity of social movements' (ibid: 98). The sense of urgency which had turned an academic panel on sex selection technologies into an international activist network was subsequently channelled into a call to go out into 'the field' and gather information to present at the Emergency Conference. The goal was to develop answers to questions which were deemed important to women, and which the mainstream press and/or the scientific community seemed determined to ignore, such as the real physical risks and actual success rates of IVF, so that locally, the women could disseminate this information to as wide an audience as possible. Thus, generation and dissemination of knowledge was always the network's prime strategy for bringing women into the discourse around IVF, rather than attracting large numbers of recruits, or creating opportunities for protest. This shaped FINRRAGE into something resembling an international research network, with the organisation of formal conferences and the interim circulation of infopacks as its main activities. However, utilising the skills and expertise available, the network was able to do more than simply gather and circulate information. It could, and did, generate original data, transform this into evidence through publication, and disseminate these findings to each other, the general public, and in some cases political institutions, through conferences, seminars and meetings.

'studying it up'

Although a very small number of the FINRRAGE women had been trained as biologists or medics, in general, network members had little or no prior expertise in medicine or science. Those who were academics in other disciplines were able to access the medical literature, but this was not always easy to decipher:

[Y]ou had to know a lot to begin to understand this issue. We always spent a lot of time, you know, trying, helping everyone to understand the biology, the basic science of the thing. And we didn't understand it either. We had to find out what it was, we had to study it up (Jalna Hanmer, Britain).

While the biologists in the network were able to help explain esoteric matters such as the technical processes of reproduction or the culture of laboratory science,

the network also needed social scientific and epidemiological data, neither of which existed in formal research at this time.⁴

For example, the low number of actual births compared to the exponential increase in both public and private clinics was considered to be key evidence for the argument that IVF was a technology that largely failed its stated purpose of providing babies for 'desperate' infertile women (see, for example, Edwards and Steptoe 1980). To develop the argument, accurate statistics were needed, but these were either non-existent or unreliable. As a journalist, Gena Corea and a colleague who worked at the Medical Tribune, an industry weekly newsletter with a circulation of about 170,000,⁵ set out to interview fertility professionals about their success rate reporting practices. Using a methodology of self-administered questionnaire supplemented by targeted interviews, the study generated the primary data necessary to prove the claim that doctors were reporting chemical, ectopic and spontaneously aborted clinical pregnancies as part of their 'success' rates.⁶ Fifty-four of the USA's one hundred and eight clinics answered the survey, and half of these admitted that their clinic had seen no live births so far, although some were claiming pregnancy rates as high as 25%. The survey showed that the vast majority of IVF births in the USA had, in fact, taken place at the same clinic in Virginia, which, using the more accurate laparoscopy (egg retrieval) to live birth ratio, reported a success rate of only 13% (Jones *et al.* 1983, in Corea 1985).

Because it had been published in a medical newsletter, the information in the Tribune article was considered authoritative enough to be quoted in academic journals as evidence of statistical manipulate and the low actual success rates of IVF (see, for example, Dickey 1986; Harvard Law Review Association 1989; Fabricant 1990). Thus, although the research project was conceived as a way of developing information for use by the network, publication in an 'insider' journal positioned their questions as worthy of the attention of the medical profession, while their data was reified as valid

⁴ In fact, scientists and medics themselves were only just beginning to consider IVF a legitimate field of research (Johnson, Franklin, Cottingham, *et al.* 2010).

⁵ See version delivered in Sweden, FIN 03/01/02/0. This includes a great deal of anecdotal information edited from both the collected conference papers (Corea and Ince 1987) and the Medical Tribune article (Corea and Ince 1985).

⁶ 'Chemical' is a slight rise in recorded hormones over the first 48 hours, while 'clinical' is any pregnancy carried for at least eight weeks, even if miscarried later. Ectopic means the embryo had implanted outside the uterus.

knowledge through citation in works which were subject to the mechanism of peer-review (Fuller 1988/2002).

Evidence-gathering and presentation was not restricted to those who had professional journalistic or academic expertise, however. One of the organisers noted that as the Sweden conference went on, more and more women were asking to speak, and the sessions were running late into the night.⁷ For those who did not enter the network as academics, being part of a knowledge-producing collective could also produce a shift in their own knowledge practice:

[T]his kind of political interest brings me up to study once again, and to understand this process, to understand how science is working and to understand the structures of this kind of knowledge production and so on and so forth.... I mean I wrote also before, but this makes me more, gives me more opportunities, even if I was not [an] educated journalist, to write in newspapers, to write articles in books and so...And yeah, during the years I professionalized [sic] myself (Erika Feyerabend, Germany).

Here Feyerabend suggests that professionalisation can also be shaped towards credentials which allow the activist to better pursue her political goals from within, rather than outside, the movement. Another woman explained that she became well-known within the Japanese women's movement because her expertise in marine developmental biology placed her in demand to make sense of NRT for other feminists after the first child was born there in 1983 (Satoko Nagaoki, Japan). Spurred by the interests and experience developed through participation in FINRRAGE, she eventually left biology altogether to become a professor of STS, and women's and gender studies, and still helps run two FINRRAGE-affiliated groups in Tokyo.

Although the CP paradigm suggests that activists leave the movement as they professionalize, these two examples show that in a knowledge-based movement career and activist work may tend more towards convergence. It is also possible that professional interests lead *into* the movement. This was particularly true for those in women's health, and for early career academics seeking to break new ground with their research:

⁷ Recorded conference report, c.10 July 1985, supplied to author by Robyn Rowland. Preserved as digital audio: FIN 13/Disk/AUS/RR/02/RK_GC_for_RR.wav

[W]hen I did my honours thesis⁸ [on infertile women who had chosen IVF] in 84, I wanted to publish from it because I knew that it was original material and I wanted to get it out there...I didn't know anyone, I just thought this is the conference for me, and that's where I went...So I gave a paper at the [Sweden] conference, and I think that was, I'm pretty sure that was the first empirical work in this area...I just got a, I felt an accord about the cause, because I could see, you know, this is Pandora's box that that's been opened (Christine Crowe, Australia).

As Crowe suggests, a professional opportunity may also become a political one, in which those working in isolation, often against institutional norms, are able to find others who not only have a similar political cosmology, but are developing a similar critique:

I wanted to do a feminist analysis of in-vitro fertilization [as a PhD at NYU], but they said that was insufficiently anthropological...I did get funding to do it from an anthropological research organisation, but to do it in Britain [in 1986] because it was pretty obvious I wasn't going to be able to do it in the United States...I was very excited when I heard about [British] FINRRAGE, because I thought fantastic, there's a whole feminist network that's interested in these issues. I didn't know anybody else who was working on these issues at all (Sarah Franklin, Britain).

In this manner, FINRRAGE was also an outlet for professionalised knowledge work which helped the women to develop their careers while simultaneously maintaining their identity as feminist activists. In addition, those who wished to formalise the research and publication they were doing as network activists by taking higher degrees sometimes found their choice of subject validated by this prior political work:

[T]here were social anthropologists within FINRRAGE like Sarah Franklin, you know, and there were some others. And so it came into my mind in social anthropology you can work on IVF and so I tried to do it at the Institute in Vienna [in 1988]...I wasn't sure if my professor would say it's okay... But I was lucky because we published the report of [our] conference in 1986,⁹ ...I wouldn't have told him but he heard about it somehow and he liked it...And so I could write [my PhD] about it (Aurelia Weikert, Austria).

⁸ Equivalent to a UK master's degree, this is a 20,000 word dissertation produced by original research. Crowe went on to develop this into a PhD.

⁹ The Austrian FINRRAGE group had published the proceedings of a conference they held in Vienna as *Schöne neue Männerwelt*, or *Brave New Manworld* (Weikert, Riegler and Trallori 1987).

As Weikert's and Franklin's stories show, women in FINRRAGE, particularly the close-knit group of international post-graduates who were forging new areas of research, may have also helped to raise the profile of NRT overall as an area of academic research in traditional disciplines such as anthropology, sociology, philosophy, and law, as well as in women's studies, where some interest could be expected.

Network research could also take place through alternative organisations such as UBINIG, which still considers itself to be FINRRAGE-Bangladesh. As an independent organisation which chooses its own projects and trains its own researchers, UBINIG works in areas which would be almost impossible for European researchers to access. For example, UBINIG was able to interview women in the slums of Dhaka who were having difficulties with side effects from contraceptive implants, resulting in an informal report which provided the first empirical research on Norplant from the women's point of view (Farida Akhter, Bangladesh). In addition to sharing this knowledge with FINRRAGE to develop their overall analysis of the connections between hormonal control of reproduction and social control of women, UBINIG's report also went to donor organisations and to local NGOs tasked with administering contraceptives, and became the cornerstone of an international campaign against the forcible use of Norplant in Bangladesh (Akhter 1995).

These are but a few of many examples. What is clear from the collected interviews is that this aspect of FINRRAGE's cognitive praxis – carrying out research and writing and talking about it, whether informally or formally – was not only central to the network's strategy, it was also central to the lives of nearly all the women interviewed. It is perhaps not surprising, in that case, that writing was seen as providing a similar function as protest might for another organisation.

'demonstration in publication'

Before FINRRAGE itself emerged, three feminists with backgrounds in biology had edited an anthology, *Test-Tube Women* (Arditti, Klein and Minden 1984), which became a world-wide bestseller. The anthology covered a wide range of reproductive technologies, from contraception to IVF, and included both formal research and anecdotal essays. Many of the women pointed to either working on, or

reading *Test-Tube Women* as the moment of radicalisation which eventually led them to form a critical analysis of IVF. As one of the editors recalls:

[B]asically every paper showed us some other aspect, some other problem... There were so many different aspects of it in that book that by the time we had finished the book we were all three totally opposed to it. But I think it's important to point out that we didn't just come to it knowing fully, you know, we didn't have a fully fledged analysis or even a theoretical position when we started (Renate Klein, Australia).

Klein's statement suggests that, contrary to deficit models in which ignorance of science has been blamed for public resistance to new technology (Bodmer 1985), greater scientific literacy may also produce resistance where formerly there had been none. The reception of *Test-Tube Women*, and shortly after, *The Mother Machine* (Corea 1985), is also indicative of the upsurge in interest that took place mid-decade, as the demand for IVF in industrialised countries rose, and press coverage of the legal and ethical dilemmas created by embryo freezing, egg donation and surrogacy opened these questions to public scrutiny. Symbolic street-level protest was no longer seen as the only way to affect social change, particularly on difficult technical issues:

It's not true that we weren't activist. I mean, many of us were on [other] demonstrations... [But] you couldn't go to a hospital and picket, with marches and picket lines... what would you be demonstrating against, that there was one physician in there who was attempting to use GIFT or IVF? People wouldn't mobilise around that... So the demonstration used to happen in publication (Annette Burfoot, Britain/Canada).

While some of the women had outlets for publication in their local feminist press, the network also wanted to widen access to formal publication as part of its non-hierarchical approach to women's knowledge. At the Sweden conference, in addition to papers on specific topics, country reports from Australia, Bangladesh, Brazil, Canada, Denmark, England, France, Ireland, Israel, Japan, Netherlands, Norway, Switzerland, Sweden, U.S.A., and West Germany were also presented. These covered the state of technological development, impending regulation, public discussion, and feminist response. The reports were eventually edited into a single document and published along with the collected conference papers as *Made To Order: The Myth Of Reproductive And Genetic Progress* (Spallone and Steinberg 1987). Taken together, they paint a surprisingly detailed picture of the state of IVF

world-wide in 1985, despite the fact that many of the women who presented the reports did not normally carry out research, and most did not speak English as a first language. In creating the country reports, which would become a central focus of all the international meetings, the network was now also beginning to amass a research archive of international documentation, including hard-to-access primary literature from medical journals, pharmaceutical companies, and fertility industry conferences, much of which was circulated through the infopacks.

Another way of creating opportunities for 'like-minded women' (Jalna Hanmer, Britain) to get their information into print – particularly those who would not normally have access to formal publication, such as disability activists, or women's health workers – was to do it themselves. In December of 1986, the original group received a \$15,000 grant from the Skaggs Foundation to start an academic journal. Although they considered this as an activity separate from the network,¹⁰ they did draw extensively from the women they knew through FINRRAGE to create the editorial advisory board, and to select regional editors, not all of whom were academics. Pergamon Press accepted (*Issues in*) *Reproductive and Genetic Engineering: Journal of International Feminist Analysis* (IRAGE) on a three-year basis, with rolling contracts for six months.¹¹ The journal's first issue was published in March 1988 and it continued to appear three times yearly until 1992. Having both an activist and scholarly mandate, similar to the *Women's Studies International Forum*, the journal published formal research and critical analysis, but also news of political actions, essays about embodied experience, reports of fertility conferences, and other works by non-academics, whom the editorial staff coached through the editing process.¹² This expanded opportunities for validating the movement's claims through making informal research available in a format which could be cited by academics, legitimating the journal despite its low academic ranking, as well as its authors as having credible knowledge. Mulkay (1997), for example, cites social science research from IRAGE and other publications by FINRRAGE women (Corea 1985; Klein 1989; Spallone 1989; Crowe 1990; Franklin 1990; Koch 1990) as evidence in his classic examination of the parliamentary debates around embryo experimentation in Britain in the 1980s, as do Lee and Morgan (2001) in their history of regulating reproductive

¹⁰ Letter, JR to GC, JH, RK and RR, 8 February 1987: FIN 02/04/01.

¹¹ 'Issues In' was added as of Vol 3(1) at the publisher's request, to clarify that it was not a science journal.

¹² While not reviewed blind, the work published in IRAGE had to be written to an academic standard.

technologies. Both also discuss FINRRAGE as an organised feminist response, suggesting that they were aware that these authors were active in the network, and did not consider this to have biased the data.

Because there was actually very little known about the experience of being on an IVF programme in the 1980s, it also became increasingly possible for the academics in the network to apply for money for research. For example, Robyn Rowland and Renate Klein used their academic expertise to write a post-doctoral fellowship for Klein to join Rowland at Deakin University in Australia, where she carried out an empirical research project on the experiences of women who had been unsuccessful at IVF. The resulting monograph, *Exploitation of a Desire* (Klein 1989), was subsequently published by the University press, and widely circulated by FINRRAGE-Australia. Although the language of the text is highly polemic, its findings appear to have been considered on their own merits. One member of the Victorian Standing Review and Advisory Committee on Infertility (VSRACI) later noted that she had used the issues raised by FINRRAGE in her own discussions of IVF (Woll 1992: 25) and the Victorian Minister for Health specifically mentioned Klein's monograph as 'some of FINRRAGE's most effective work' (*ibid*: 29). This ability to reach members of groups with institutionalised power varied widely from country to country, but reflected another important aspect of the network's cognitive praxis: dissemination in public, as well as in publication. In the next section I will focus on one instance where this was accomplished at an international level.

'being expert early'

Two women from the German Green Party, Margret Krannich and Annette Görlich, had attended the very successful conference against reproductive and genetic engineering which took place in Bonn early in 1985, a few months before Sweden. Organised by some members of the then-nascent German FINRRAGE network, the Women's Section of the Green Party, and the journal *Beitrage zur Feministischen Theorie und Praxis*¹³ the conference drew over 2000 women, and launched a 'dramatic debate' not only amongst feminists, but across the entire left because of IVF's associations with eugenics (Helga Satzinger, Germany).¹⁴ Krannich and Görlich

¹³ *Trans*: Contributions to Feminist Theory and Practice.

¹⁴ See also German country report given at the 'Emergency Conference' in Lund: FIN 03/01/02

were now working in the women's bureau of the Green-Alternative European Link (GRAEL), which had offices at the European Parliament in Brussels. Here, the Committee on Legal Affairs and Citizens' Rights had met in November 1985 to discuss reproductive technology, and was scheduled to meet again in March 1986 to discuss genetic engineering. Krannich and Görlich suggested using the resources available to them to create a '*Feminist Hearing on Genetic and Reproductive Technologies*' at the Parliament on 6-7 March, as a preface to the Committee meeting.

The invited speakers for the first day were largely FINRRAGE affiliates from Germany, France, England and the Netherlands and included three biologists (two of whom spoke as representatives of the Green Fraction in the German National Parliament), a Green Party/disability rights activist, four social science academics and an activist from an economics foundation. As was normal for an international FINRRAGE conference, the second day was comprised of country reports, a press conference, and a three-hour 'discussion about strategies and actions'.¹⁵ Thus, the day and a half of knowledge dissemination would end in a more traditionally activist call-to-arms. The open two-day *Hearing* was then followed by a separate women-only FINRRAGE meeting on the 8th, at the Université des Femmes, a non-profit organisation dedicated to promoting women's scholarship.¹⁶

The minutes for the strategy session on the last afternoon of the *Hearing*¹⁷ suggest that not all of the attendees were in agreement with FINRRAGE's highly critical analysis of NRT. However, the discussions also allowed a variety of positions to be aired, and through this to identify some areas of consensus on which women with different fundamental opinions about reproductive technologies could work together politically, such as opposing the restriction of IVF to married heterosexual couples. Despite the fact that this would actually facilitate access to IVF, it was also seen as consistent with the cosmology of resisting patriarchal control, since such regulation was analysed as handing new powers to the state and/or medical practitioners to determine who could become a mother.

Giving papers at a meeting inside the European Parliament positioned the women as having had their expertise validated by an important international political body through its willingness to listen to their knowledge claims. In that sense, it is

¹⁵ Schedule, Feminist International Hearing on Genetic and Reproductive Technologies, European Parliament, Brussels, 6-7 March 1986: FIN 03/01/03

¹⁶ <http://www.universitedesfemmes.be/>

¹⁷ Feminist Hearing minutes, *ibid.*

possible they were inadvertently helped by grassroots feminism's reluctance to engage with infertility in the early 1980s – many women could offer their expertise as women, but few could offer familiarity with both scientific and social scientific data:

...FINRRAGE and the FINRRAGE women took up the issue very early. And they have been expert very early. So they have been better expert [than] you found on the subject in the European Parliament at the time...I think it was also one of the reasons why FINRRAGE women could really have some influence in the early years of debate...people and also high educated people didn't have as much information as FINRRAGE women at that time (Margret Krannich, Belgium/Germany).

Timeliness, therefore, was a key factor in the success of the Feminist Hearing, not only because of the political opportunity conferred by the Committee meetings discussing the possibility of European-wide regulation, but also because the cognitive praxis of the network had already helped to generate woman-centred knowledge which could be used to ground a values-based analysis in factual evidence. In addition to projecting the FINRRAGE women as experts by drawing the speakers from three groups normatively recognised as credible knowledge holders – biologists, academics, and activists from recognised non-governmental organisations – the structural benefits conferred by holding an action shaped to look like an academic conference, at an institution which included formal translators and an in-built set of international journalists whose job it was to cover such events, helped the *Hearing* gain a great deal of media attention, further legitimising both the network and its critique:

We had articles in Belgium and Austria, the television from UK and Ireland and the feminist press...So spreading it in the women's community and in the wider press was quite successful I would say...It was quite interesting because we had the summary of the conference translated and given to every member of the legal committee of the European Parliament...So we were quite proud that our paper was a success and became a kind of reference of the ongoing debate (Annette Görlich, Belgium/Germany)

While it is beyond the scope of this paper to directly trace the links between the *Hearing* and the eventual Parliamentary resolutions, it should be noted that these took a surprisingly woman-centred standpoint. Among other considerations, the final Parliamentary resolutions stated that IVF caused 'great physical and psychological stress' for women with very little chance of success; that the technologies presented serious risk of 'commercialisation of the female body'; and that embryo selection, the

sale of gametes, and procurement of surrogacy services of any kind should be illegal (European Parliament 1989: 171-173). This would suggest that despite the politicised language of much of the published work, and an analytic stance which many other feminists considered to be 'going too far' (Renate Klein, Australia), the substance of the arguments put forward by the network – particularly those grounded in data – were not, in fact, too radical for mainstream institutional politics:

[W]e never talked about anything unless we knew for sure what we were saying. So, you know, you would never go out there and say something about clomiphene¹⁸ unless you were really – and you'd be very careful how you were going to say it – you wouldn't say anything unless you had the evidence. So the data on IVF for example, we knew the statistics, we knew it backwards. So there wasn't any way they could get us where they could trip us up in public and say well, you got that wrong (Robyn Rowland, Australia).

Rowland's comments illustrate the importance of verifiable evidence to a movement's cognitive praxis. Beyond 'new thoughts and ideas', beyond symbolic action, beyond interpretive or values-based arguments, movements seek to challenge normative discourses which leave out, or simply lack, alternative information from which reasoned opinions may be formed. Activists must find the data from which to extrapolate that information somewhere, and if it does not exist, may under certain conditions develop the tools to bring it into existence themselves. Although I have focussed on one specific organisation with a particularly strong representation by social science academics, certain aspects of FINRRAGE's cognitive praxis – for example, documentary research and methodologically collecting stories from people affected by the movement's topics – are practices which may in fact be common to all social movements. It may, therefore, be possible that theories which apply to more formal knowledge-generating activities may have a great deal to say about activist knowledge production as well. This will be the subject of my last section.

Conclusions

¹⁸ Clomiphene citrate was the most common hormone used to promote ovulation in both traditional infertility treatment and IVF. Rowland and Klein had written a paper about its dangers, drawn from their empirical research and the fertility doctors' own medical papers (Klein and Rowland 1989), and were often empanelled with those same doctors in media interviews and at scientific conferences.

Whether one agrees with their analysis or not, the emergence of FINRRAGE marks a key turning point for feminist knowledge about NRT, and shows some of the ways in which activists use the tools of social science to create formal as well as informal knowledge. This, I have illustrated on three points: First, developing its research programme was the most important activity for FINRRAGE on an organisational level, in order to ground their arguments against IVF in evidence, as well as in their own feminist values. By systematically collect missing information for use of the network, as Corea and Inch did with IVF live births, or Klein with the experience of women who had left IVF without a baby, they were also able to contribute verifiable data to actors and interests beyond their own. Second, while activist knowledge is most often disseminated through informal publications – alternative newsletters, protest handouts, websites and blogs, etc – the case of FINRRAGE shows that it is also possible for activists to 'demonstrate' through formal outlets. By publishing collections of conference papers, anthologies and other group-authored works which conform to an editorial standard, movement knowledge is made available to be quoted in peer-reviewed articles, which, to follow Fuller (1988/2002), are what constitutes formal knowledge. Last, while it may be true that professionals have less time for activism overall, the case of FINRRAGE shows that those who maintain an activist identity all their lives also tend to shape their professional life in ways which support that work, thus keeping their energy, skills, contacts, expertise, and knowledge available to the movement-at-large. As shown by the *Feminist Hearing*, this can even provide a political opportunity for access directly into the corridors of power, where it is not impossible that sympathetic ears may be found.

Taken together, this suggests that the tools of social science have a distinct and important role to play in providing the evidential basis for activist claims, particularly in movements where formal knowledge producers are able to share their expertise and access as part of the movement field. While the presence of a core group of social scientists certainly facilitated a knowledge-based protest strategy in FINRRAGE – particularly through formal publication – it would be reasonable to assume that similar processes of data generation and dissemination exist in other movement organisations. One of the difficulties in clarifying what 'knowledge' actually means in the study of social movements, however, is the tendency of resource mobilisation-derived theories (RMT) to consider social movements as occupying a 'civil sphere'

outside of all institutions, including academia. Another is the historical (and continental) divide between the functional-structural concerns of RMT and neo-Marxist theories which consider the social movements of the 60s and 70s to have been 'new' because they were based upon biological identity or cultural values such as peace or conservation, rather than upon class affiliation (Lentin 1999). Touraine suggests that rather than grappling over control of production of goods, these 'new' social movements (NSM) were grappling with 'historicity', or control of the production of information. Movements were ways of bringing scientific ideas into the social world to be tested and/or of resisting the intrusion of technology into the 'lifeworld' of the unconscious (Habermas 1969/1987).

Eyerman and Jamison's CP paradigm was originally devised as way to incorporate NSM theories about the function of social movements in creating new ways of seeing/thinking about society into RMT. As a theoretical case study, a cognitive praxis analysis of FINRRAGE reveals that Eyerman and Jamison's framework is well suited to trace the development of a movement's underlying cosmology, and the ways in which this combines with its knowledge-interests to form a particular shape of organisation and an actionable analysis. However, the model lacks any real theory of knowledge or expertise to clarify what is meant by the terms 'belief', 'knowledge', and 'experts'. It is also not well served by the claim that scientists do not enter the 'messy world' of the social moment, which in some movements appears to be true only if one deliberately excludes scientists, medics, academics, and other credentialed knowledge-holders from the field solely on the basis of their profession (see, for example, Frickel 2004 on scientist-led activism). Other case studies, such as Epstein's (1996) classic work on ACT-UP's intervention into clinical trials during the AIDS crisis, have shown that not only can activists contribute to formal knowledge, they can also change the very way formal knowledge is produced. Moreover, while Eyerman and Jamison consider the movement to be responsible for opening new academic disciplines, it does not allow the movement itself into the academy, a formulation which seems odd from the point of view of any of the multidisciplinary identity-based fields, such as Women's or Disability Studies, which were forged from the mass movements of the 1970s, and whose purpose is still to generate politically useful knowledge.

Arthur (2009) suggests that these are perhaps better understood as New Knowledge Movements (NKMs) in their own right, connected to but not dependent

upon, waves of street-level protest. In this sense, FINRRAGE may be seen as an example of a kind of social movement organisation whose function is to create a bridge between the more radical, liberation-oriented elements of a protest movement and its institutionalised/ing expression. Part of its cosmology was that sexism was an integral part of all institutions, therefore feminists would have to create 'safe space' in which they could develop their own women-centred ways of producing and validating knowledge (Bowles and Klein 1983; Mansbridge 2001). As Women's Studies departments professionalized the non-hierarchical knowledge practices of the consciousness-raising groups of the 1970s (Sheridan 1990), they also provided the means to validate evidence collected by activists in safe spaces outside the academy, particularly on topics not yet of interest to traditional disciplines. In other words, while it would be impossible to deny the influence of the academy in producing a protest organisation shaped like a research network, it is important to see this as a reciprocal, and ongoing relationship, where the knowledge produced by FINRRAGE was also fed back into the academy by women who maintained an activist identity.

It is here that the CP paradigm, which appears to base a movement's cognitive success on its ability to create institutional opportunities, tends to falter. Since CP considers social movements to be 'carriers of what has been called the project of modernity' (Eyerman and Jamison 1991: 150), it is well suited to analysing emergence of what SMT considers 'liberal' or 'reform' movements – those which seek greater access to existing institutions, including the academy and the market – but loses interest as these movements begin to professionalize, considering those actors and organisations to have left the movement behind. Additionally, despite claiming roots in neo-Marxian ideas of using science and technology to produce social justice, Eyerman and Jamison have limited 'success' to the ability to pursue that justice inside the existing political economy. This can be seen quite clearly in Jamison's (2010) more recent work on social movements and climate change, which largely reduces the field to an argument between 'green business' and climate sceptics, sidelining the radical strand which argues for an overall reduction of human activity and a re-evaluation of economic strategies based on continual growth. These are dismissed as either not yet having 'a coherent or integrated cognitive praxis' (*ibid*: 817) and therefore no capacity to contribute to knowledge or play a role in 'establishing meaningful international agreements' (*ibid*: 819), or as NGOs dependent on external funding and therefore outside the movement field (*ibid*: 817). It is unclear where FINRRAGE would truly

fit in the CP paradigm under these terms, as a loosely-organised, non-hierarchical network of radical activists which never became an NGO, but – as I have argued above – most certainly did have an identifiable cognitive praxis, did contribute to feminist and general knowledge about reproductive technologies, and appears to have had at least a small effect on at least one international policy on NRT.

Eyerman and Jamison (1991: 61) do consider their own epistemology as social after Fuller (1988/2002), and encourage interrogation of the social and political forces surrounding the production of scientific knowledge, but do not reverse this to cover the movement itself. A greater incorporation of theories of knowledge emanating from science and technology studies may, therefore, help clarify some of these issues, as STS sees the process of creating and validating factual knowledge as a collective endeavour with its own socialisation processes (Kuhn 1962/1996). Knorr-Cetina (1999: 1) defines 'epistemic cultures' as those 'which create and warrant knowledge', of which Western science is the primary, but not the only example; similarly, Haas (1992) uses the term 'epistemic community' to describe the network of experts upon which international policy makers rely, some of whom will be credentialed scientists, some not. According to Haas, what makes this a community is a shared set of normative values, causal beliefs, and methods of data validation, which create 'a set of common practices associated with a set of problems to which their professional competence is directed, presumably out of the conviction that human welfare will be enhanced as a consequence' (Haas 1992: 3; see also de Saille 2012: 170-71). Although activists will generally lack access to institutionalised political power or laboratory tools, it is possible that some of the processes of creating these common practices are similar, and may in fact be considered as forms of cognitive praxis, in much the same way movements form epistemic communities and cultures with their own internal norms, canonical literatures, and methods of gathering and validating knowledge. Additionally, Collins (2004) describes a form of 'interactional expertise', or the ability to converse as a scientist without the technical skills needed to actually do science, which he suggests is often developed by sociologists of science, and allows for the possibility that some social movement actors may develop this linguistic facility as well (Collins and Evans 2007).

In this paper, I have used the cognitive praxis paradigm to show how one group of activists attempted to grapple with issues based in complex science, from the marginalised position of being mostly non-scientists, and largely excluded from

access to mainstream political institutions as women. I have discussed some ways in which FINRRAGE was able to generate both formal and informal social scientific knowledge through the repurposing of academic structures such as conferences and publications to disseminate findings, and through developing an organisational identity which allowed non-credentialed actors in the network to be perceived as holding expert knowledge because of their affiliation. A logical next step would be to approach the same data through paradigms derived from STS in order to strengthen the original analysis and the CP-derived framework used.

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