

**Blurring the Gender Divide:
Intersexuality in Three Different Cultures**

by Allison Durazzi

Physical Anthropology ANT 201

Dr. Peter Knutson

24 November 1997

Abstract: This research paper will look at variations on pheno- and genotypical sex in male and female humans and identify some different forms of intersexuality. It will particularly look at the genetic defects that result in male pseudohermaphroditism. And it will show how three different cultures (American, Dominican, and Papua New Guineaean) have dealt with the affected individuals in their populations.

Introduction

The birth of a child is such a celebrated event in many world cultures, and the first question on everybody's lips is usually, "Is it a boy or a girl?" But what color bunting do you give for a hermaphrodite? Approximately 4% of babies born are sexually ambiguous (Money as qtd. in Fausto-Sterling, 20).

Terms Used in Discussion of "Intersexed"

A true "hermaphrodite" possesses both male and female gonads (Diamond, 72). A "pseudohermaphrodite," however, is when the phenotype does not match the genotype: both gonads are either male or female, but its external sexual organs appear to be the opposite (degrees of difference may vary) (72). For example, a child may appear to be female, but is actually XY with two testes. "Intersexed" is a more general term used for pseudohermaphrodites (although it can include hermaphrodites). Male pseudohermaphrodites are sexually ambiguous but possess testes; female pseudohermaphrodites possess ovaries (Fausto-Sterling, 21).

Sexual Differentiation in the Human Embryo

To understand these terms, we must first look at the process of sexual differentiation in the embryo. Male and female human embryos are "identical in the early stages of development (Behringer qtd. in Richardson, 24)." Each fetus has one pair of gonads; these eventually develop into either ovaries (females) or testes (male), dependent upon the sex chromosome donated by the father. The mother's sex chromosome is always X, and the father's can be X or Y. It is, of course, the Y chromosome from the father that results in a male offspring (Richardson).

Each fetus also has two reproductive ducts: one will develop into the internal sex organs of the child, the other will wither away. One

duct is designated for male development (epididymis, vas deferens, seminal vesicles) and is known as the the Wolffian duct. The other, known as the Mullerian duct, is designated for female development (oviducts (or fallopian tubes), uterus, upper labia) (Diamond, 72). In an XY embryo, the Y chromosome carries the SRY gene which "enables the fetus to build testes (Richardson)." The testes then secrete the androgen (or male-making) hormone testosterone. In the presence of testosterone, the embryo begins to develop male reproductive organs in its eighth week; in the absence of testosterone, the embryo develops female reproductive organs in the thirteenth week (Diamond). It is widely acknowledged that "male sexual differentiation is imposed upon the natural tendency of the fetus toward femaleness (Imperato-McGinley et al, 1974 p. 1213)."

The development of the male organs, then, is a more complex process. Testes, as stated above, produce testosterone. The enzyme 5-alpha-reductase then converts some of the testosterone into dihydrotestosterone (DHT) (1213). DHT is the second androgen necessary for completion of the development of the external male sexual organs, converting "some all-purpose embryonic structures into the glans penis, penis shaft, and scrotum (Diamond, 73)." When these two androgens are received normally in the embryo, they act to suppress the Mullerian duct. In their absence, in either an XX embryo or an XY in which their reception is blocked, the Wolffian duct withers away, and the Mullerian duct develops (Diamond).

Mutations

For the rest of the embryonic development, the biochemical steps necessary to complete sexual development are not coded by the sex chromosomes (Diamond, 73). "Every step involves the synthesis of one enzyme, specified by one gene. If any one gene is altered by a

mutation, the enzyme for which it is responsible may be defective or absent (73)."

There are two kinds of male pseudohermaphrodites. In the first, the cell receptor of the androgens is blocked; neither internal nor external sexual structures can develop, so, in their absence, female external genitalia develop (Diamond, 73). This type of male pseudohermaphrodite possesses hidden testes and normal male levels of testosterone, but develops as a woman and does not usually discover his/her condition until adolescence, when there is concern for not having started menses (74).

The second kind of male pseudohermaphrodite is the 5-alpha-reductase Deficient (Diamond, 74). 5AR Deficiency affects only one of the androgens: DHT, the one responsible for development of the external sex organs (Imperato-McGinley et al, 1213). A population in Salinas, Dominican Republic with high incidence of 5AR Deficient offspring has long been studied by Julianne Imperato-McGinley and her colleagues. According to her,

"At birth, the defect is limited to incomplete differentiation of the male external genitalia; masculinization of the internal structure is normal... At puberty, their voice deepens and they develop a typical male phenotype with a substantial increase in muscle mass; there is no breast enlargement. The phallus enlarges to become a functional penis, and the change is so striking that these individuals are referred to as 'guevodoces' - penis at twelve (years of age)... (73)"

In researching this population in Salinas, Imperato-McGinley concluded that 5AR deficiency is hereditary. The village population was isolated and relatively small (approximately 4000). "...In seven of the

families [studied with occurrences of 5AR deficiency] both lines could be traced back to the same woman... and suggest genetic drift—a founder effect (1213).” Another biogenetic hypothesis that Imperato-McGinley has been evaluating in this research is whether testosterone and/or DHT are/is responsible for stereotypical male behavior (1994, 1219). This is based on the social masculinization of the 5AR males after puberty. The sociobiological implications of this would be great, but so far her research has not yet borne out her hypothesis.

Gender and Sexual Identity of Pseudohermaphrodites

One of the most striking observations of the “penis at twelve” population is that most were born phenotypically female, and so brought up as girls (1215). Once sex changed at puberty, so did their gender roles. Anthropologist Marvin Harris is skeptical of the merit of this observation; he raises the questions of the role of Latin society in socializing the girls as boys after puberty (269). Now that the village is aware of the defect, male pseudohermaphrodites are likelier to be diagnosed at birth and reared as males (1215). Regardless of being raised as female or male, the penis at twelve boys typically change gender at puberty with little or no incident (teasing, embarrassment, etc), “consider themselves as males, and have a libido directed toward the opposite sex (1215).”

But what of male pseudohermaphrodites in other populations? In his article, Jared Diamond talks of incidences of male pseudohermaphroditism in “Xanadu” (his code name, although his data matches that of Imperato-McGinley’s Salinas subjects) and “Sambia,” an isolated village in Papua New Guinea. In “Xanadu,” the males were accepted after puberty. In “Sambia,” however, sexually ambiguous boys are deserted by their fathers and taunted by other boys, and they never outgrow the stigma. The emotional side effect is devastating: they do

not pair bond, and some in the study killed themselves. Pseudohermaphrodites that were thought to be girls at birth are entered into arranged marriages; they are received with rage and hostility by their husbands, and they are deserted by them. (77.)

In the United States, the social and emotional effects of intersexuality were studied in intersexed adults between 1930 and 1960 (Fausto-Sterling, 23). However, starting in the mid-1950s, surgery became more widely accepted as a means of coping with sexual ambiguity. In her research of the earlier case studies of intersexed adults, Fausto-Sterling found little to no evidence of emotional distress in the subjects (24). With adults who were surgically altered as children, there is great incidence of distress over their condition. According to psychotherapist H. Martin Malin, in his

"experience, intersexuals who had surgery as children became quite isolated at puberty... they did not pair-bond; their sexual functioning was severely impaired, they were phobic about medical procedures; they were despondent and had contemplated suicide; and they were angry about being lied to (qtd. in Cowley, 66)."

In the mid-1950s, according to the article by Cowley, surgery for sexual assignment became the norm after doctors at Johns Hopkins hypothesized that sexual identity was culturally acquired and so it didn't matter which sex an ambiguous child was reared as; it was better, they thought, than growing up intersexed. Although many "looked fine after surgery," they frequently needed additional surgeries to maintain the phenotypical appearance of the assigned gender (usually female) (66).

Possible Alternatives to Early Surgery in America

Fausto-Sterling argues that surgery be postponed until the child is of consenting age (24), while the Intersex Society of North America recommends surgery around adolescence, if at all, based on having "a committee evaluate the baby and assign a sex, based on both medical evaluation and input from qualified mental health professionals and intersex peer support/advocacy groups (par. 1)." One of the biggest reasons the ISNA gives for this recommendation is its belief that "the major factor governing the assignment of most cases as female is the surgeon's notion that it is easier to feminize than to masculinize ambiguous genitals (par. 3)."

In her essay advocating more careful assessment of intersex cases, Suzanne J. Kessler is quite critical of the current process in the medical community, "for the most part, neither physician nor parents emerge with a greater understanding of the social construction of gender (26)." Fausto-Sterling encourages better socializing of the idea of intersexuality, although she writes that it would take at least one family to publicly advocate the cause by their own example (a painful sacrifice, no doubt) (24). She, too, is critical of the medical community. "Medical accomplishments that have enabled science to identify and 'correct' intersex children can be read not as progress but as a mode of discipline..."

"Why should we care if there are people whose biological equipment allows them to have sex naturally with both men and women? ...Society mandates the control of intersexual bodies because they blur and bridge the great divide... they challenge traditional beliefs about sexual difference (24)."

Sources Cited

- Cowley, Geoffrey. (1997). Gender Limbo. Newsweek, 129(20), 64-66.
- Diamond, Jared. (1992). Turning A Man. Discover, 13(6), 70-77.
- Fausto-Sterling, Anne. (1993). The Five Sexes. The Sciences, 33(2), 20-25.
- Harris, Marvin. (1989). Our Kind. New York: HarperPerennial.
- Imperato-McGinley, Julianne, Thigpen, A., Davis, D.L., Gautier, T., Russell, D.W. (1992). Brief Report: The Molecular Basis of Steroid 5-alpha-Reductase Deficiency In A Large Dominican Kindred. New England Journal of Medicine, 327, 1216-1219.
- Imperato-McGinley, Julianne, Guerrero, L., Gautier, T., Petersen, R.E. (1974). Steroid 5-alpha-Reductase Deficiency in Man: An Inherited Form of Male Pseudohermaphroditism. Science, 186, 1213-1215.
- Intersex Society of North America. 11/23/97.
<http://www.holonet.net/isna/isna-news.html>
- Kessler, Suzanne J. (1990). The Medical Construction of Gender. Signs, Autumn, 16(1), 3-26.
- Richardson, Sarah. (1995). Not By Testosterone Alone. Discover, 16(4), 24.

Sources Consulted

- Imperato-McGinley, Julianne, Gautier, T., Petersen, R.E., Sturla, E. (1979). Male Pseudohermaphroditism Secondary to 5-alpha-Reductase Deficiency. Journal of Steroid Biochemistry, 11, 637-645.
- Imperato-McGinley, Julianne, Gautier, T., Petersen, R.E., Sturla, E. (1979). Androgens and the Evolution of Male-Gender Identity Among Male Pseudohermaphrodites With 5-alpha-Reductase Deficiency. New England Journal of Medicine, 300, 1233-1237.

Meyer-Bahlberg, Heino F.L. (1994). Intersexuality and the Diagnosis of Gender Identity Disorder. Archives of Sexual Behavior, 23(1), 21-40.