

Intersexuality and Alternative Gender Categories in Non-Western Cultures

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Key Words

Intersexuality · Disorders of sexual development · Culture · Gender variance, role, identity

Abstract

Background: In the Western world, it is widely accepted as natural – and seen almost as a law of nature – that mankind is divided into two sexes or genders – males and females. In many cultures and societies, however, more than two sex and/or gender categories are recognized, which in some instances refer to the biological sex and in others to gender roles and social status. **Aims:** To give an intercultural comparison of various ways of dealing with gender variance. **Methods:** In the following paper, we review the anthropological literature during the last 100 years describing individuals who live neither as men nor women in various non-Western cultures. **Results:** Only rarely, these individuals suffer from disorders of sex development in the modern medical or biological definition: in many if not all societies there have been individuals who are not covered by the gender category of male and female. **Conclusion:** There thus appears to be a cultural need for people with a special *neither-male-nor-female* status, which might be classified as ‘gender variance’.

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Introduction

Intersexuality or hermaphroditism is defined as the condition of individuals with physical features of both men and women. Such individuals have been glorified in myth, in poetry and in art as the ideal human being, combining and featuring the perfection of both human bodies and human existence; however, in those days real life was for most intersexed individuals certainly not easy. From the beginning of the 20th century, intersexuality has been recognized by modern Western medicine as a medical condition, a disorder of sex development, requiring life-long medical treatment, with genital abnormalities being corrected by surgery to allow so-called normal sexual function [1]. Corrective genital surgery is guided by cosmetic appearance and sexual functionality of the external genitalia, but often does not allow local sexual sensations and feelings [2–5]. Certain advocacy groups even complain that Western society would force individuals with disorders of sex development to conceal their status and make them choose either a male or female role, whereas other (non-Western) societies consider their condition special, and give them a special gender role often associated with high social status [6, 7].

In an earlier publication, we have pointed out that culture has a significant impact on the outcome of disorders of sex development, an aspect which is now widely accepted in the medical community [8, 9].

Maybe even more important, studies on individuals with disorders of sex development (5 α -reductase defi-

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ciency) in non-Western societies have greatly influenced our understanding and management of these disorders. Until the first reports by Imperato-McGuinley et al. [10], it was generally accepted that gender identity can be created through socialization and education during the first 2 years of life [11]. Subsequent outcome studies in patients with various disorders of sex development have shown that gender identity is the result of both nature (i.e. hormone exposure and gene environment) and nurture (i.e. socialization and culture) [8, 12–19].

It is therefore appropriate to ask whether the Western concepts of gender dimorphism, in which physical and biological factors inform sex and gender, are similar or identical in societies and cultures in which social factors and the socialization of an individual define to a great extent his/her gender role. In this paper, we reviewed the medical as well as the anthropological literature regarding descriptions of intersex individuals in non-Western societies. We wanted to identify their sex, gender role and gender identity and describe their social status, and define possible social functions.

Definitions

The term sex has to be differentiated from gender. Sex defines physical features, whereas gender refers to mental and social characteristics. ‘Gender identity’ is the subjective feeling of a person. ‘Gender role’ is the expression of this feeling in social life and the ‘gender status’ is given to a person by the society in which that person lives. ‘Sexual orientation’ refers to sexual activity, i.e. whether an individual is hetero-/homo- or bisexually active [20]. The assigned sex at birth, and a possible gender change, both contribute to the gender status of a person [21, 22]. A change in gender role, which means that a person acts and behaves in a manner culturally ascribed to the other gender, does not necessarily mean a change in gender status or gender identity. It is our hypothesis that the cultural background is a critical determinant for the development of an individual’s gender role and/or gender status within a society. ‘Gender variance’ describes individuals with a *neither-male-nor-female* gender status within certain societal norms.

In most anthropological and medical reports nothing is written about the gender identity of persons who live in a *neither-male-nor-female* gender status within their society; however, changes in gender role and/or gender status are reported. In addition, there is no generally accepted definition of the term *third gender*. Whereas in

some cases it relates to a ‘third kind of body’ (sex), in most cases it denotes aspects such as gender status, gender role or a specific sexual orientation or sexuality. There is neither agreement within these societies nor within the scientific literature on whether certain phenomena of *gender variance* should be interpreted as a distinct third or fourth gender, clearly different from the stochastic Western male/female concept [23, 24].

Analysis of Alternative Gender Roles in Non-Western Cultures

When the anthropological literature over the last 100 years is surveyed, descriptions of individuals living in a ‘*neither-male-nor-female*’ status are found in various cultures. While this phenomenon has received a fairly intense attention in the anthropological literature, medical studies are rarely available, which means that in most of these cases hormonal or genetic defects have been neither sought nor identified. Therefore, we speculate that most are not individuals with a disorder of sex development by medical definition. In the following, we have compiled all papers available to us. We have subdivided the various descriptions of intersexuality in the anthropological literature in such a way that they represent and fit into the classifications made above, i.e. we arranged and discussed individuals with a change in gender status, gender role or sexual orientation. The term ‘disorder of sex development’ has been used only when a medically proven condition was present.

Variations in Gender Status

Medically Identifiable Individuals with a Disorder of Sex Development: The 5 α -Reductase-Deficiency Syndrome

Individuals with a 5 α -reductase deficiency are the only medically defined form of intersexuality for whom a separate and defined gender status is reported in two different cultures – the Dominican Republic [10] and Papua New Guinea [25, 26]; for the third group reported to live in the Taurus mountain range in Turkey, no psychological data have been made available to us. Affected individuals with an XY karyotype have male internal but feminized external genitalia. The clitoris is more or less enlarged/or the phallus very small, and during puberty there is significant virilization at the appropriate age. The underlying medical defect has been identified as an enzyme defi-

ciency affecting the last step in the dihydrotestosterone biosynthetic pathway (5 α -reductase deficiency).

Dominican Republic: Guevedoce

Guevedoce means 'phallus at age 12' and relates to the physical changes during puberty. In general, the children are brought up in a female role, but named *guevedoce* since male development is expected. It seems that through several generations the society has learned to recognize these children at birth. Imperato-McGinley et al. [10] observed that almost all *guevedoce* while initially socialized as girls change into the male gender status, explained medically as reflecting the influence of testosterone during puberty upon the development of gender role and identity. In their interpretation, this experiment of nature proves the dominance of nature over nurture. Anthropologists [25] and some psychologists [11, 27] in contrast interpret the gender role change in puberty mainly as a result of their socialization as *guevedoce* rather than girls and/or of the higher status of males than females in machismo societies [28]. For Herdt [25], the change is not female to male, but female or ambiguously raised in a third gender with a more masculine gender identity. He thus regards the *guevedoce* as a true third gender status category.

Papua-New Guinea: Kwolu-Aatmwol in the Sambia

The situation in Papua New Guinea is comparable. According to the anthropologist Herdt [26], the Sambia differentiate between three sex categories, men, women and *kwolu-aatmwol* ('female thing which transforms into a male thing') or in Melanesian Pidgin *turnim man*. As in the Dominican Republic, the phenomenon of 'girls' developing into men has been known for several generations, but is considered as a sad and mysterious fate. They are not the subject of discrimination perhaps because their status is thought to be associated with special spiritual abilities. Herdt [26] and the psychiatrist Davidson [pers. commun.] studied these individuals over several years and concluded that they live in their own gender category, different from male and female. They undergo the first two steps of male initiation only; the third and last step, in which boys become men and are introduced to the myth that hermaphrodites represent the first humans on earth, is not accorded to them [26]. In both cases, a third category is the basis for a *neither-male-nor-female* gender status.

Taurus Mountain Range in Turkey

A third group of 12 individuals with 5 α -reductase deficiency has been described in a remote village in the Tau-

rus mountain of Turkey [29]. There is no report available regarding the psychology and/or the socialization of these individuals.

These reports represent the only documented cases with a distinct disorder of sex development who seem to be easily able to either change their assigned sex and/or continue to live in a *neither-male-nor-female* gender status. It is of interest to note that there are single case reports from unrelated individuals with this enzymatic defect, from various parts of the Western society (US, Italy and Brazil) which report that these individuals change the assigned sex – in these cases the female sex – and either live their adult life as males or demand social recognition as having third gender status (intersex or hermaphrodite), regardless of whatever medical or surgical treatment they had received. These cases have strongly influenced the medical and psychological discussion on the hormonal and potential chromosomal factors which influence the development of the gender identity – in particular male gender identity [30].

Variations in Gender Role

Gender Variance in Individuals without a Disorder of Sex Development

Gender variance is defined as cultural expressions of multiple gender (i.e. more than two), and the opportunity for individuals to change gender roles and identities over the course of their lifetimes [31]. Some of these phenomena have been described as a third gender category since the 1970s, whereas they were interpreted as institutionalized homosexuality or transsexualism previously. Some anthropologists regard gender variance as more liberal than the gender binarism of Euro-American societies; for others, the existence of more than two gender categories implies a stricter gender system, in that certain activities and ways of behavior lead to the exclusion of a person from his/her gender and into a new classification into a distinct gender. Some more recent anthropological reports go even further, and interpret certain gender variance phenomena as an expression of a disordered sex development without giving further definitions or an exact description [23, 24, 32, 33].

Serrer, 'Hermaphrodites' in the Pokot Tribe in Africa

During his field studies on the Pokot tribe in West-Central Kenya in 1964, the anthropologist and psychiatrist Edgerton [34] observed 'hermaphrodites' who were called *serrer*, an apparently derogatory term. These indi-

viduals were considered to be *neither male nor female*. When children were born as *serrer*, they were often killed immediately after birth; when they survived they were often ridiculed and mocked. Edgerton [34] had the opportunity to observe and interview 2 of them, whom he described as gentle, hard working and without any sort of sex drive. They were allowed neither to marry nor to adopt children. One of them lived in the male, the other in the female gender role.

The description by Edgerton does not permit a medical classification, and his descriptions seem far-fetched. For example he claims that female *serrer* have a normal-sized phallus as well as a normal vagina, which is developmentally impossible. Male *serrer* appear neither like girls nor like boys, and they are not as strong as boys. This description might be consistent with a mild salt-losing form of congenital adrenal hyperplasia, but these patients virilize markedly during puberty and have a normal sex drive [35]; a more likely diagnosis might be partial androgen insensitivity, i.e. individuals with ambiguous genitalia who barely virilize at puberty [36]. It may be that their genitalia are malformed, and the midwife recognizes at birth that they will be infertile, and this is the reason why they are not allowed to marry. We might therefore speak of a third sex category as the reason for their classification as a third gender status. It seems to be certain that their social status is low, and that they are barely tolerated within society.

Nadlehee (Berdache) in the Navajo Culture of North America

Nadlehee or *berdache* were men and women who adopted the gender role of the other biological sex in dressing, behavior, sexuality and work and had a gender status between men and women. They were mostly biological males, and rarely biological females; some anthropological reports suggested that some were also individuals with a disorder of sex development. The literature on the *berdache*¹ or *alternative gender roles* within the indigenous cultures of North America is extensive. Often *berdache* were considered as a socially acceptable – and indeed accepted – form of homosexuality, a hypothesis discussed in various papers and journals [21, 37], and raised within the context of homosexual emancipation. This is difficult to prove since the *berdache* culture is almost ex-

tinct, and there appears to be no surviving example. Recently, they have been classified by anthropologists as a third and fourth gender category.² The driving force behind the change in assigned gender status from man to *berdache* seems to be not sexual activity but the preference for work usually done by women, thus reflecting a change in gender role rather than an atypical gender identity. Whether this tradition still exists is disputed, but it is certain that missionaries and government officials actively suppressed *berdache* culture.

It seems that the *nadleeh* (or *nadle*) – as *berdache* were called there – of the Navajo tribe in the South West of North America had considerable prestige and standing within their society, and it is surprising that the medical community never investigated them. The Navajo distinguish between true *nadleeh*, i.e. truly intersexed individuals according to Hill [38], from fake *nadleeh* [21, 38, 39]. The gender system of the Navajo can be divided into five genders and three sexes. Hill translates the term *nadle* with ‘weaver’, which apparently refers to their most common occupation. Occasionally, *nadleeh* are reported to be medicine men. Others like Sapir [38] translate *nadle* with ‘being transformed’ or like Witherspoon [40] with ‘someone who changes continuously’.

The analysis of the original paper by Hill in 1935 ‘The status of the hermaphrodite and transvestite in Navajo culture’ leaves us undecided whether the real *nadleeh* are individuals with a disorder of sex development in the modern medical definition. The descriptions of the phenotype are vague and concentrate on body habitus, voice, character and clothing. Hill reports that true *nadleeh* are recognized at birth and are reared as either girls or boys. During puberty, they change their sexual characteristics. While it is conceivable for phenotypic girls to virilize during puberty and subsequently change into men, this sex change is not possible for phenotypic boys; male genitalia cannot feminize. However, it might be possible that gynecomastia, often seen in normal pubertal boys, but more so in androgen resistance, in the Klinefelter syndrome and in the rare XX males, was considered as feminization. Another important observation is the description of a grandfather who had been a *nadle*. In most medically identifiable disorders of sex development male fertility is unlikely, and female fertility is extremely rare if untreated.

¹ The term *berdache* originates from the Arabic word, *berdadj*, where it denotes male prostitute. In Europe, historians as well as anthropologists used it to describe institutionalized gender change within indigenous North American societies [37].

² As such sexual relations between *berdache* and non-*berdache* biological males are not considered to be homosexuality in the Western sense but more as ‘heterogenderism’ and ‘homosexualism’ by anthropologists [37, 41, 42].

Hill [38] gives some interesting comments regarding the function and the acceptance of the *nadleche*. It seems that in the Navajo culture these individuals are considered important and necessary as a sort of link between men and women, functioning as mediators in quarrels and arguments between the sexes and thus filling a recognized social role. We thus assume that they are most probably not individuals with a disorder of sex development but rather individuals who live in a social *neither-male-nor-female* category, as illustrated by the following citations: 'Nadle perform functions and duties of men as well as women and thus make it possible for the men to overcome the women'. Within this context they are highly respected. 'They know everything. They can do both the work of a man and a woman. I think when all the nadle are gone, that will be the end of the Navajo', and 'You must respect a nadle. They are, somehow, sacred and holy' [quotations from: 38].

Some intersex people in the US and Europe have discovered Native American alternative gender systems, and strongly identify with the spiritual connotations of a *neither-male-nor-female* status and their social function as societal mediators, and would like to adopt this for themselves.

Hijra in India – A Third Kind of Body

In India the *hijra* represent a separate caste – a social category of individuals who feel neither women nor men. Individuals who once lived as *hijra* do not return into the normal society, in keeping with their being a separate caste. There are two categories of *hijra*, one real or born, the other made, which may mean that through certain procedures one can become or develop into a *hijra* [32, 33]. Thus the *hijra* are an interesting example of a third kind of body which may be made so by surgery, and thus is the basis for their classification into a third gender category with a corresponding third gender role [23].

In contrast with the numerous anthropological reports and even more abundant lay literature, there is only a single medical report documenting physical and biological anomalies in 6 individuals claiming to be *hijra* [43]. This is peculiar, given that according to most lay reports *hijra* are numerous and apparently represent a wide spectrum of medical anomalies. It is of interest to note that the medical reports came to the conclusion that *hijra* do not have a medical problem, but rather represent individuals who want to live as neither men nor women.

The social status of the *hijra* is low, working as prostitutes and with tasks in religious rites, such as singing and dancing during weddings and births. It is reported that

hijra steal newborn children from their parents, in cases where the genitalia are malformed [23]; others are women who are not menstruating. The so-called made *hijra* probably represent impotent, homosexual and/or transsexual men, and are made *hijra* by a penectomy.

The perception of the *hijra* within Indian society varies and interestingly depends upon the social status and standpoint of the individual. Members of the upper classes are rather negative, saying that *hijra* once functioned as guardians of harems, but today nobody needs them. They also believe that *hijra* suffer from a birth defect but can survive through the socialization as *hijra*; they feel sorry for them. The lower classes are more respectful and more positive, but also afraid. They believe *hijra* have certain powers, particularly over fertility. Somehow it seems paradoxical that the *hijra*, who are on the lowest level of the social hierarchy, are given an important and institutionalized role during the most important life events, like weddings and births [32].

In this way one can consider their social role and function as a trickster role; as liminal figures they ridicule and are ridiculed. They break social taboos, particularly sexual taboos, which are prominent in the Indian society, while transcending the male and female role. They represent an important social role and as such they are an integral part of traditional Indian culture, despite being outcasts and outside the social hierarchy. Their status is complex and somewhat contradictory; we might thus speculate that complex cultural systems need such social niches and groups to be institutionalized, to provide a place to live for each individual [6]. In the anthropological literature, *hijra* are described as a third gender [32, 33] and a third sex [23]. The malformed, malfunctioning or penectomized body is the basis for their gender status as *hijra*. This body has to be 'correct', and may be subjected to scrutiny to reveal its correct status. Depending on the theoretical interest of different authors, the Indian gender system is either regarded to be more tolerant, less dimorphic and capable of integrating gender ambiguities [32], or more restrictive, in that *hijra* are excluded from Indian society and regarded as outcasts [44].

Gender Role Change for Religious Reasons, Medically Unidentified

Bissu Priests in Southern Sulawesi, Indonesia

Gender changes for religious reasons are related to and often required for ceremonial reasons. In pre-Islamic times, *bissu* priests were described in Southern Sulawesi

[45–47]. Their function was primarily to mediate between humans and gods/ghosts, as healers and keepers of the sacred objects. Depending upon their individual perspective, these authors interpreted the *bissu* as ‘transvestite priests’, since as biological males they cross-dressed on occasion or permanently, or they were mediators between two cosmological levels; *bissu* united within themselves the male and the female principle. According to Holt [46], the *bissu* category comprised such divergent physical conditions as impotence, homosexuality and hermaphroditism. This anthropological explanation seems to be strongly influenced by Western cultural values and can only be understood against the background of the somewhat old-fashioned concept that homosexuality is in fact psychic and/or physical hermaphroditism, which also accounts for van Kroef’s description of the *bissu* priests as religious hermaphrodites [47].

Shamans in Siberia

Siberian shamans were reputedly able to transform into the other sex. According to Bogoras [48], male shamans can transform into females, and are then called soft man or similar to a woman (*ne’uchica*), or, rarely, in the case of female shamans, similar to a man (*qa’chikicheca*). These sex changes develop under the influence of certain ghosts and are sometimes needed to obtain healing powers. The first step on this way means adopting a female hair style, the second ‘cross-dressing’ and the third complete femaleness, including sexual interaction with men; in some cases it was reported that female sex organs developed.

This sex change has been called religiously motivated transvestitism and more recently third gender [49]. The shaman crosses the border between maleness and femaleness and reaches high spiritual power. This transition makes the shaman powerful and gives him/her high social status and great influence. It should be emphasized, however, that the personal power and influence is not the major driving force; this gender change is against the individual’s will and depends solely upon the power and commands of the ghosts.

Castration for Religious or Social Reasons

Castration and/or removal of the genitalia have been done extensively in men, and the literature on its biochemical effects is vast [50]. Recently, Wilson and Roehrborn [51] have described the medical consequences of castration both in the Christian tradition and for the eunuchs of the Chinese and Ottoman courts. In these individuals, castration was not performed to change sex and/

or gender, but to help the members of certain Christian sects to attain their ideal of sanctity, and for the eunuchs to obtain well-paid and safe jobs. There is comparatively little known about the social consequences of castration, although it is intriguing to note that among the *hijras* of India castration is used to stigmatize the members of the group and to increase group attraction. Except for the study by Wilson and Roehrborn, there is almost nothing known in which way intersexuality and/or self-castration has been an important part of Christian clerical or monastic life.

Variations in ‘Sexual Orientation’

The Balkans: Biological Women Who Live as a Third Gender Category in the Male Gender Role

In the Western Balkans, biological females have been observed since the first half of the 18th century to dress and live as males, and probably adopt a male identity. There are two kinds of these so-called sworn virgins. The first (*vaze e betuar*, Albanian: sworn virgin) are those who are brought up by their parents as boys, to keep the family together in case there is no male heir in this strictly patrilineal and patriarchal society. Secondly, older individuals may change from women to sworn virgins at a later age. There are various names like *zavjetovana djevojka* (Slavic) or *tobelija* (Albanian), a person devoted to a vow, or *virgjinеше* (Albanian), a woman pledged to virginity, which indicates that sexual relationships, marriage and children are not for these individuals [52, 53]. It is quite likely that this custom created a social category which would give individuals with a disordered sex development a chance, and since most medical forms of intersexuality virilize during puberty, individuals with for example congenital adrenal hyperplasia or partial androgen insensitivity would be able to obtain a social status within society, an inference also suggested by the anthropologist Grémaux [52], who was able to study some of these individuals.

Africa

In various African cultures gender status is not considered natural or unchangeable, but flexible and able to change according to the context and circumstances in which the individual lives at the moment. In contrast to the phenotypic definitions of gender in the West, in some African societies sexual characteristics define neither masculinity nor femininity but instead it is the social role which defines the gender of an individual [54].

In this context, another tradition, female clitoral amputation, should be mentioned. The idea behind most male and female genital intervention rituals in Africa is that originally mankind has been 'two sexed'. In boys, the foreskin represents the manifestation of the female part whereas in girls the clitoris is assumed to be the male part. To become a complete man or a perfect woman the culture has to help by removing the 'counter sexual' portion of the sexual organs. However, it is not determined, how hermaphrodites are conceived in cultures which ostensibly need surgical interventions to create 'normal' men and women. We do not know what is done to individuals in these societies who are born with or develop anomalies of the external genitalia.

Gynegamy in the Nandi Tribe in Kenia

At least forty different ethnic groups in various parts of Africa practice or had practiced (the last report dates from 1994) 'gynegamy'. Gynegamy is a relationship between two or more women in order to maintain or gain descendents or heirs for the family fortune. In this tradition rich women, often older or widowed and able to pay the bride price, can marry a woman and become her female husband and thus change her own social status from female to male. The younger woman is allowed to keep a lover, but the children belong to the female husband. Gynegamy is a cultural way of assuring heirs.

Obviously in taking over a male gender role these women still maintain their female gender identity [55, 56]. This is an interesting aspect since it seems to point to the fact that gender identity or the concept of (a personal) identity differs in these cultures from the modern Western concept and cultural idea of identity. In many of these cultures, identity is not a psychological but more a social construct, and therefore gender roles can be considered to be different from gender identity. These women, despite living as men, remain women and the discussion whether they become men or not is a cultural and/or a social issue, and thus a matter of understanding differing cultures. Certainly among these African societies these issues are not discussed.

Arabian Cultures

In *South Iraq*, *mustergil* are girls and women who wear male cloths and behave and live like men [57]. They are able to participate in male activities, but are also allowed to return to their female role, get married and bear children. Their gender role is male, the category is *mustergil*, but their sexual identity is undefined. Once they return to live as females they cannot return to be *mustergil* again.

In *Oman*, the *xanith* are effeminate but apparently normal males, who relate sexually with males. They engage in female activities, but have the freedom to change between the male and female spheres and are considered to be neither male nor female, and thus they might represent a third gender status [58]. They are sexually orientated to men but always in the passive role. They often earn their living as prostitutes but also as house maids. Wikan [58] reported that 1 out of 50 in a village had been a *xanith*. While Wikan [59] describes the *xanith* as transsexuals and a third gender status within Omani society, for Sheperd [60] they are homosexual men and do not constitute a third gender. These traditions illustrate how difficult it is to use Western terms like homosexuality, transsexuality or third gender in considering differing cultural customs and/or social relationships. Homosexuality and transsexuality are Western definitions in the context of two biological and social genders, resulting in a biological definition of gender roles, identity and status within the West.

Indonesia

The *Makassar* in South-Sulawesi have four gender status categories. Besides the differentiation between men and women, there is an ambivalent status *kawe-kawe*, biological men who feel only partially as males and live only partially or not at all in the male gender role, and *calabai*, biological women who refuse the female role complex. Within these categories, it is possible that individuals with a disorder of sexual development can live without social stigma, and can express their gender identity relative freely. It seems to be possible that these individuals can change within these categories and live rather independently [41]. The gender status *kawe-kawe* and *calabai* are conceptualized openly and allow these individuals a flexible fashioning of their gender identity and gender role. In addition, the duration of this special status is open. It seems that nowadays, particularly in the westernized urban environment, the category *homoseks*, meaning homosexually active men is mixed with what was originally was *kawe-kawe*, a lifestyle which was originally independent of sexual activities.

In Java, the *banci* or *waria* are an urban subculture. *Banci* are people who behave androgynously or look androgynous, or 'biological males who cross-dress, adopt the behavior and societal roles of females, identify as *waria* and socialize regularly with fellow *waria* in definable communities [61].

According to Oetomo [61], the *banci* constitute a third gender status in Javanese society. They have introduced

the Western expression 'locked in a male body' used by transsexuals. They often perform typical female jobs, i.e. in beauty parlors or as kitchen help, but sometimes also work as comedians or healers [61]. Within this category individuals with a disorder of sexual development might also be able to exist or to hide, but there is no definite medical proof. In recent days, *banci* or *waria* became more confident, and an almost Western style movement evolved. Apparently, in recent years, many *banci* are going for sex-reversal operations but remaining *banci*.

In general, in Asia and Southeast-Asia, individuals who are beyond the two-gendered category of male and female do have functions as mediators. They seem to be able to mediate between men and women, between differing social classes, between various ethnic and religious groups, between tradition and modernity or even between gods and humans. This accounts in particular for the *bissu*, who function as priests with the *Bugis* in South Sulawesi and can mediate between humans, gods, and/or ghosts [62, 63].

Polynesia

In many regions of Polynesia there are individuals living in a *neither-male-nor-female* role, a status which seems to be independent of physical attributes in this society.

In Samoa, these individuals are called *fa'afafine* ('similar to a woman'), in Tahiti *mahu*, in Tuvalu *pinapinaaine* and in Tonga *fakaleiti*. All these individuals are anatomical men, exhibit effeminate behavior and are sexually attracted to men. However, in all these cases, the social role remains 'male'. They have been dubbed by various observers as 'third sex' [26, 64, 65], 'transvestites' [66], 'transsexuals' or 'gender liminals' [62].

Discussion

It is a universal concept that individuals may live with a sex different from the one they are born and assigned to; this phenomenon has been documented to exist with in most if not all societies. In the medical as well as the anthropological literature, there are numerous divergent descriptions of alternative gender roles throughout the world. On the basis of the question of whether physical features (sex), gender identity, gender role or gender status are described, we find that anthropological reports of alternative genders with few exceptions do not relate to intersexuality in the modern Western medical sense, that is they do not describe individuals with a disorder of sex development. In general, these descriptions do not cor-

respond with a medical diagnosis, and therefore are hardly comparable. In most anthropological reports, gender-specific or rather nonspecific behavior is the main reason for a gender change or assignment of a third or fourth gender status; sometimes, however, a third kind of body is the basis for a third gender status. In most anthropological reports on gender variance, there is neither a medical diagnosis nor information regarding the gender identity of the described individual or custom. In many societies, however, identity is conceptualized in a more social way than the individualistic, feeling-orientated concept of gender identity in the Western World. Future research has to be careful to be exact on whether third-gender categories relate to physical features, social roles or gender status.

The most extensively and systematically studied form of gender role changes in differing cultures represents individuals with a medical diagnosis of 'intersex'. Their intersexed body is the reason why they are given a *third-gender* status. These individuals have greatly influenced medical research regarding the role androgens play in the development of the external genitalia, and in particular increased our knowledge regarding the role of androgens in the development of a male or female brain [16, 67]. The biochemical investigation of these patients and the underlying pathology has shed new light and increased our knowledge on the metabolism of androgens and their function. We learnt that the active androgen in humans is dihydrotestosterone, formed by 5 α -reductase action on testosterone, largely in peripheral tissue. This enzyme is inherited as an autosomal recessive trait, and is deficient in these patients. Dihydrotestosterone is to a great extent responsible for the masculinization of the external genitalia in utero, but obviously not necessary for the development of a male brain and male gender identity. Despite having female genitalia at birth and being socialized as girls these individuals change their sex during puberty and continue to live as males, or at least in a non-female category. Thus these individuals provide the first evidence that biological factors play a crucial role in the development of complex psychological characteristics.

Even though the gender identity of these individuals is poorly investigated, they seem – at least when left untreated – to develop a male gender identity [10]. In the Western-oriented Dominican Republic cases, after being reared as girls all individuals change into the male gender. Certainly, in this male-oriented society, male gender seems to be a better option. In Papua New Guinea – a non-Western society – a separate sex category, besides male and female, has been established. The society cre-

ated for these individuals a separate gender status which allows (or forces) them to continue to live in a form of third gender role, in recognition that these individuals are infertile. Furthermore, it is of interest to note that the local myth which tries to explain life and its origin-integrated beliefs about hermaphrodites into its stories and gives them an important role in the origin of human life. Further studies should elucidate in which way this belief is influenced by the co-existence of hermaphrodites within this particular tribal society.

In most other cultures with more than two descriptions of gender categories, gender role changes are based upon social factors and represent certain social needs. The gender role change is achieved by adopting the behavior or the preferences that corresponds to the other sex. The alternative gender status is therefore in the majority of cases and societies based on behavior, and not on an intersexed body.

Gender change in non-Western societies is not necessarily associated with a medical pathology and therefore often independent of physical features; instead it seems to be closely correlated with social factors and dependent on certain social regulators. The individual is embedded in a cultural context and cannot change merely according to his or her own feelings, but more according to societal conventions and/or needs. Variations in gender roles and/or sexual orientation seem to be a necessity in societies with particularly strict 'gender laws'. Most of these customs relate to inheritance (money) and are a way to secure the family fortune, or to military rules and regulations and then are a way to secure power and influence. It seems realistic to speculate that these customs are not closely related to or dependent upon intersexuality.

In many cultures, gender role change plays an important part within many religious customs and rites. It is likely that within this group individuals with any form of disordered sexual development can hide and thus can find a way to live and find social existence, despite not

being able to procreate. Some authors regard this as a more liberal dealing with gender status, but others regard such a gender system as more rigid in comparison to our modern Western system where the male and the female gender roles are conceptualized as relatively open – at least in recent years – apart from the fact that the body has to be unambiguously male or female. It is of interest to note that even now, body mutilation is used to gain membership of a special group of individuals, who want to live outside the standard male-and-female concept. More research is needed to better understand the social purpose of these groups.

Individuals who combine male and female characteristics personify in many cultures a 'perfect body' and signify a unifying entity, as in Greek and Latin mythology. Ambiguous individuals or hermaphrodites may be considered god-like, holy figures and may represent symbols of fertility [32, 47, 63, 68–71]. However, this contrasts to the reality of intersexuality in which the body is neither perfect nor in general able to reproduce. It is unclear whether an individual with a disorder of sex development, e.g. malformed external genitalia, can, by virtue of his/her intersexuality, reach a high social status within a (non-Western) society or whether this has been the interpretation of Western-dominated anthropological research. In particular, the medical specialties which deal with individuals with disorders of sex development should always remember that their medical management is influenced by their own cultural background and by their own definitions of femininity and masculinity – a definition which might be neither universal nor acceptable across differing cultures.

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