

'The Psychobiology of Transsexualism and Transgenderism'

- A Book Review -

It might seem a cruel trick for Nature to assign a person sex organs at birth that are at odds with the gender behaviour that naturally emerges later in childhood. Crueller still, perhaps, when those sex organs are reinforced at puberty. But the only real cruelty, as demonstrated by Thomas E. Bevan in 'The Psychobiology of Transsexualism and Transgenderism', is in how society treats people in that situation.

It is useful at the outset to define terms. "Gender refers to behaviour, not to sex organs", Bevan explains. In other words, a person can change behaviour to align with another gender for a "transgender" designation without necessarily opting for bodily changes that he would describe as "transsexual". The transsexual population is therefore a subset of the transgender population. The shorthand used in Bevan's book is 'TSTG' both for the phenomena of 'transsexualism and transgenderism' as well as the adjective 'transsexual and transgender'.

A Culture of Rejection

Bevan points out that the transgender population is deeply persecuted in modern Western culture, which enforces a binary view of gender and requires everyone "to follow their culturally assigned gender-behaviour categories". TSTG people therefore become "cultural outlaws", regarded as "easy prey" for personal attack through ridicule, humiliation, physical assault, and sexual violence. Intolerance and rejection intensify and become more dangerous during puberty and adolescence.

But the cruelty doesn't end there. The population also come in for institutional attack through discrimination, hatemongering, denial of essential services, unemployment, poverty, homelessness, and violations of human and political rights. Rejection can come from their own families and communities, along with employers, governments, courts, schools, airports, hotels, restaurants, the military, religious groups, healthcare, the media, and corporations.

This is not mere assertion on Bevan's part but supported by a wealth of statistical information. For example, 47% of the transgender population report being fired from a job because of their status, and 90% report harassment at work. Physical assault is reported by 61% of the population, and 64% report sexual assault. In 2013, Brazil had the highest number of transgender murders in the world, at 95.

In the U.S., state-issued driver's licenses are a very important mechanism of interaction between citizen and government. They effectively act as a national identification card, valid also for air travel, entry to public buildings, and voting. But Bevan reports that only 59% of transgender people have been able to change gender markers on their licenses. Meanwhile, in Europe, many countries mandate hormone therapy, genital plastic surgery (GPS), sterilization, divorce, and psychiatric testing before individuals can change their gender markers on identification cards.

Facing such an array of rejection, it is hardly surprising that so many transgender people internalize their alienation through prostitution, drug abuse, self-harm, and – the ultimate form of self-rejection - suicide. Statistical studies quoted by Bevan put the attempted suicide rate among the transgender population in the range of 31% to 43%.

Secrecy

Nor is it surprising that many transgender people opt for a life of secrecy, beginning in early childhood with concealment of their desired gender behaviour from parents. Studies find that 50% of children realize their transgender disposition before age 6, but the awareness can come as early as age 3 or 4. "The first reaction of the transsexual or transgender child to realization of TSTG", writes Bevan, "is that there is 'something wrong' with them and that 'God made a mistake'".

Realizing they are different in a culturally unacceptable way, transgender children must become 'students of the game' and 'role players', according to Bevan, keenly observing gender behaviour so that they can pretend to follow their assigned category and avoid rejection. Meanwhile, "those children who reject secrecy and choose to express their transgender behaviour experience extreme family and cultural rejection".

Patterns of secrecy often continue into puberty, which "intensifies the stress of keeping their secret and their loneliness", thence into adulthood and into the workplace, where more than 70% of the transgender population hide their status. Some male-to-female (MTF) individuals flee their circumstances by entering 'hypermasculine' occupations such as the police, firefighting, or the military.

Meanwhile, "flight into marriage in the belief that this can 'cure' TSTG is also common". Others choose to "live in stealth", changing their names, locations, and friends to establish new identities. All this leads to loneliness, preoccupation, inauthenticity, and depression, with depression affecting more than 60% of the transgender population.

Quite apart from any moral objections to society's treatment of transgender individuals and the incalculable personal toll thereby inflicted, Bevan laments the enormous costs to society of large numbers driven to despair, homelessness, and suicide. To this cost, we may also add what economists call the 'opportunity cost' of squandering the lives and talents of a uniquely gifted section of the population.

Other Cultures

Other cultures, which the imperialist Western mindset may dismiss as 'primitive', have not made the same mistake. Bevan describes how many Native-American tribes comprise four gender-behaviour categories: male, female, males assuming the feminine gender role, and females assuming the male gender role. "These third and fourth gender-behaviour categories", he writes, "were believed to have special spiritual gifts and served as healers in many tribes".

Meanwhile, the Bugis people of Indonesia have a fifth gender category known as 'Bissu'. This comprises 'gender-transcendent' individuals who combine behaviours from masculine and feminine behaviour categories. "Intensely spiritual and nonsexual", their function is to serve the spiritual needs of the subculture with advice and inspiration.

Moreover, in contrast to the binary gender system of contemporary Western culture and its intolerance of movement from one gender behaviour category to another, many 'nonbinary' cultures permit free movement back and forth, and archaeological evidence for this dates back as far as five thousand years. In some Native-American traditions, individuals described as 'two-spirit' "presented themselves in whatever gender-behaviour category was appropriate without regard to their natal sex. Some became mediators, artisans, medicine men, or shamans; others became chiefs".

Thus, in Bevan's words, "we must consider the possibility that TSTG is a form of diversity that creates the traits and skills within a clan or tribe that help ensure overall survival of the group".

The Biological Imperative

Now to the key rationale of the book. Given the widespread rejection of TSTG by modern Western society – a rejection anomalous within the whole scope of human history and culture – can Science bring us back to a more compassionate and inclusive response? Here, Bevan pins his hopes on widespread understanding that transgenderism is a biologically ordained phenomenon, or rather an 'imperative'.

Although the sheer breadth of scientific analysis presented by Bevan in this book is almost overwhelming and, admittedly, very dull at times, it all ultimately leads to a simple conclusion: that "TSTG is a naturally occurring biological phenomenon that involves an innate gender-behaviour predisposition". Many scientific disciplines are woven into Bevan's argument, but chief among them are genetics, neuroscience, and biopsychology.

"From the existing scientific evidence, one can postulate that there is a network of genes responsible for gender predisposition", Bevan writes. Transgenderism may be rooted in chromosome anomalies, mutations in androgen-receptor (AR) genes, and 'Androgen Insensitivity Syndrome', where "the body does not respond to androgens during development".

More disturbing, perhaps, are findings in the related field of 'epigenetics', which is "the study of mechanisms that modify DNA, or change its expression" and which encompasses pharmacology and toxicology. Bevan notes, for instance, the existence of reports "that common chemical pollutants modify the AR gene that contains a marker for MTF transsexualism".

Exposure to toxic drugs and chemicals can begin before conception, continue in the exchange of chemicals between mother and fetus, and extend into childhood. Among the prenatal culprits are antiepileptic drugs (AEDs), which have been shown to trigger neuronal cell death in the brain during the prenatal period, and diethylstilbestrol (DES), once prescribed for pregnant women and used for decades in livestock production until it was found to cause penis malformation in developing children. The harm from its mutations extends into at least the third generation. Maternal stress is also cited as a possible epigenetic factor.

In the field of neuroscience and neuroanatomy, meanwhile, some correlation is suggested between TSTG and the size and composition of the bed nucleus of the stria terminalis (BNST). Bevan also cites a study finding MTF individuals typically have a larger right putamen in the brain, consistent with larger right putamen for females compared with males in the wider population.

Bevan also draws on biopsychology's findings that conscious choices are rooted in prior subconscious mechanisms to argue "the motivation for TSTG is mediated by subconscious mechanisms that cannot be directly controlled by conscious thought". It can neither be "learned through experience or lost through forgetting".

If the foundations of transgenderism are grounded in such scientific bedrock, then it would explain why "feelings of incongruity for one's assigned gender-behaviour category can be postponed, but they never go away". But perhaps the greatest argument in favour of Bevan's thesis is the immense risks and sacrifices that individuals are willing to make in order to lead a transgender life authentic to themselves. Only the incessant prompting of biological predisposition could persuade a person to face such devastating cultural alienation and persecution, along with the daunting medical procedures that some undergo. These shall be examined next.

Physical Manifestations of Transgenderism

The most reversible physical acknowledgment a person can make to transgender disposition is cross-dressing. At the other end of the scale is genital plastic surgery (GPS). Between these lies a spectrum of alternatives, including voice therapy and periods of real-life experience in the new gender-behaviour category prior to medical or surgical intervention.

Hormone therapy (HT) may begin before puberty to avoid a voice change for MTF and breast development for female-to-male (FTM). This may be followed by cross-sex hormones for transsexual transition from ages 16 to 18. MTF HT side-effects can include gallstones, liver disease, swelling of the pituitary gland, high-blood triglyceride levels, increased risk of thrombosis, and cardiovascular disease. For FTM, HT may raise the incidence of polycystic ovary syndrome.

Surgical procedures for MTF include: beard removal by electrolysis (a very lengthy and painful procedure), facial surgery, Adam's-apple surgery, and breast enlargement. In GPS, "most penile erectile tissue is removed, and a vagina is created using the remaining tissue from the male genitalia".

Surgical procedures for FTM include breast reduction or mastectomy, while facial surgery is usually avoided by growing beards to cover feminine features of the chin and cheeks. In GPS, "the urethra can be rerouted to empty through the clitoris that has been enlarged through HT. Various penile prostheses can be inserted to enlarge and lengthen the penis. A scrotum can also be created from the labia majora, and prosthetic testicles can be implanted. Since erectile tissue and associated neural connections are not available for transsexual GPS, the genital change is often not as satisfactory as with MTF".

Bevan stresses, however, that there is no such thing as 'changing sex'. Although medical science and surgical technique have advanced to the point where, for MTF at least, external sex organs can be almost indistinguishable from natal genitalia, 'sex changes' are not complete.

Society's Response

Bevan reports that population estimates for TSTG "appear to be several orders of magnitude higher than previously thought", with MTF at about 1% of the population and FTM at about half that. How, then, can a better informed public respond?

It is easy to tell people to be compassionate rather than punitive, and to respond with love rather than fear and hysteria, but when a fixed and binary understanding of gender is deeply embedded in the culture, putting these principles into practice is not so easy. Nevertheless, addressing TSTG individuals with the pronouns consistent with their preferred gender-behaviour category is a relatively easy place to start. And "if a person's gender-behaviour category is not obvious, it is polite to ask TSTG people which pronouns they prefer".

Meanwhile, Bevan calls on the TSTG population to "become more visible and, armed with the scientific facts, to reach out to nontranssexual and nontransgender people". He also urges the many TSTG people with particular skills in law, medicine, technology, science, and activism to use these in the aid of advocacy.

Parents of transgender children are advised to seek help from the World Professional Association for Transgender Health (WPATH). All can benefit from early counselling, but the key is "to have an accepting and nurturing response while not attempting to change the child's gender behaviour to conform to the category assigned at birth".

Significant others (SOs) face another set of challenges, especially as many transgender people get married as an escape mechanism from their predisposition. This can leave the SO feeling deceived when their partner "comes out" and even believing the cause has something to do with their own sexual inadequacy. TSTG support groups – many of which are listed in the book's Appendix B - therefore typically have programs for SOs.

Remarkably, many married couples remain together after one has come out and even after body transition. About one-quarter of the MTF transsexual population change their sexual orientation from attraction to females to attraction to males after completing transition, but with the majority remaining attracted to females, there is a possibility that female SOs can adapt to their partner's transition.

But perhaps the greatest revolution in mindset is underway in the fields of psychiatry and psychology. Traditionally, practitioners have been trained to identify an underlying pathology - in other words, a disorder or disease - for treatment to proceed. This has encouraged 'pathologization' of transgenderism and, consequently, cultural rejection. Worse still, it was once regarded as a 'paraphilia', a psychopathological category that includes paedophilia, necrophilia, and bestiality!

But transgenderism is "a naturally occurring, benign behavioural phenomenon - a conclusion supported by historical, cultural, and biopsychological evidence", according to Bevan. "It should not be considered an illness or disorder".

A key objective for advocates now is 'depathologization' of TSTG in medical coding systems. The Diagnostic and Statistical Manual of Mental Disorders (DSM), compiled by the American Psychiatric Association, is the reference used to codify mental illnesses in the U.S. for insurance purposes. The fifth and most recent version, DSM-V, still contains a category for 'gender dysphoria'. By way of comparison, homosexuality was deleted from the DSM in the early 1970s.

Meanwhile, the World Health Organization's International Classification of Diseases (ICD) still makes TSTG pathological. It is believed TSTG will be 'depathologized' in the next version, ICD-11, but that is not expected until 2017.

Conclusions

Bevan hopes his book will provide "a factual basis for public policy and interpersonal understanding". His argument appears to be that society currently pays an enormous price for widespread rejection of TSTG, and as that rejection is based in ignorance, Science must be deployed to dispel it. Cure the ignorance, and you will heal the rejection and repair the social cost.

At the same time, transgender individuals will be better informed "to give themselves peace of mind and educate their medical health professionals". Advocates, too, will be more effective "because, before this book, there was no comprehensive scientific record of TSTG for them to arm themselves".

But the sheer quantity of scientific data and analysis that Bevan presents, compounded by its frequent repetition, may get in the way of his own objective. In trying to say everything, there is a danger of saying nothing. The full title of the book – 'The Psychobiology of Transsexualism and Transgenderism – A New View Based on Scientific Evidence' – is mouthful enough, but the contents at times verge on the indigestible.

And even if Science does eventually have the potential to achieve all that the author hopes for, it still has a huge distance to cover. As Bevan admits, "because molecular genetics and epigenetics are relatively young sciences, we do not have a complete picture of the alternative mechanisms that might be involved in TSTG". He looks forward to the discoveries awaiting "rapid improvements in medical science and instrumentation and better understanding of physiological phenomena".

But it is when Bevan reaches for an understanding beyond Science that his advocacy becomes most powerful, by recognizing transgender people as the distillation of humanity's anguish as we try to reconcile our internally derived impulses with the culturally assigned behaviour that outlaws them. "Understanding the phenomena of TSTG provides new insights into the human condition", he writes. "It allows us all to appreciate what it must be like to be another person and reach across the void between people".

And when we link hands across that void, we may begin to regain the lost fragments of a collective memory before it was culturally bulldozed by what W.H. Auden calls "the usual squalid mess called History". It is a memory that embraced multiple gender categories and transgender people, along with the shamanic and healing arts they brought to humanity; a memory that accepted people as they were, not requiring anyone to alter their faces, bodies, hormones, or genitalia in order to blend in; a memory in which transgender was not transgressive! This may require the invention of new words or perhaps the rediscovery of old ones.

If Humanity is created in God's image, then it would follow that God's incarnation would confound our efforts to categorize even ourselves, that the Word becoming flesh might assume many different forms and still be recognized as Humanity, and that a binary gender system could never serve the infinite variety of human existence and experience. It is a question, a search, into the deepest of mysteries, and perhaps in the end best answered by the heart rather than the head.

We might call our answer 'Love', but in deference to the author's scientific penchant, let us conclude with these words of a scientist, the physicist John Archibald Wheeler: "There must be at the bottom of it all an underlying simple idea and that idea will be so compelling, so inevitable, so beautiful, that we will all say to each other, 'Oh how could it have been otherwise?'"

By Ian Le Roy