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Critical realism: An important theoretical perspective for midwifery research



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ABSTRACT

Background: there is a dearth of papers in midwifery journals exploring the philosophical underpinnings of various research methods. However, explaining and justifying particular ontological and epistemological positions gives coherence and credibility to chosen research methods.

Objectives: to explore and explain the philosophical underpinning of critical realism and argue for it to be more widely adopted by midwifery researchers, using the exemplar of dystocia research.

Discussion: critical realism as originally espoused by Bhaskar sees reality as layered (realist ontology) and seeks to explore causative mechanisms for what is experienced and observed. In this way it illuminates the complexity of health care, though recognising that knowledge of this complexity is filtered through an interpretive lens (constructionist epistemology). Critical realism encourages a holistic exploration of phenomena, premised on multiple research questions that utilise multiple research methods.

Implications for research: critical realism as a philosophical underpinning is therefore particularly apposite for researching midwifery issues and concerns.

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Introduction

Midwifery research has grown exponentially over the past 20 years and has been widely disseminated in a range of midwifery and obstetric journals. Research methods that are utilised are increasingly eclectic and reflect the variety of research questions addressing different aspects of childbirth. However conspicuously absent in midwifery journals has been in-depth discussion and debate about the philosophical underpinning of different research methods, though these have taken place in midwifery research texts (Dykes, 2004) and other health professions' journals (Wainwright, 1997; McEvoy and Richards, 2006). The debate asks important questions about the nature of reality (ontology) and how we gain knowledge of it (epistemology). Such a focus is fundamental to research endeavour because unless the right questions are asked about the reality we are attempting to describe, explore or explain, then our knowledge of that reality will remain superficial and impoverished and is less likely to make a difference to childbirth practices and women's experience. In addition, it can result in research that is

inadequately justified, lacks internal coherence and therefore lacks wider credibility (Clark et al., 2008).

An example of this is the current research into dystocia, a complication of labour that is the principal contributor to caesarean section in nulliparous women (Gregory, 2000). Most of the research has explored interventions to speed up labour – there are currently at least three relevant Cochrane reviews on the prevention (Wei et al., 2009) and treatment of dystocia (Bugg et al., 2011; Kenyon et al., 2013) – or on women's experience of dystocia (Nystedt et al., 2008). The methods utilised in these studies have been randomised controlled trials and phenomenology in the main. The former promises certainty in addressing the condition, based as they are on a positivist epistemology (knowledge that is always true and generalisable) and the latter on the contingency of how individual women interpret their experience of dystocia (knowledge that is context dependent and particular to the individual). However, the incidence of dystocia and its negative consequences for women continues to rise (Bragg et al., 2010). If researchers had grasped the limitations of their research methods by critiquing their ontological and epistemological underpinning, they might have asked different questions about the aetiology of dystocia, researched different interventions to manage it and ultimately had a greater impact on women's outcomes and experience.

Nine years ago, Anderson (2004) began asking different questions about the aetiology of dystocia, suggesting some new

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categories – organisational dystocia (lack of continuity of care on labour wards), environmental dystocia (clinical, non-homely décor) and interpersonal dystocia (disagreements between labour ward midwives and obstetricians). Of course what she was hinting at were environmental, social and psychological effects that could impinge upon a woman's ability to labour normally. Later, [Downe and McCourt \(2008\)](#) articulated the limitations of studying labour predominantly by using randomised controlled trials (RCT's) because the theoretical foundations of trials reside in a positivist epistemology based on simplicity, linearity and certainty. However, labour does not unfold with a singular cause and effect physiology (oxytocin secretion therefore cervical dilatation) which then proceeds with regularity (cervix dilates in a constant trajectory) to end with birth at a relatively predictable point (average of 10 hours). It is a much more complex phenomenon which might more accurately be referred to as 'orderly chaos' ([Winter and Duff, 2009](#)). Clearly, experiences like labour are impacted on by multiple factors in the physiological, psychological and social domains. Simply applying quantitative research methods suited to the controlled confines of a laboratory are not going to capture the intricacies of the uncontrolled milieu of a labour ward.

As midwifery researchers, we need a theoretical underpinning that can accommodate this complexity and prompt us to examine phenomena more holistically, researching it from multiple perspectives. [Bhaskar \(1997\)](#), a British sociologist and philosopher, opened up this possibility in the 1970s by introducing Critical Realism as an ontological and epistemological position from which to research people in their social/health context. The remainder of this paper explores this position and why it is particularly apposite for midwifery research.

Stratified ontology of critical realism

Bhaskar argues for three level of ontology: the 'empirical', the 'actual' and the 'real'. These are illustrated using the tree representation in [Fig. 1](#).

The first and most superficial is the 'empirical' which is what can be observed or experienced (tree branches in [Fig. 1](#)). Underneath this empirical level is the 'actual': what is going on that may not be observed but which is regulating the empirical (tree trunk,

obscured by wall in [Fig. 1](#)). Bhaskar posited that there was a final layer which he called the 'real' that underpins the 'actual' (tree roots in [Fig. 1](#)). These are 'generative mechanisms' that contribute to our understanding of the 'actual' but which are not fully explanatory. Rather, they are 'tendencies' or causative agents. It is this layer which marked out Bhaskar's ontology as distinctive from all that had gone before. Critical realism views unobservable structures as real on the grounds that their effects can be experienced or observed ([Bryman, 2001](#)).

The application of Bhaskar's ontological levels to labour would be thus ([Fig. 2](#)):

- At the 'empirical level', uterine contractions are experienced by the labouring woman and observed by an attendant who can also measure the dilatation of the cervix.
- Oxytocin causing the uterine myometrium to contract and the cervix to dilate, the occipito-anterior position of the fetal head placing even pressure on the cervix, and upright posture assisting the fetal head to descend represent the 'actual level'. Childbirth professionals have come to understand this level through the analysis of maternal blood, dissection of uterine muscle and laws of physics (gravity).
- The deepest level is the 'real' where generative mechanisms operate to stimulate oxytocin release.

Many factors contribute to this. Physiologically, adrenaline mediates oxytocin release ([Rosenfeld et al., 1976](#)) but adrenaline itself is highly sensitive to a number of other mechanisms. These include environmental stimuli. Water immersion or being in a home-like setting reduce adrenaline levels and increase oxytocin levels ([Church, 1989](#); [Buckley, 2010](#)). In addition, interpersonal/relational factors like verbal encouragement and empathic responses from birth companions can increase oxytocin and reduce adrenaline ([Uvnas-Moberg, 2003](#)). Then there are psychological dimensions like a woman's cognitive and affective dispositions that can influence her response to threat ([Dunn et al., 2012](#)). Of recent years, evolutionary biology has contributed to our understanding of the role of compassion in neuro-hormonal responses in reducing stress in humans ([Gilbert, 2010](#)). Thus, there are a series of generative and overlapping mechanisms operating at the 'real' level that ultimately impact on uterine contractions at the 'empirical' level.

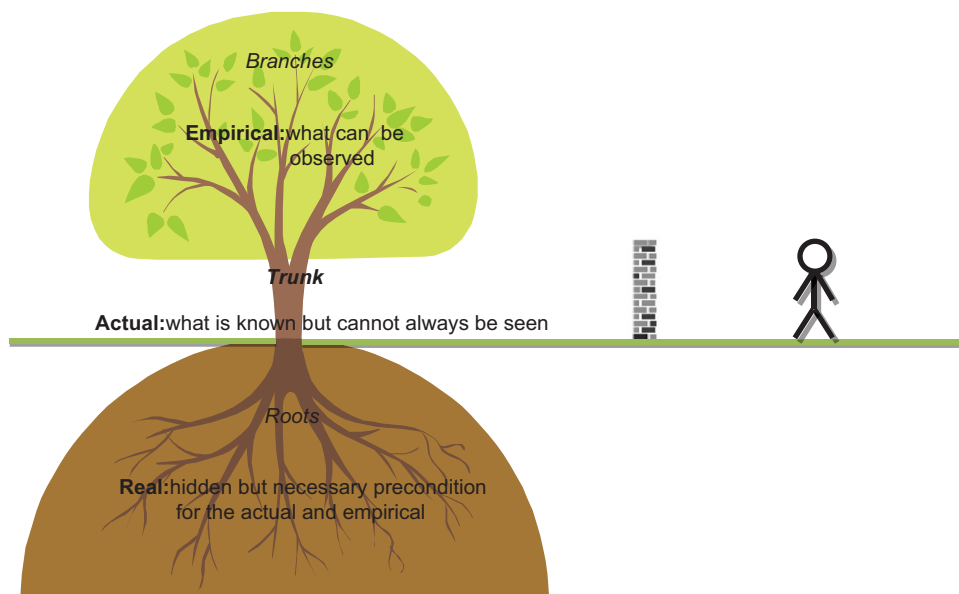


Fig. 1. Tree diagram of three ontological levels: empirical, actual, real. (Adapted from [Dyson and Brown \(2005\)](#).)

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