Practice: a battlefield where the natural versus the technological

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In 1999, I introduced my doctoral research with a statement about modern childbirth taking place in a veil of tension between the technocratic and natural models of childbirth. Technocratic – where events and midwives' reactions may be largely guided by electronic and other devices, and a natural model in which the midwives' role is to provide security and support for the mother as she births according to her own body's timetable. The literature provided a key to understanding the diversity of public perception of technology, with the scientific philosopher Ellul (1963: 83) stating: *'Technology produces values of unimpeachable merit, whilst simultaneously destroying values no less important – impossible to state that technology brings about absolute progress or regress.'*

Habermas (1984) proposed the silent infiltration of technology into society and argued that purposive rationality had become the *'dominant belief system due to society valuing and demanding technical efficiency'*. The revelatory power of technology was embodied when *'…user and recipient of technology become integrated with the machinery to form an interpretative and transparent relationship and the human body experience becomes hermeneutically transparent in that it can be interpreted in a similar way as a text'* (Ihde, 1990: 90).

The literature was not without critics like Reynolds (1991), who warned about the abuse of technology allowing humanity to destroy natural cycles on one hand while building fabrications of it on the other. Healthcare literature provided a similar pattern of oppositional views with Donnison (1977) proposing that technology enables men to dominate the processes of childbirth. Oakley (1987) said expert technological knowledge enables the medical profession to control childbirth. However, other writers such as Wajcman (1991) perceived technology to be empowering, giving women control over their childbirth experience ,while Doyal (1995) perceived the 'technologisation' of childbirth to be a demonstration of patriarchy, male domination of women and the medicalisation of childbirth by male obstetricians. This view was supported by Dover and Gauge (1995), who reported that technology de-skills midwives and undermines their professional expertise, and midwives were being accused of *'trusting the technology too much'* (Hemminki and Merilainen, 1996).

This controversial background formed the context of my research involving an observation programme, comprising 17 case studies conducted across midwifery units in Northern Ireland – a postal survey targeted all practising midwives (1086 with a 60% response rate). Complementary fieldwork involved the survey of computer competence among new entrants to midwifery/nursing courses (731 with a 100% response rate) and in-depth interviews with midwifery managers (10).

The observation studies confirmed the midwife as in a key position in relation to exercising judgement and assuming responsibility for a woman and her baby's welfare when technology is used – the technology did not undermine the midwife's position, rather it appeared to focus and strengthen it. Women and their partners used the cardiotocography machine as an electronic window to provide them with evidence of their babies wellbeing and it aided them in the processes of delivery. Midwives' willingness to use technology was affected by their level of training, perceived competence, and confidence.

Often students perceive technology to be an important aspect of their work and are motivated to use it. Those with no training in computers scored significantly lower on confidence (p<0.001) and motivation (p<0.001). Midwifery managers considered midwives ought to be assessed for technical competence as part of their undergraduate education. There was a belief that those who were very proficient in technology usage would enable labouring women to be more independent and less dependent on the midwife as *'truly competent midwives use machines as tools and allies to support and enhance decision-making skills'* (Sinclair, 1999).

The role of the midwife in the modern labour ward demands specialist skills in technology. Midwives need to be highly competent in the use of induction technologies 'hardware', as well as the 'software' required to support women in natural childbirth. These skills need to be clearly identified and appropriately addressed through curriculum development.

Ten years later, the battle continues and entrenchment has become part of the fabric of practice, with some holding fast to man-managed labour in a consultant-led environment or woman-led labour in a midwife-led unit.

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