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Schrodinger's fetus

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The grey and white shadows, shifted, twisted, and flowed. Shapes and shades drifted back and forth across the screen. The sonographer gently angled the probe, and the pelvis came into view. There it was, in between the fetus' legs. She moved the probe again for a different view, to be sure.

She turned to the woman and her partner, anxious and excited, waiting for the answer.

"It's a..."

Interactions like this occur thousands of times a day, in ultrasound rooms across the world. Almost all women in developed countries have at least one antenatal ultrasound, and often several. These ultrasound examinations are primarily aimed to identify significant congenital abnormalities. However, scans also have social meaning. They potentially help the woman and her partner to generate an emotional attachment to the child to be.¹ Images are now frequently shared with other family members, and start to generate a social identity for the new family member. But, as Tamara Kayali Browne argues in her feature article in this issue (*see page 4*), this social identity can carry with it social conditioning. As soon as the ultrasonographer finishes her sentence, a set of gender expectations start to be attached to the fetus. The nursery is painted, names are debated, clothes are bought and the future can take on a blue or pink hue.

If given the choice, the majority of women and their partners choose to know the sex of their fetus.² But Browne argues that this choice is based on a mistaken conflation of sex with gender. Prospective parents want to know whether their child will be a boy or a girl, yet the ultrasound picture does not answer that question. For example, the presence of a penis makes it more likely that the fetus has a male karyotype, but does not guarantee it (approximately 1 in 5000 babies have ambiguous genitalia).³

Even if the fetus is biologically male, that does not mean that in later life s/he will identify as having a male gender.

Browne claims that fetal sex identification feeds into socially pernicious gender essentialism, and argues that prenatal sex determination should be prohibited. The fetus' sex should remain indeterminate, (like the fate of Schrodinger's fabled cat before the box is opened), until the child is born. But that proposal runs into a familiar problem in medical ethics—when it is acceptable to curtail patients' freedom to act or to access information about themselves or their child? Do the identified social harms of gender essentialism or the possible harms to the child themselves justify infringing the parents' autonomy (*see commentary by Davis page 16*)?

When it is weighed against other social values, autonomy doesn't always win. The Author-meets-critics section of this issue highlights the biopolitical dimension of autonomy and autonomy-violation (*see page 21*). Mirko Garasic's book "Guantanamo and other cases of enforced medical treatment" examines a set of paradigm cases where societies have weighed up and sometimes rejected the importance of patient autonomy to impose medical treatment on patients. As Charles Foster argues, in his response (*see page 23*), the identity, and social identity of patients also appears to play a role in particular cases. Some autonomy is more equal than others.

Less choice doesn't necessarily mean less freedom. Other papers in this issue address whether interventions that alter patient choices would even enhance patient autonomy. For example, Thomas Petersen and Kristin Kragh (*see page 29*) examine whether forced neurotechnological treatment of violent offenders (for example by pharmacologically reducing their sex drive, or increasing their level of empathy) would diminish their 'freedom of thought'. At least in some circumstances, Petersen

and Kragh argue that forced interventions could enhance the autonomy of offenders, by freeing them from intrusive urges or thoughts. In contrast, Saskia Verkiel, argues (*see page 51*) that freedom of thought must include the freedom to be bad: in her view, forms of moral enhancement would problematically reduce freedom of choice.

Elsewhere in this issue, Tom O'Shea outlines a distinctive and previously underexplored "civic republican" approach to medical ethics (*see page 55*). This approach is more familiar in political philosophy, but offers some novel perspectives on familiar issues. For example, O'Shea emphasizes the significance of domination through arbitrary interference in individual liberties. This might mean that the civic republican approach would resist Browne's restrictions on prenatal sex determination—particularly if applied inconsistently.

Where does that leave us with Browne's proposal? As Barbara Katz Rothman notes (*see page 10*) in terms of fetal sex determination from ultrasound, it may be now too late (the cat is out of the bag?). In countries like the UK or US, it is hard to imagine it being acceptable or practical to withhold information about fetal sex from women undertaking ultrasound. But the debate may be useful in any case. It helpfully highlights the unintended social impact of novel medical tests. With fetal whole genome screening on the horizon, such impacts will be especially important to consider and take into account.

REFERENCES

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- 3 Thyen U, Lanz K, Holterhus PM, *et al*. Epidemiology and initial management of ambiguous genitalia at birth in Germany. *Hormone research* 2006;66:195–203.