Pictures and Parallels: A Case Study from Pain Science
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INTRODUCTION: THE PROBLEM OF FETAL PAIN

“If fetuses can experience pain (itself the subject of some dispute…) it is reasonable to assume that a fetus has an interest in reducing the negative effects of pain and that interest gives us reason not to cause it.” (Nuffield Council on Bioethics 2006)

“We cannot point and say, ‘This thing (whatever concepts it may fall under) is at any rate capable of suffering, so we ought not to make it suffer.’” (Cora Diamond 1978)

Types of scepticism: other minds vs. fetal pain
- (a) identification vs. projection
- (b) direct vs. indirect

THE SCIENTIFIC IMPASSE

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<td>(a) necessary physical structures at “20 wks”</td>
<td>(a) necessary neural structures at 29-30 wks</td>
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<td>(b) withdrawal from noxious stimuli</td>
<td>(b) reflexive withdrawals and responses</td>
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<td>(c) routine use of anaesthesia</td>
<td>(c) secondary use of anaesthesia</td>
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1. Neural correlates: “conscious recognition” → “cortical recognition”?
   - (a) dubious neuroscientific inferences
   - (b) indirect thalamo-cortical connections
   - (c) unexplained anatomical hurdles

   “…no human study has shown that synapses between subplate and cortical plate neurons convey information about pain perception from the thalamus to the developing cortex” (Lee et al 2005)

2. Reflexes: nociception → pain perception?
   - (a) evidence synthesis vs. neural hurdle
   - (b) behavioural/physiological data vs. psychological interpretation

   “One study found no difference in facial activity during heel lancing of neonates with and without significant cortical injury, suggesting that facial activity even around 32 weeks’ PCA may not represent conscious perception of pain.” (Lee et al 2005, citing Oberlander et al 2002)

   “…even in the presence of a significant neurologic injury, preterm infants are able to mount a clinically recognizable pain reaction, and thereby can be assessed for the presence of pain” (Oberlander et al 2002)

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<th>subcortical activity is sufficient</th>
<th>cortical activity is necessary</th>
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<td>behavioural/physiological responses are expressive</td>
<td>behavioural/physiological responses are reflexive</td>
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   “…this important issue is clouded by inappropriate extrapolation from the postnatal state to the fetal state.” (Mellor et al 2005)

   “…the existing data strongly suggest that the fetal response to noxious and nociceptive stimuli is significantly different from that seen after birth and is in large part due to its unique environment” (Mellor et al 2005)
DIAGNOSIS: UNCERTAINTY VS. INDETERMINACY

“Pain is a subjective experience. The fetus cannot tell us what it is feeling, and there is no objective method for the direct measurement of pain. To address the question of pain in fetus, one must use indirect evidence from a variety of sources, and then make an informed guess.” (Glover & Fisk, 1999)

1. Picture with pre-theoretical assumptions: “God sees – but we don’t know” (Wittgenstein §352)
   - (a) a fact for science to discover
   - (b) no direct evidence
   - (c) indirect evidence → inevitable uncertainty

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<th>Picture of uncertainty</th>
<th>Picture of indeterminacy</th>
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<td>We discover that the fetus can feel pain.</td>
<td>We extend our concept of pain to it.</td>
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<td>We should change our relation to it.</td>
<td>We build a new relation of care to the fetus.</td>
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- (a) fact → value
- (b) lines of evidence
- (c) accumulation and evaluation of data
- (a) a practical judgement
- (b) lines of sympathy
- (c) also imagination and sensibility

2. Parallel: the fetus = an unborn patient
   - (b) “Pain and the Fetus” (UK 1985) → BMJ debate (1996)

“Who could have dreamed, even a few years ago, that we could serve the foetus as physician?” (Williams Obstetrics 1980)

“I must say I haven’t really thought about it, I really haven’t. Maybe I just don’t like to go down that route. But it’s an interesting one...I don’t understand how fetuses wouldn’t feel pain. Do you know what I mean? So it makes absolute sense that it will feel pain, but I just somehow, it’s most bizarre, now that you asked me that question, I kind of can’t make the leap. I just haven’t really thought about it.” (Williams 2005, quoting a senior midwife)

3. Sources of indeterminacy
   - (a) each line of sympathy is only an invitation
   - (b) each line can lead to different perspectives
   - (c) nothing dictates what can create or shape a line

PHILOSOPHICAL PREJUDICES

1. Are pictures like models?
   - (a) groping towards representation
   - (b) no obvious criteria of correctness

2. Are parallels “merely” psychological?
   - (a) discovery vs. justification
   - (b) metaphysics vs. epistemology
   - (c) epistemology vs. ethics
   - (d) conceptual analysis vs. empirical discovery
   - (e) scientific practice vs. material culture

“The fetus could not be taken seriously as long as he remained a medical recluse in an opaque womb... The sonographic voyeur, spying on the unwary fetus, finds him or her a surprisingly active little creature, and not at all the passive parasite we had imagined.” (Harrison et al 1981)