

How transsexual and intersex identities inform and challenge our understanding of sexual development

Introduction

Since the 1970's social scientists and biologists have used the terms sex and gender to distinguish the biological and socio-cultural aspects of the male-female dichotomy (Yudkin, 1978). Today, new ways of thinking about the ambiguities of biological sex are making such distinctions moot. Transgender, transsexual, intersex and gender queer individuals are an increasingly vocal minority: One whose multifarious identities challenge our culture's view of normative sexual development. In this essay I will show how studying the development of intersex and transsexuals individuals can inform a new understanding of the biological differences between men and women.

Defining Sex

Developmental psychologists and other social scientists have long been interested in the origins of the readily apparent differences between boys and girls. Robust sex differences have been identified in children's mathematical and linguistic capabilities (Carr, 2006), in their developmental schedules (Maccoby, 1966), in play and clothing preferences, and in visuospatial reasoning and speech patterns (Geary, 1998). At the same time, longitudinal comparisons have revealed that changes in parenting (for example the growth of single parent families) have acted to make children in the West more androgynous, indicating an

influence of parenting on cognitive function and sexual identity (Carr, 2006).

Sex has traditionally been assigned at birth in three ways – by an infant's visible genitalia, gonad type (testes or ovaries), and chromosomes (two X chromosomes for women, and one X and one Y for men). While gender has been used to refer to the social scripts and schema accorded to a given sex (WHO, 2012). However such distinctions ignore the biological malleability of sex itself, as well as the ambiguities of gender identity (Hubbard, 1998). Non-western cultures have long acknowledged the existence of a 'third sex' or alternative gender identity, from the 'two spirit' traditions of Native American tribes, to the Hijra of South East Asia (Lafont, 2009).

What Intersex infants tell us about biological sex

For a complex variety of chromosomal and endocrinological reasons, a small minority of infants have always been born 'intersex' – exhibiting typical characteristics of both 'biological' sexes or none.

Intersex infants may be born with one ovary and one testis, ovotestes (organs with both ovarian and testicular tissue), with 'true hermaphroditism' (the presence of both sets of external genitalia), with androgen hypersensitivity (where chromosomally female infants develop a hypertrophic clitoris resembling a penis), or androgen insensitivity (where chromosomally male infants possess a genetic mutation which prevents masculinising hormones from developing external male sexual characteristics) (Hubbard, 1998). In the Dominican Republic some children are born with an inability to transform testosterone into its metabolite dihydrotestosterone. These children (locally referred to as Guevedoche)

appear female until puberty, at which point their testicles descend and their clitorises grow into functional penises (Herdt, 2009). Such astonishing natural variations demonstrate a complex genital biology that defies binary classification.

Western doctors traditionally encouraged parents of intersex infants to have their children operated on to assign a gender as quickly as possible. This relied on the assumption that gender was essentially dichotomous and culturally determined. However such surgeries often resulted in adult gender incongruities and even suicide. Today, intersex advocates oppose infant surgery (Samons, 2009). Western medical intervention in infant sexual identity evidences the intolerance and constructed nature of our culture's sexual dimorphism (Hubbard, 1998).

What is Transgenderism?

Transgender individuals are those born with the 'culturally sanctioned characteristics' of one gender, and the phenomenological experience of its opposite (Samons, 2009). Transgender people experience tension between their socially assigned gender and individual self-identity. About 1 in 11,900 (natal) men and 1 in 30,400 (natal) women are transgender (Moore et al, 2003). In the mid-twentieth century most transsexuals hid their originally assigned gender after reassignment. Today many are less concerned with 'passing' and more comfortably adopt an ambiguous 'transperson' or 'transgender' identity. Although 'Gender Identity Disorder' (GID) is still a category in DSM (DSM-IV-TR, 1994); transgender activists have criticised the diagnosis, pointing out that its absence from most US insurance coverage means that few benefit from a diagnosis of GID, while

all suffer its stigma (Samons, 2009).

Causes of Transgenderism

The causes of transgenderism remain poorly understood. Studies of neurobiological sexual differentiation suggest concrete (pre-treatment) 'brain sex' differences in transpeople – evidencing a biological distinction between genital sex and brain sex (Kruijver et al, 2003) (Garcia-Falgueras & Swaab, 2008). While genetic studies indicate a significant degree of heritability in child and adolescent GID (Coolidge et al, 2002). However the picture is further complicated by FMRI evidence supporting a 'two types' hypothesis: Two distinct populations of Male to Female (MTF) transsexuals – 'homosexual' and 'heterosexual'. Homosexual MTF transwomen appear to possess 'feminine' brain differences which make them more neurologically and behaviourally like natal women. While heterosexual MTF transwomen lack some of these feminine behaviours and neuroanatomy (while exhibiting their own, distinct, non-normative brain structure). Heterosexual MTF transwomen exhibit an 'autogynephilic' sexual interest in occupying a female identity (Cantor, 2011).

Hormone Replacement Therapy (HRT)

The primary physiological traits associated with sex result only indirectly from the presence or absence of the Y chromosome. The cascade of hormones released before birth and during puberty are triggered (in natal men) by a single Y chromosome gene (Wallis et al, 2008). Hence, the effect of hormone therapy on secondary sexual characteristics – such as hair growth, the distribution of body fat, emotional lability etc, is far greater than the effect of sex reassignment surgery (SRS). In MTF transwomen, the introduction of estrogens, progestogens and antiandrogens is responsible for breast development, feminisation of libido, reduction in muscle mass and changes in brain function. While in Female To Male (FTM) transmen, testosterone therapy has a masculinising effect, stimulating the increased production of facial and body hair, voice deepening, increases in muscle mass and libido and brain changes (Hulshoff et al, 2006).

Sex reassignment surgery

SRS is undergone by a majority of those treated for GID in the UK (Tugnet et al, 2007). SRS was pioneered in the 1920's (Hembree et al, 2009) and is today a sophisticated process that, in the case of MTF transwomen can result in sexual organs with cosmetic appearance and sexual response almost indistinguishable from natal women.

The reasons for undergoing SRS may be more complex than at first apparent. While SRS in some sense completes transition to an individual's identified sex, it also has concrete social benefits. Parents often struggle

with accepting their children's transgender identity – and many adult transpeople experience rejection by their parents until they undergo SRS. Most legal systems only allow a change of gender on passport after surgical transition. Pre-operative transpeople risk prosecution for use of the 'opposite' genders bathroom. Finally transitioning may make marriage, inheritance and access to partners during times of medical emergency a possibility (Samon, 2009).

Early transitions

A majority of MTF women report having an innate sense of gender identity from a very young age. Although such feelings do not necessarily predict adult transexualism, their 'intensity and persistence' is its best predictor (Samons, 2009). Many such children report their feelings to their parents, only to be rejected, closeted, or even physically or psychologically abused.

The consequences of delaying HRT and SRS till adulthood can be severe. MTF teens, pressured to conform to their assigned gender identity face unbearable social pressures. In the United States, 26% of LGBT youth who come out to their parents are forced to leave home (Ray et al, 2006). On the streets transgender youth frequently report predation by older individuals (Samons, 2009). Homeless transgender adolescents are at greater risk of violence, drug abuse, suicide and prostitution (Ray, 2006). Transpeople who are refused HRT frequently seek it on the black market; and this can result in mistakes in dosage and regime with potentially severe health outcomes (Moore et al, 2003).

Modern endrochronological medicine is capable of harmlessly delaying puberty; and this can be used to allow children to mature emotionally and

intellectually to the point where they can be a part of a decision to transition (Cohen-Kettenis & Goozen, 1998). Guidelines developed by European endocrinological societies recommend suppressing puberty in transgender adolescents till 16, at which point the process of hormonal transition to 'gender-appropriate' levels can begin, to be followed by surgery after 18 (Hembree et al, 2009).

Since many children diagnosed with GID experience remission after the onset of puberty, these guidelines do not recommend complete social role change until 16.

Outcomes for transsexuals undergoing early HRT are generally more successful, as hormone therapy can block many of the irreversible sex changes initiated by puberty – pelvic shape, hand size, jaw shape, larynx size etc (Morris, 2002).

Conclusion

Sexual identity is not a matter of genitals. As we have seen, complex genetic and endocrinological developmental factors act to produce a variety of combinations of chromosomal-neurological-genital- gonadal sex. In transgender individuals, great distress is experienced in the discordance between felt sex and ascribed sex. Both intersex and transgender identities question the biological certainty of our dichotomous sexes: In doing so they expose the deep links between the prejudices and categorisations of culture and the apparent rigour of medical science. The fluidity of once certain gender and sexual identity and preference reveal how quickly and deeply our understanding of our humanity can change. They caution humility in our labelling of mental illness and our categorisation of

personhood. Their emergence has occurred primarily through the social activism of an excluded minority, rather than clinical observation or basic research: A minority whose phenomenological experience holds clues to the nature of our biological sexual identities.

Words:1,571

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