

The Five Sexes: Why Male and Female Are Not Enough

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In 1843 Levi Suydam, a twenty-three-year-old resident of Salisbury, Connecticut, asked the town board of selectmen to validate his right to vote as a Whig in a hotly contested local election. The request raised a flurry of objections from the opposition party, for reasons that must be rare in the annals of American democracy: it was said that Suydam was more female than male and thus (some eighty years before suffrage was extended to women) could not be allowed to cast a ballot. To settle the dispute a physician, one William James Barry, was brought in to examine Suydam. And, presumably upon encountering a phallus, the good doctor declared the prospective voter male. With Suydam safely in their column the Whigs won the election by a majority of one.

Barry's diagnosis, however, turned out to be somewhat premature. Within a few days he discovered that, phallus notwithstanding, Suydam menstruated regularly and had a vaginal opening. Both his/her physique and his/her mental predispositions were more complex than was first suspected. S/he had narrow shoulders and broad hips and felt occasional sexual yearnings for women. Suydam's "'feminine propensities, such as a fondness for gay colors, for pieces of calico, comparing and placing them together, and an aversion for bodily labor, and an inability to perform the same, were remarked by many," Barry later wrote. It is not clear whether Suydam lost or retained the vote, or whether the election results were reversed.

Western culture is deeply committed to the idea that there are only two sexes. Even language refuses other possibilities; thus to write about Levi Suydam I have had to invent conventions— *s/he* and *his/her*— to denote someone who is clearly neither male nor female or who is perhaps both sexes at once. Legally, too, every adult is either man or woman, and the difference, of course, is not trivial. For Suydam it meant the franchise; today it means being available for, or exempt from, draft registration, as well as being subject, in various ways, to a number of laws governing marriage, the family and human intimacy. In many parts of the United States, for instance, two people legally registered as men cannot have sexual relations without violating anti-sodomy statutes.

But if the state and the legal system have an interest in maintaining a two-party sexual system, they are in defiance of nature. For biologically speaking, there are many gradations running from female to male; and depending on how one calls the shots, one can argue that along that spectrum lie at least five sexes— and perhaps even more.

For some time medical investigators have recognized the concept of the intersexual body. But the standard medical literature uses the term *intersex* as a catch-all for three major subgroups with some mixture of male and female characteristics: the so-called true hermaphrodites, whom I call herms, who possess one testis and one ovary (the sperm- and egg-producing vessels, or gonads); the male pseudohermaphrodites (the "merms"),

who have testes and some aspects of the female genitalia but no ovaries; and the female pseudohermaphrodites (the "ferms"), who have ovaries and some aspects of the male genitalia but lack testes. Each of those categories is in itself complex; the percentage of male and female characteristics, for instance, can vary enormously among members of the same subgroup. Moreover, the inner lives of the people in each subgroup— their special needs and their problems, attractions and repulsions— have gone unexplored by science. But on the basis of what is known about them I suggest that the three intersexes, herm, merm and ferm, deserve to be considered additional sexes each in its own right. Indeed, I would argue further that sex is a vast, infinitely malleable continuum that defies the constraints of even five categories.

Not surprisingly, it is extremely difficult to estimate the frequency of intersexuality, much less the frequency of each of the three additional sexes: it is not the sort of information one volunteers on a job application. The psychologist John Money of Johns Hopkins University, a specialist in the study of congenital sexual-organ defects, suggests intersexuals may constitute as many as 4 percent of births. As I point out to my students at Brown University, in a student body of about 6,000 that fraction, if correct, implies there may be as many as 240 intersexuals on campus— surely enough to form a minority caucus of some kind.

In reality though, few such students would make it as far as Brown in sexually diverse form. Recent advances in physiology and surgical technology now enable physicians to catch most intersexuals at the moment of birth.

Almost at once such infants are entered into a program of hormonal and surgical management so that they can slip quietly into society as "normal" heterosexual males or females. I emphasize that the motive is in no way conspiratorial. The aims of the policy are genuinely humanitarian, reflecting the wish that people be able to "fit in" both physically and psychologically. In the medical community, however, the assumptions behind that wish— that there be only two sexes, that heterosexuality alone is normal, that there is one true model of psychological health— have gone virtually unexamined.

The word *hermaphrodite* comes from the Greek name Hermes, variously known as the messenger of the gods, the patron of music, the controller of dreams or the protector of livestock, and Aphrodite, the goddess of sexual love and beauty. According to Greek mythology, those two gods parented Hermaphroditus, who at age fifteen became half male and half female when his body fused with the body of a nymph he fell in love with. In some true hermaphrodites the testis and the ovary grow separately but bilaterally, in others they grow together within the same organ, forming an ovo-testis. Not infrequently, at least one of the gonads functions quite well, producing either sperm cells or eggs, as well as functional levels of the sex hormones— androgens or estrogens. Although in theory it might be possible for a true hermaphrodite to become both father and mother to a child, in practice the appropriate ducts and tubes are not configured so that egg and sperm can meet.

In contrast with the true hermaphrodites, the pseudohermaphrodites possess two gonads of the same kind along with the

usual male (XY) or female (XX) chromosomal makeup. But their external genitalia and secondary sex characteristics do not match their chromosomes. Thus merms have testes

and XY chromosomes, yet they also have a vagina and a clitoris, and at puberty they often develop breasts. They do not menstruate, however. Fems have ovaries, two X chromosomes and sometimes a uterus, but they also have at least partly masculine external genitalia. Without medical intervention they can develop beards, deep voices and adult-size penises.

No classification scheme could more than suggest the variety of sexual anatomy encountered in clinical practice. In 1969, for example, two French investigators, Paul Guinet of the Endocrine Clinic in Lyons and Jacques Decourt of the Endocrine Clinic in Paris, described ninety-eight cases of true hermaphroditism— again, signifying people with both ovarian and testicular tissue— solely according to the appearance of the external genitalia and the accompanying ducts. In some cases the people exhibited strongly feminine development. They had separate openings for the vagina and the urethra, a cleft vulva defined by both the large and the small labia, or vaginal lips, and at puberty they developed breasts and usually began to menstruate. It was the oversize and sexually alert clitoris, which threatened sometimes at puberty to grow into a penis, that usually impelled them to seek medical attention. Members of another group also had breasts and a feminine body type, and they menstruated. But their labia were at least partly fused, forming an incomplete scrotum. The phallus (here an embryological term for a structure that during usual development goes on to form either a clitoris or a penis) was between 1.5 and 2.8 inches long; nevertheless, they urinated through a urethra that opened into or near the vagina.

By far the most frequent form of true hermaphrodite encountered by Guinet and Decourt— 55 percent— appeared to have a more masculine physique. In such people the urethra runs either through or near the phallus, which looks more like a penis than a clitoris. Any menstrual blood exits periodically during urination. But in spite of the relatively male appearance of the genitalia, breasts appear at puberty. It is possible that a sample larger than ninety-eight so-called true hermaphrodites would yield even more contrasts and subtleties. Suffice it to say that the varieties are so diverse that it is possible to know which parts are present and what is attached to what only after exploratory surgery.

The embryological origins of human hermaphrodites clearly fit what is known about male and female sexual development. The embryonic gonad generally chooses early in development to follow either a male or a female sexual pathway; for the ovo-testis, however, that choice is fudged. Similarly, the embryonic phallus most often ends up as a clitoris or a penis, but the existence of intermediate states comes as no surprise to the embryologist. There are also uro-genital swellings in the embryo that usually either stay open and become the vaginal labia or fuse and become a scrotum. In some hermaphrodites, though, the choice of opening or closing is ambivalent. Finally, all mammalian embryos have structures that can become the female uterus and the fallopian tubes, as well as structures that can become part of the male sperm-transport system. Typically either the male or the female set of those primordial genital organs degenerates, and the remaining structures achieve their sex-appropriate future. In hermaphrodites both sets of organs develop to varying degrees.

Intersexuality itself is old news. Hermaphrodites, for instance, are often featured in stories about human origins. Early biblical scholars believed Adam began life as a hermaphrodite

and later divided into two people— a male and a female— after falling from grace. According to Plato there once were three sexes— male, female and hermaphrodite— but the third sex was lost with time.

Both the Talmud and the Tosefta, the Jewish books of law, list extensive regulations for people of mixed sex. The Tosefta expressly forbids hermaphrodites to inherit their fathers' estates (like daughters), to seclude themselves with women (like sons) or to shave (like men). When hermaphrodites menstruate they must be isolated from men (like women); they are disqualified from serving as witnesses or as priests (like women), but the laws of pederasty apply to them.

In Europe a pattern emerged by the end of the Middle Ages that, in a sense, has lasted to the present day: hermaphrodites were compelled to choose an established gender role and stick with it. The penalty for transgression was often death. Thus in the 1600s a Scottish hermaphrodite living as a woman was buried alive after impregnating his/her master's daughter.

For questions of inheritance, legitimacy, paternity, succession to title and eligibility for certain professions to be determined, modern Anglo-Saxon legal systems require that newborns be registered as either male or female. In the U.S. today sex determination is governed by state laws. Illinois permits adults to change the sex recorded on their birth certificates should a physician attest to having performed the appropriate surgery. The New York Academy of Medicine on the other hand, has taken an opposite view. In spite of surgical alterations of the external genitalia, the academy argued in 1966, the chromosomal sex remains the same. By that measure, a person's wish to conceal his or her original sex cannot outweigh the public interest in protection against fraud.

During this century the medical community has completed what the legal world began— the complete erasure of any form of embodied sex that does not conform to a male-female, heterosexual pattern. Ironically, a more sophisticated knowledge of the complexity of sexual systems has led to the repression of such intricacy.

In 1937 the urologist Hugh H. Young of Johns Hopkins University published a volume titled *Genital Abnormalities, Hermaphrodites and Related Adrenal Diseases*. The book is remarkable for its erudition, scientific insight and open-mindedness. In it Young drew together a wealth of carefully documented case histories to demonstrate and study the medical treatment of such "accidents of birth." Young did not pass judgment on the people he studied, nor did he attempt to coerce into treatment those intersexuals; who rejected that option. And he showed unusual evenhandedness in referring to those people who had sexual experiences as both men and women as "Practicing hermaphrodites."

One of Young's more interesting cases was a hermaphrodite named Emma who had grown up as a female. Emma had both a penis-size clitoris and a vagina, which made it possible for him/ her to have "normal" heterosexual sex with both men and women. As a teenager Emma had had sex with a number of girls to whom s/he was deeply attracted; but at the age of nineteen s/he had married a man. Unfortunately, he had given Emma little sexual pleasure (though *he* had had no complaints), and so throughout that marriage and subsequent ones Emma had kept girlfriends on the side. With some frequency s/he had pleasurable sex with them. Young describes his subject as appearing "to be quite content and even happy." In conversation Emma occasionally told him of his/her wish to

be a man, a circumstance Young said would be relatively easy to bring about. But Emma's reply strikes a heroic blow for self-interest:

Would you have to remove that vagina? I don't know about that because that's my meal ticket. If you did that, I would have to quit my husband and go to work, so I think I'll keep it and stay as I am. My husband supports me well,

and even though I don't have any sexual pleasure with him, I do have lots with my girlfriends.

Yet even as Young was illuminating intersexuality with the light of scientific reason, he was beginning its suppression. For his book is also an extended treatise on the most modern surgical and hormonal methods of changing intersexuals, into either males or females. Young may have differed from his successors in being less judgmental and controlling of the patients and their families, but he nonetheless supplied the foundation on which current intervention practices were built.

By 1969, when the English physicians Christopher J. Dewhurst and Ronald R. Gordon wrote *The Intersexual Disorders*, medical and surgical approaches to intersexuality had neared a state of rigid uniformity. It is hardly surprising that such a hardening of opinion took place in the era of the feminine mystique— of the post-Second World War flight to the suburbs and the strict division of family roles according to sex. That the medical consensus was not quite universal (or perhaps that it seemed poised to break apart again) can be gleaned from the near-hysterical tone of Dewhurst and Gordon's book, which contrasts markedly with the calm reason of Young's founding work. Consider their opening description of an intersexual newborn:

One can only attempt to imagine the anguish of the parents. That a newborn should have a deformity ... [affecting] so fundamental an issue as the very sex of the child ... is a tragic event which immediately conjures up visions of a hopeless psychological misfit doomed to live always as a sexual freak in loneliness and frustration.

Dewhurst and Gordon warned that such a miserable fate would, indeed, be a baby's lot should the case be improperly managed; "but fortunately," they wrote, "with correct management the outlook is infinitely better than the poor parents— emotionally stunned by the event— or indeed anyone without special knowledge could ever imagine."

Scientific dogma has held fast to the assumption that without medical care hermaphrodites are doomed to a life of misery. Yet there are few empirical studies to back up that assumption, and some of the same research gathered to build a case for medical treatment contradicts it. Francies Benton, another of Young's practicing hermaphrodites, "had not worried over his condition, did not wish to be changed, and was enjoying life." The same could be said of Emma, the opportunistic hausfrau. Even Dewhurst and Gordon, adamant about the psychological importance of treating intersexuals; at the infant stage, acknowledged great success in "changing the sex" of older patients. They reported on twenty cases of children reclassified into a different sex after the supposedly critical age of eighteen months. They asserted that all the reclassifications were "successful," and they wondered then whether reregistration could be "recommended more readily than [had] been suggested so far."

The treatment of intersexuality in this century provides a dear example of what the French

historian Michel Foucault has called biopower. The knowledge developed in biochemistry, embryology, endocrinology, psychology and surgery has enabled physicians to control the very sex of the human body. The multiple contradictions in that kind of power call for some scrutiny. On the one hand, the medical "management" of intersexuality certainly developed as part of an attempt to free people from perceived psychological pain (though whether the pain was the patient's, the parents' or the physician's is unclear). And if one accepts the assumption that in a sex-divided culture people can realize their greatest potential for happiness and productivity only if they are sure they belong to one of only two acknowledged sexes, modern medicine has been extremely successful.

On the other hand, the same medical accomplishments can be read not as progress but as a mode of discipline. Hermaphrodites have unruly bodies. They do not fall naturally into a binary classification; only a surgical shoehorn can put them there. But why should we care if a "woman," defined as one who has breasts, a vagina, a uterus and ovaries and who menstruates, also has a clitoris large enough to penetrate the vagina of another woman? Why should we care if there are people whose biological equipment enables them to have sex "naturally" with both men and women? The answers seem to lie in a cultural need to maintain clear distinctions between the sexes. Society mandates the control of intersexual bodies because they blur and bridge the great divide. Inasmuch as hermaphrodites literally embody both sexes, they challenge traditional beliefs about sexual difference: they possess the irritating ability to live sometimes as one sex and sometimes the other, and they raise the specter of homosexuality.

But what if things were altogether different? Imagine a world in which the same knowledge that has enabled medicine to intervene in the management of intersexual patients has been placed at the service of multiple sexualities. Imagine that the sexes have multiplied beyond currently imaginable limits. It would have to be a world of shared powers. Patient and physician, parent and child, male and female, heterosexual and homosexual— all those oppositions and others would have to be dissolved as sources of division. A new ethic of medical treatment would arise, one that would permit ambiguity in a culture that had overcome sexual division. The central mission of medical treatment would be to preserve life. Thus hermaphrodites would be concerned primarily not about whether they can conform to society but about whether they might develop potentially life-threatening conditions— hernias, gonadal tumors, salt imbalance caused by adrenal malfunction— that sometimes accompany hermaphroditic development. In my ideal world medical intervention for intersexuals would take place only rarely before the age of reason; subsequent treatment would be a cooperative venture between physician, patient and other advisers trained in issues of gender multiplicity.

I do not pretend that the transition to my utopia would be smooth. Sex, even the supposedly "normal," heterosexual kind, continues to cause untold anxieties in Western society. And certainly a culture that has yet to come to grips— religiously and, in some states, legally— with the ancient and relatively uncomplicated reality of homosexual love will not readily embrace intersexuality. No doubt the most troublesome arena by far would be the rearing of children. Parents, at least since the Victorian era, have fretted, sometimes to the point of outright denial, over the fact that their children are sexual beings.

All that and more amply explains why intersexual children are generally squeezed into one of the two prevailing sexual categories. But what would be the psychological consequences of taking the alternative road— raising children as unabashed intersexuals? On the surface that tack seems fraught with peril. What, for example, would happen to the intersexual child amid the unrelenting cruelty of the school yard? When the time came to shower in gym class, what horrors and humiliations would await the intersexual as his/her anatomy was displayed in all its nontraditional glory? In whose gym class would s/he register to begin with? What bathroom would s/he use? And how on earth would Mom and Dad help shepherd him/her through the mine field of puberty?

In the past thirty years those questions have been ignored, as the scientific community has, with remarkable unanimity, avoided contemplating the alternative route of unimpeded intersexuality. But modern investigators tend to overlook a substantial body of case histories, most of them compiled between 1930 and 1960, before surgical intervention became rampant. Almost without exception, those reports describe children who grew up knowing they were intersexual (though they did not advertise it) and adjusted to their unusual status. Some of the studies are richly detailed— described at the level of gym-class showering (which most intersexuals avoided without incident); in any event, there is not a psychotic or a suicide in the lot.

Still, the nuances of socialization among intersexuals cry out for more sophisticated analysis. Clearly, before my vision of sexual multiplicity can be realized, the first openly intersexual children and their parents will have to be brave pioneers who will bear the brunt of society's growing pains. But in the long view — though it could take generations to achieve — the prize might be a society in which sexuality is something to be celebrated for its subtleties; and not something to be feared or ridiculed.

THE FIVE SEXES, REVISITED

The emerging recognition that people come in bewildering sexual varieties is testing medical values and social norms

As Cheryl Chase stepped to the front of the packed meeting room in the Sheraton Boston Hotel, nervous coughs made the tension audible. Chase, an activist for intersexual rights, had been invited to address the May 2000 meeting of the Lawson Wilkins Pediatric Endocrine Society (LWPES), the largest organization in the United States for specialists in children's hormones. Her talk would be the grand finale to a four-hour symposium on the treatment of genital ambiguity in newborns, infants born with a mixture of both male and female anatomy, or genitals that appear to differ from their chromosomal sex. The topic was hardly a novel one to the assembled physicians.

Yet Chase's appearance before the group was remarkable. Three and a half years earlier, the American Academy of Pediatrics had refused her request for a chance to present the patients' viewpoint on the treatment of genital ambiguity, dismissing Chase and her supporters as "zealots." About two dozen intersex people had responded by throwing up a

picket line. The Intersex Society of North America (ISNA) even issued a press release: "Hermaphrodites Target Kiddie Docs."

It had done my 1960s street-activist heart good. In the short run, I said to Chase at the time, the picketing would make people angry. But eventually, I assured her, the doors then closed would open. Now, as Chase began to address the physicians at their own convention, that prediction was coming true. Her talk, titled "Sexual Ambiguity: The Patient-Centered Approach," was a measured critique of the near-universal practice of performing immediate, "corrective" surgery on thousands of infants born each year with ambiguous genitalia. Chase herself lives with the consequences of such surgery. Yet her audience, the very endocrinologists and surgeons Chase was accusing of reacting with "surgery and shame," received her with respect. Even more remarkably, many of the speakers who preceded her at the session had already spoken of the need to scrap current practices in favor of treatments more centered on psychological counseling.

What led to such a dramatic reversal of fortune? Certainly, Chase's talk at the LWPES symposium was a vindication of her persistence in seeking attention for her cause. But her invitation to speak was also a watershed in the evolving discussion about how to treat children with ambiguous genitalia. And that discussion, in turn, is the tip of a biocultural iceberg--the gender iceberg--that continues to rock both medicine and our culture at large.

Chase made her first national appearance in 1993, in these very pages, announcing the formation of ISNA in a letter responding to an essay I had written for *The Sciences*, titled "The Five Sexes" [March/April 1993]. In that article I argued that the two-sex system embedded in our society is not adequate to encompass the full spectrum of human sexuality. In its place, I suggested a five-sex system. In addition to males and females, I included "herms" (named after true hermaphrodites, people born with both a testis and an ovary); "merms" (male pseudohermaphrodites, who are born with testes and some aspect of female genitalia); and "ferms" (female pseudohermaphrodites, who have ovaries combined with some aspect of male genitalia).

I had intended to be provocative, but I had also written with tongue firmly in cheek. So I was surprised by the extent of the controversy the article unleashed. Right-wing Christians were outraged, and connected my idea of five sexes with the United Nations--sponsored Fourth World Conference on Women, held in Beijing in September 1995. At the same time, the article delighted others who felt constrained by the current sex and gender system.

Clearly, I had struck a nerve. The fact that so many people could get riled up by my proposal to revamp our sex and gender system suggested that change--as well as resistance to it--might be in the offing. Indeed, a lot has changed since 1993, and I like to think that my article was an important stimulus. As if from nowhere, intersexuals are materializing before our very eyes. Like Chase, many have become political organizers, who lobby physicians and politicians to change current treatment practices. But more generally, though perhaps no less provocatively, the boundaries separating masculine and feminine seem harder than ever to define.

Some find the changes under way deeply disturbing. Others find them liberating.

Who is an intersexual--and how many intersexuals are there? The concept of intersexuality is rooted in the very ideas of male and female. In the idealized, Platonic,

biological world, human beings are divided into two kinds: a perfectly dimorphic species. Males have an X and a Y chromosome, testes, a penis and all of the appropriate internal plumbing for delivering urine and semen to the outside world. They also have well-known secondary sexual characteristics, including a muscular build and facial hair. Women have two X chromosomes, ovaries, all of the internal plumbing to transport urine and ova to the outside world, a system to support pregnancy and fetal development, as well as a variety of recognizable secondary sexual characteristics.

That idealized story papers over many obvious caveats: some women have facial hair, some men have none; some women speak with deep voices, some men veritably squeak. Less well known is the fact that, on close inspection, absolute dimorphism disintegrates even at the level of basic biology. Chromosomes, hormones, the internal sex structures, the gonads and the external genitalia all vary more than most people realize. Those born outside of the Platonic dimorphic mold are called intersexuals.

In "The Five Sexes" I reported an estimate by a psychologist expert in the treatment of intersexuals, suggesting that some 4 percent of all live births are intersexual. Then, together with a group of Brown University undergraduates, I set out to conduct the first systematic assessment of the available data on intersexual birthrates. We scoured the medical literature for estimates of the frequency of various categories of intersexuality, from additional chromosomes to mixed gonads, hormones and genitalia. For some conditions we could find only anecdotal evidence; for most, however, numbers exist. On the basis of that evidence, we calculated that for every 1,000 children born, seventeen are intersexual in some form. That number--1.7 percent--is a ballpark estimate, not a precise count, though we believe it is more accurate than the 4 percent I reported.

Our figure represents all chromosomal, anatomical and hormonal exceptions to the dimorphic ideal; the number of intersexuals who might, potentially, be subject to surgery as infants is smaller--probably between one in 1,000 and one in 2,000 live births. Furthermore, because some populations possess the relevant genes at high frequency, the intersexual birthrate is not uniform throughout the world.

Consider, for instance, the gene for congenital adrenal hyperplasia (CAH). When the CAH gene is inherited from both parents, it leads to a baby with masculinized external genitalia who possesses two X chromosomes and the internal reproductive organs of a potentially fertile woman. The frequency of the gene varies widely around the world: in New Zealand it occurs in only forty-three children per million; among the Yupik Eskimo of southwestern Alaska, its frequency is 3,500 per million.

Intersexuality has always been to some extent a matter of definition. And in the past century physicians have been the ones who defined children as intersexual--and provided the remedies. When only the chromosomes are unusual, but the external genitalia and gonads clearly indicate either a male or a female, physicians do not advocate intervention. Indeed, it is not clear what kind of intervention could be advocated in such cases. But the story is quite different when infants are born with mixed genitalia, or with external genitals that seem at odds with the baby's gonads. Most clinics now specializing in the treatment of intersex babies rely on case-management principles developed in the 1950s by the psychologist John Money and the psychiatrists Joan G. Hampson and John L. Hampson, all of Johns Hopkins University in Baltimore, Maryland. Money believed that gender identity is completely malleable for about eighteen months after birth. Thus, he

argued, when a treatment team is presented with an infant who has ambiguous genitalia, the team could make a gender assignment solely on the basis of what made the best surgical sense. The physicians could then simply encourage the parents to raise the child according to the surgically assigned gender. Following that course, most physicians maintained, would eliminate psychological distress for both the patient and the parents. Indeed, treatment teams were never to use such words as "intersex" or "hermaphrodite"; instead, they were to tell parents that nature intended the baby to be the boy or the girl that the physicians had determined it was. Through surgery, the physicians were merely completing nature's intention.

Although Money and the Hampsons published detailed case studies of intersex children who they said had adjusted well to their gender assignments, Money thought one case in particular proved his theory. It was a dramatic example, inasmuch as it did not involve intersexuality at all: one of a pair of identical twin boys lost his penis as a result of a circumcision accident. Money recommended that "John" (as he came to be known in a later case study) be surgically turned into "Joan" and raised as a girl. In time, Joan grew to love wearing dresses and having her hair done. Money proudly proclaimed the sex reassignment a success.

But as recently chronicled by John Colapinto, in his book *As Nature Made Him*, Joan--now known to be an adult male named David Reimer--eventually rejected his female assignment. Even without a functioning penis and testes (which had been removed as part of the reassignment) John/Joan sought masculinizing medication, and married a woman with children (whom he adopted).

Since the full conclusion to the John/Joan story came to light, other individuals who were reassigned as males or females shortly after birth but who later rejected their early assignments have come forward. So, too, have cases in which the reassignment has worked--at least into the subject's mid-twenties. But even then the aftermath of the surgery can be problematic. Genital surgery often leaves scars that reduce sexual sensitivity. Chase herself had a complete clitoridectomy, a procedure that is less frequently performed on intersexuals today. But the newer surgeries, which reduce the size of the clitoral shaft, still greatly reduce sensitivity.

The revelation of cases of failed Reassignment and the emergence of intersex activism have led an increasing number of pediatric endocrinologists, urologists and psychologists to reexamine the wisdom of early genital surgery. For example, in a talk that preceded Chase's at the LWPES meeting, the medical ethicist Laurence B. McCullough of the Center for Medical Ethics and Health Policy at Baylor College of Medicine in Houston, Texas, introduced an ethical framework for the treatment of children with ambiguous genitalia. Because sex phenotype (the manifestation of genetically and embryologically determined sexual characteristics) and gender presentation (the sex role projected by the individual in society) are highly variable, McCullough argues, the various forms of intersexuality should be defined as normal. All of them fall within the statistically expected variability of sex and gender. Furthermore, though certain disease states may accompany some forms of intersexuality, and may require medical intervention, intersexual conditions are not themselves diseases.

McCullough also contends that in the process of assigning gender, physicians should minimize what he calls irreversible assignments: taking steps such as the surgical removal

or modification of gonads or genitalia that the patient may one day want to have reversed. Finally, McCullough urges physicians to abandon their practice of treating the birth of a child with genital ambiguity as a medical or social emergency. Instead, they should take the time to perform a thorough medical workup and should disclose everything to the parents, including the uncertainties about the final outcome. The treatment mantra, in other words, should be therapy, not surgery.

I believe a new treatment protocol for intersex infants, similar to the one outlined by McCullough, is close at hand. Treatment should combine some basic medical and ethical principles with a practical but less drastic approach to the birth of a mixed-sex child. As a first step, surgery on infants should be performed only to save the child's life or to substantially improve the child's physical well-being. Physicians may assign a sex--male or female--to an intersex infant on the basis of the probability that the child's particular condition will lead to the formation of a particular gender identity. At the same time, though, practitioners ought to be humble enough to recognize that as the child grows, he or she may reject the assignment--and they should be wise enough to listen to what the child has to say. Most important, parents should have access to the full range of information and options available to them.

Sex assignments made shortly after birth are only the beginning of a long journey. Consider, for instance, the life of Max Beck: Born intersexual, Max was surgically assigned as a female and consistently raised as such. Had her medical team followed her into her early twenties, they would have deemed her assignment a success because she was married to a man. (It should be noted that success in gender assignment has traditionally been defined as living in that gender as a heterosexual.) Within a few years, however, Beck had come out as a butch lesbian; now in her mid-thirties, Beck has become a man and married his lesbian partner, who (through the miracles of modern reproductive technology) recently gave birth to a girl.

Transsexuals, people who have an emotional gender at odds with their physical sex, once described themselves in terms of dimorphic absolutes--males trapped in female bodies, or vice versa. As such, they sought psychological relief through surgery. Although many still do, some so-called transgendered people today are content to inhabit a more ambiguous zone. A male-to-female transsexual, for instance, may come out as a lesbian. Jane, born a physiological male, is now in her late thirties and living with her wife, whom she married when her name was still John. Jane takes hormones to feminize herself, but they have not yet interfered with her ability to engage in intercourse as a man. In her mind Jane has a lesbian relationship with her wife, though she views their intimate moments as a cross between lesbian and heterosexual sex.

It might seem natural to regard intersexuals and transgendered people as living midway between the poles of male and female. But male and female, masculine and feminine, cannot be parsed as some kind of continuum. Rather, sex and gender are best conceptualized as points in a multidimensional space. For some time, experts on gender development have distinguished between sex at the genetic level and at the cellular level (sex-specific gene expression, X and Y chromosomes); at the hormonal level (in the fetus, during childhood and after puberty); and at the anatomical level (genitals and secondary sexual characteristics). Gender identity presumably emerges from all of those corporeal aspects via some poorly understood interaction with environment and

experience. What has become increasingly clear is that one can find levels of masculinity and femininity in almost every possible permutation. A chromosomal, hormonal and genital male (or female) may emerge with a female (or male) gender identity. Or a chromosomal female with male fetal hormones and masculinized genitalia--but with female pubertal hormones--may develop a female gender identity.

The Medical and Scientific Communities have yet to adopt a language that is capable of describing such diversity. In her book *Hermaphrodites and the Medical Invention of Sex*, the historian and medical ethicist Alice Domurat Dreger of Michigan State University in East Lansing documents the emergence of current medical systems for classifying gender ambiguity. The current usage remains rooted in the Victorian approach to sex. The logical structure of the commonly used terms "true hermaphrodite," "male pseudohermaphrodite" and "female pseudohermaphrodite" indicates that only the so-called true hermaphrodite is a genuine mix of male and female. The others, no matter how confusing their body parts, are really hidden males or females. Because true hermaphrodites are rare--possibly only one in 100,000--such a classification system supports the idea that human beings are an absolutely dimorphic species.

At the dawn of the twenty-first century, when the variability of gender seems so visible, such a position is hard to maintain. And here, too, the old medical consensus has begun to crumble. Last fall the pediatric urologist Ian A. Aaronson of the Medical University of South Carolina in Charleston organized the North American Task Force on Intersexuality (NATFI) to review the clinical responses to genital ambiguity in infants. Key medical associations, such as the American Academy of Pediatrics, have endorsed NATFI. Specialists in surgery, endocrinology, psychology, ethics, psychiatry, genetics and public health, as well as intersex patient-advocate groups, have joined its ranks.

One of the goals of NATFI is to establish a new sex nomenclature. One proposal under consideration replaces the current system with emotionally neutral terminology that emphasizes developmental processes rather than preconceived gender categories. For example, Type I intersexes develop out of anomalous virilizing influences; Type II result from some interruption of virilization; and in Type III intersexes the gonads themselves may not have developed in the expected fashion.

What is clear that since 1993, modern society has moved beyond five sexes to a recognition that gender variation is normal and, for some people, an arena for playful exploration. Discussing my "five sexes" proposal in her book *Lessons from the Intersexed*, the psychologist Suzanne J. Kessler of the State University of New York at Purchase drives this point home with great effect:

The limitation with Fausto-Sterling's proposal is that ... [it] still gives genitals ... primary signifying status and ignores the fact that in the everyday word gender attributions are made without access to genital inspection. ... What has primacy in everyday life is the gender that is performed, regardless of the flesh's configuration under the clothes.

I now agree with Kessler's assessment. It would be better for intersexuals and their supporters to turn everyone's focus away from genitals. Instead, as she suggests, one should acknowledge that people come in an even wider assortment of sexual identities and characteristics than mere genitals can distinguish. Some women may have "large clitorises or fused labia," whereas some men may have "small penises or misshapen

scrota," as Kessler puts it, "phenotypes with no particular clinical or identity meaning."

As clearheaded as Kessler's program is--and despite the progress made in the 1990s--our society is still far from that ideal. The intersexual or transgendered person who projects a social gender--what Kessler calls "cultural genitals"--that conflicts with his or her physical genitals still may die for the transgression. Hence legal protection for people whose cultural and physical genitals do not match is needed during the current transition to a more gender-diverse world. One easy step would be to eliminate the category of "gender" from official documents, such as driver's licenses and passports. Surely attributes both more visible (such as height, build and eye color) and less visible (fingerprints and genetic profiles) would be more expedient.

A more far-ranging agenda is presented in the International Bill of Gender Rights, adopted in 1995 at the fourth annual International Conference on Transgender Law and Employment Policy in Houston, Texas. It lists ten "gender rights," including the right to define one's own gender, the right to change one's physical gender if one so chooses and the right to marry whomever one wishes. The legal bases for such rights are being hammered out in the courts as I write and, most recently, through the establishment, in the state of Vermont, of legal same-sex domestic partnerships.

No one could have foreseen such changes in 1993. And the idea that I played some role, however small, in reducing the pressure--from the medical community as well as from society at large--to flatten the diversity of human sexes into two diametrically opposed camps gives me pleasure.

Sometimes people suggest to me, with not a little horror, that I am arguing for a pastel world in which androgyny reigns and men and women are boringly the same. In my vision, however, strong colors coexist with pastels. There are and will continue to be highly masculine people out there; it's just that some of them are women. And some of the most feminine people I know happen to be men.

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