Bisexuality and the problem of its social acceptance

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Professor Austin explores four main areas in this paper. First of all he outlines the physical development of sex differentiation in the embryo. He develops this by describing the clinical manifestations of abnormality which can appear at that stage. Professor Austin points out that there are relatively few people with abnormalities and that those who do show homosexual tendencies are not noticeably different from the norm in terms of their sexual equipment and hormone levels. It is much more likely that their psychological and social development has a greater influence in differentiating them sexually. The last section of the paper is a synopsis of society's reactions to homosexuality or bisexuality which term in Professor Austin's opinion is more accurate and descriptive of the condition.

Radical changes have occurred in public attitudes toward heterosexual behaviour in recent years, and this is coming to be true for bisexuality – a term that is preferred to homosexuality because it better reflects the fact that complete restriction to either behavioural pattern cannot be regarded as usual. We must now accept the fact that something like two million mature men and women in this country frequently indulge in activities that were once rejected almost universally as grossly abnormal (and sinful), and many more at some time in their lives.¹ This recognition presents an obvious challenge to long established notions of propriety and morality, and for many people it demands a drastic reassessment of ideas and values. Such a reassessment should, in my opinion, take some account of what we know of the mechanisms underlying sex differentiation and sexual behaviour, and I shall discuss these briefly before taking a look at social problems posed by human bisexuality.

Among the more striking features in the differential development of the sexes in man and other mammals are that this does not occur at all in many simpler organisms, that for quite a large part of embryonic life males and females cannot be told apart, even in mammals, that the mechanisms determining the direction the embryo is to go are complex and open to error, and that the systems controlling the full flowering of the two sexes have many points in common. Against this background, some measure of bisexuality might well be expected to lie within the human behavioural norm. But the

idea has received a hostile reception in many communities through the ages, mostly it would seem for ill-founded reasons.

Sex determination and differentiation

Sex in man is determined by the XX/XY chromosome system, which is of great evolutionary antiquity. In many simpler organisms, however, and as high in the evolutionary scale as certain amphibians, each individual is capable of functioning normally as both male and female – either simultaneously or consecutively. These animals are described as hermaphrodites and the device of hermaphroditism has the important advantage for the survival of the race that every member of the group is able to bring forth young. But hermaphroditism (bisexuality in the true biological connotation) does not occur naturally in any of the higher vertebrate classes (reptiles, birds and mammals). Evidently reproduction involving separation of the sexes has something special to offer in terms of survival value, though what it could be is still obscure. Under these circumstances a tendency to bisexuality in behaviour could perhaps be regarded as an evolutionary relic.

In man and other mammals, the XX/XY system and its variants² exert their influence by controlling the functions of two kinds of cells – the primordial germ cells, fitting them to become male or female gametes, and the cells of the genital ridges, which subsequently develop into either testes or ovaries. The primary determinant appears to be a gene on the Y chromosome which specifies the male; absence of the Y gene permits differentiation of female cells. The germ cells colonise the genital ridges (having arisen in another part of the embryo) and in the course of time the consortium becomes the appropriately functional gonad. The gonads produce the male and female sex hormones (i.e. androgens and oestrogens, chiefly testosterone and oestradiol, respectively) which in turn influence the characteristic behavioural patterns of the individual as well as the secondary sex characters. Normal female behaviour is dependent also on a second ovarian hormone, progesterone. Human sexual behaviour, however, owes a great deal to psychological and social factors as well as to – indeed probably more than – the effects of hormones.

Genital tract development has some curious

features. The tract primordia of both sexes become evident at an early stage in all embryos as ducts of two kinds – the male Wolffian duct and the female Mullerian duct. At this point full development of ducts of either kind is possible. As the embryo grows, the Wolffian duct becomes transformed into the male genital tract (epididymides, *vas deferens* and accessory glands) under the influence of androgen, and the hormone is essential for this purpose – in its absence the duct regresses and eventually all but disappears. The female Mullerian duct on the other hand has an inherent tendency to press forward, and will form oviducts, uterus and part of the vagina whether or not oestrogen (or androgen) is present. Such an event is avoided in the male embryo because the testis also produces an inhibitor, of as yet unknown nature, which suppresses the Mullerian duct. If the testis were to yield no or insufficient inhibitor, both male and female tracts would develop; alternatively, if it yielded no or insufficient androgen, neither tract would develop. Once duct development has proceeded towards male or female, the process becomes increasingly difficult to deflect and when the definitive state has been reached it cannot significantly be altered. Administration of oestrogen to an adult man would have little effect on the male organs but can give rise to breast development. Treating a woman with androgen may lead to some enlargement of the clitoris and increase in body hair.

The three sex hormones are closely similar chemically and their synthesis is achieved from the same starting material; in this production line, progesterone precedes the androgens, and the oestrogens come last. Both testis and ovary release both androgens and oestrogens, the essential differences being quantitative, with wide species variations.

Anomalies of sexual development

The complex scheme just outlined is obviously open to numerous modifications. Many have been described in human subjects as clinical entities,³ but the causes of very few indeed are known with any assurance. Probably the two most clearly defined anomalies are those referred to as the testicular feminisation syndrome and the sex-reversal syndrome.

People exhibiting the testicular feminisation syndrome look and act like normal women. They are generally married (to men) and are said to make affectionate wives and good mothers (of adopted children). But they are really men with an XY chromosome constitution and testes, which have failed to descend (there is no scrotum) and so are located within the abdomen or in the inguinal canal. These subjects have a small vagina, which develops from perineal tissues, and no uterus, oviducts or ovaries. The syndrome appears to arise from a lack

of receptors for testosterone on the cell membranes of target tissues and organs. Accordingly the male organs, accessory glands and secondary sex characters have failed to develop. Testosterone levels approximate normal male levels, indicating essentially normal endocrine activity in the testis; in addition the testis has evidently produced effective amounts of the Mullerian inhibitor. The lack of testosterone receptors is attributed to a mutation at a *locus* on the X chromosome (the *Tfm locus*) of what represents the only gene known to affect sex development directly.

In the sex-reversal syndrome one sees a person who has the behaviour and all the appearance of a normal male, with testes and complete male genital tracts, together with male accessory glands and secondary sex characters. The sex chromosome constitution, however, is XX. Blood testosterone levels appear to be lower than normal. These people are sterile, since the testes are devoid of germ cells of later stages. The cause would appear to lie in the translocation of the male-determining gene from the Y chromosome to an autosome. Significantly, these subjects, like normal men, are generally positive for the H-Y antigen (the determinant of which is thought to be located close to the male-determining gene).

Much less clearly defined are a variety of states grouped under the general headings of 'hermaphrodite' and 'pseudohermaphrodite', which include intersexual conditions. These range from subjects with very small penis (sometimes with hypospadias, i.e. ventrally open urethra) and hypoplastic or undescended testes, to those with structures that are more female in form with a much enlarged clitoris. In some cases the primary defect seems to be in the adrenal cortex which hypertrophies and produces significant amounts of androgens. Sometimes (as in the so-called 'true hermaphrodites') the gonads are mixed – i.e. there may be a testis on one side and an ovary on the other, or an ovo-testis (a single organ combining the structures of both gonads) on one side and an ovary or testis on the other. In these cases the sex organs tend to be 'ambiguous', as described above. Possibly because of the inherent tendency evident in early development – whereby, lacking a strong male-determining influence, the embryo becomes a female – these intersexual or 'hermaphroditic' states have secondary sex characters, general appearance and behaviour that resemble more the female than the male, even though the subjects may possess sex organs that pertain to the male form. No case of human 'hermaphroditism' yet reported (even among those labelled 'true') has properly deserved the title; some individuals can be enabled to function fully as either male or female, with the aid of surgery and other treatment.

Finally, there is another heterogeneous group which earns the general title of gonadal dysgenesis.

These appear to arise mainly from chromosomal anomalies, such as XO (Turner's Syndrome) or X chromosomes of unusual size or form, or else from mutant genes – autosomal recessives or dominants, or X-linked recessives. In any event, the common feature is failure to develop any recognisable gonad. As we might expect from what has gone before, these cases while being essentially intersexual in anatomy tend towards the female rather than the male in secondary sex characters and behaviour.

Clearly, behaviour that could be considered either ambivalent or homosexual can often be attributed to disorders of differentiation, and the bias is towards female behaviour. Such disorders are, however, not particularly numerous. We now come to a very much larger category.

Homosexuality without developmental anomaly

The conditions we have considered so far have all been distinguished by clear physical and functional differences from what can be described as the normal range, but homosexuality is much more commonly expressed in individuals who are not noticeably different from normal in terms of their sexual equipment or hormone levels, yet react to members of their own sex in ways that the adult members of our society tend to regard as appropriate only to the opposite sex. The younger-than-adult members – especially the juveniles – would have a different point of view, for indeed most if not all of us experience a phase of life wherein homosexual attachments (generally falling short of physical interaction) are just as acceptable as heterosexual, and sometimes more so. This fact emerges clearly from published surveys⁴ and of course was plainly stated by Sigmund Freud, to the discomfiture of his contemporary readers. Rather less than ten per cent of people do not change their sexual attitudes in the usual way as they leave the infant and childhood years, often as an over-reaction to heterosexual taboos or owing to stressful relationships in the family.⁵ (Many other features of adult behaviour are of course also referable to familial relationships.) Subsequently, the segregation of the sexes at schools and other institutions plays a part in fostering homosexual tendencies, and the same is true for segregation in later life, as in prisons, in the armed services, etc. But the effect is generally transient, and in any case homosexuality and heterosexuality are not necessarily exclusive: a large proportion of declared adult homosexuals are happy to function in either capacity.⁶ For all these reasons, bisexuality – as a term describing a pattern of behaviour rather than full reproductive potential – emerges as probably the most appropriate label for human sexuality.

The persistence of preferential or exclusive homosexuality is most often unassociated with anatomical

or physiological anomaly, and so the condition has been classed as deviant or pathological behaviour, the cause being variously ascribed to genetic defect or hormonal or psychological imbalance. Because of sensitivity to social attitudes, or for other reasons, treatment has often been sought, in the form of hormone injection or psychotherapy, with success reported in some instances. This approach has come in for sharp criticism because the underlying presumption of abnormality prejudices the mental health of the individual concerned; the very notion of 'treatment' reveals an adverse premise. Perhaps for these reasons, an established homosexual orientation in subjects with normal physiology can prove as immutable as a developmental anomaly in many instances such people simply do not wish to be 'cured' of what they believe to be the only acceptable life-style.^{7,8}

Social aspects of bisexuality

Reproduction necessarily engenders social behaviour in all mammals, and sexual behaviour plays a major role in social interaction. As with other innate behavioural patterns, the sex drive is powerful and generally persists until a goal has been reached that provides satisfaction. Among the non-primate mammals prescription of the nature of the goal and the means to achieve it is highly precise, and individuals know 'instinctively' how to acquire a mate and perform coitus. Even with these animals, however, the pattern is not invariable, and if appropriate mates are not available, alternatives will be chosen. Amongst other evidence of this behavioural variation, Ford and Beach⁹ mention observations on captive male porpoises which attempted coitus with younger males, and with a turtle and sharks in the same enclosure, and the fact that a male rabbit will mount rats, small kittens and inanimate objects if these are presented in the cage in which it has become accustomed to find a female rabbit. When we come to primate species we find that sexual activities are much less inherently determined.

Monkeys and apes must learn how to react appropriately for courtship and mating – by precept, percept or trial-and-error. Deprivation experiments have been made¹⁰ wherein monkeys that are separated from parents and peers soon after birth grow up remarkably inept in social and sexual relations; they take a long time after being introduced to a mixed group to begin to accommodate and never seem able to develop fully normal behaviour.^{10,11}

In addition sexual activity in primates is evidently much more unstable than in non-primates, and readily shows a wide range of variations. Monkeys of both sexes in captivity have shown sexual reactions and even entered into prolonged close associations with a number of other species

including dogs, cats, foxes and snakes.⁹ More recent studies on monkeys both in the wild and in captivity have revealed the frequent occurrence of masturbation, homosexuality and object-directed sexuality, as well as the involvement of other species.¹²

The numerous studies that have been made on human subjects reveal a scene that is entirely in keeping with this zoological background – with man, too, experiences in the early years are critically important in determining the expression of sexuality in adolescence and maturity, and especially in the younger individual sexuality shows great flexibility. Homosexuality is no more than one of the several manifestations that might be expected. Sexual satisfaction depends on appropriate and adequate stimulation of erogenous zones which can be effected with an inanimate object, by contact with other parts of the body or through the agency of another individual (of the same or different sex, and same or different species). In many societies the particular procedure adopted for obtaining sexual satisfaction is a matter of personal choice and arouses little public interest, while in others some procedures are discouraged – the patterns vary greatly.⁹

The protracted nature and intensity of human sexuality is thought to have adaptive value through strengthening the male-female pair bond and thus ensuring support for children during their very long period of dependence. Preservation of the nuclear family in turn plays a central role in the stabilisation of society. The proposition may then be made that homosexuality also has adaptive value because it establishes bonds between like-sex members of the group, and its prescribed practice in some societies could well have arisen from recognition of this effect, especially in small primitive societies faced with constant threat to their existence.

In the more developed societies all forms of sexuality have tended to be subject in varying degrees to constraint, with sanctions being applied in the form of moral codes. The derivation of the word 'moral' implies a customary or accepted form of behaviour among a majority of people. In this sense homosexuality could be called immoral because less than ten per cent of the adult population in this country are thought to practise it. But not among the Keraki of New Guinea or the Kiwai Papuans, for with them it forms part of a boy's initiation into manhood.⁹ 'Immoral', however, carries also implications of an act running counter to the interests of the social group, and deserving of public censure and punishment; commonly the specification of the forbidden act and its form of punishment have become woven into the fabric of tradition or religion, along with more general injunctions designed to preserve the stability of the social group.

Since Christian morals largely shaped the popular morals of the Western world, one seeks there the

seeds of opposition to homosexuality. In the Old Testament such behaviour was condemned as an abomination (*Lev. XVIII, 22; XX, 13*) and in the New as an indecency (*Rom. I, 27*) and a perversion (*Cor. VI, 9*), but it should be noted that a wide variety of other forms of fornication and misdemeanour (including having intercourse with a woman during her menstruation – or with one's daughter-in-law) came in for precisely the same castigation – homosexuality was not singled out. Moreover, neither the decalogue nor the teachings of Jesus made any reference to it. Later Christian writers were to be much more specifically and vigorously censorious. Much of the intensity of their feelings about homosexuality evidently sprang from the conviction that the cities of Sodom and Gomorrah suffered divine wrath because the inhabitants were of this particular persuasion (*Gen. XIX, 4–26*). Bailey,¹³ however, argues convincingly that there is no sound evidence to support the idea; he further points out that the theory was developed in about 200 BC, i.e. long after the destruction of the two cities (about 21st century BC) and suggests that it was probably a form of propaganda, directed against the sexual licence of the early Greeks, whose culture at that time exerted widespread influence. But the legend became accepted as revealing the special condemnation of the Almighty, and severe penalties were prescribed by successive Church councils and synods through the centuries.

The ecclesiastical stand was reflected eventually in the law of this country. In an Act of 1533, in the reign of Henry VIII, 'the detestable and abominable Vice of Buggery committed with mankind or beast' became a felony in the eyes of the Law, and was punishable with death and confiscation of property. The Act was revived by a parliament of Elizabeth I in 1563 (except that confiscation of property was not ordered) and again 265 years later by a consolidating Act of 1828 (still with the death penalty). In 1861 the punishment was changed to penal servitude for life in the Offences Against the Person Act, which retained the description 'the abominable Crime of Buggery'. (Parenthetically, it is ironical that one of the most orthodox communities in Europe should have become immortalised in that special term of contumely). After a thorough review of the evidence, the Wolfenden Committee¹⁴ recommended that the involvement of children should continue to be forbidden by law but that homosexual relations between consenting adults in private should no longer be treated as a crime. This amendment became law in the Sexual Offences Act of 1967. However, 'adult' was defined as a person over 21 years of age, and there remains the anomaly that heterosexual intercourse is legal with persons down to 16 years of age (and there are proposals to reduce this still further).

What factors other than the influence of the Sodom and Gomorrah fable could have contributed

to all this opposition to homosexuality? There could be several. In the first place, as Williams¹⁶ points out, early Christian teaching, especially that of St Paul and later St Augustine, held that normal sexual intercourse was intrinsically sinful, but was allowable on the conditions that it was between husband and wife and indulged in solely for the purpose of begetting a child. Therefore, if procreation is simply not possible (as in homosexual intercourse) the original condemnation is strengthened by the participants' knowing full well that there are no prospects of procreation under any circumstances. Sex for recreation alone could hardly be more forthright.

Another source of opposition could have arisen in more of a sociological context. One of the features that most clearly distinguish human from animal social groups is the concern for property (as distinct from 'territory' which of course many animals do recognise). Disputes over ownership must have disturbed the peace throughout human history, and especially would this have been a problem on the death of persons of substance. Moral codes were developed to enforce social order and the attribution and disposal of property, but a clear-cut system of kinship was essential if there were to be an acceptable pattern for the transfer of ownership. Since a homosexual alliance could not yield heirs and had neither socially superior nor inferior partner, it constituted a serious obstacle to the orderly conduct of society, and for many people it could accordingly be labelled immoral.

Then again to be taken into account is the idea, attributed to Aristotle, that semen is the 'seed' from which the future embryo grows, while the woman provides nourishment and protection for the embryo's development. Release of semen in a homosexual union would be equivalent to discarding a potential human being. This would be especially reprehensible in small communities whose importance and influence would depend heavily on their numbers and hence on the sustained reproductive capacity of the group. (Similarly sinful was the act of Onan (*Gen. XXXVIII, 7-10*) who used either withdrawal or masturbation to avoid his duty under the levirate.) The same considerations may also explain why homosexuality between women has always aroused far less protest than that between men.

A logical objection to the habit might appear to be that homosexuality requires a misuse of the body for purposes not appropriate to its design. The same sort of 'misuse', however, can occur in heterosexual relations. Yet other possible sources of objection were considered by the Wolfenden Committee,¹⁴ who reviewed arguments put to them in favour of retaining the clauses in the 1861 Act dealing with homosexuality. These were that the practice menaces the health of society and has a damaging effect on family life; that, if homosexuality

between men were legally permissible, they would be more likely to turn to boys; and that abolition of the law might 'open the floodgates'. The Committee found themselves unconvinced by any of the evidence brought forward in support of these points.

Conclusions

In the normal course of human postnatal development a predominantly bisexual behavioural pattern changes to one in which heterosexuality is usual though many individuals retain in greater or lesser degree homosexual inclinations, and for some these are exclusive. Errors occurring during the differentiation of the sexes can lead to the persistence in the adult of behaviour of an ambivalent nature; the great majority of adult homosexuals, however, are not distinguishable from normal in their anatomy or physiology.

Prospects of changing established homosexual behaviour in mature individuals have proved to be very limited under most circumstances.

Social and religious objections to homosexuality between consenting adults in private would seem to be wholly without justification.

Considerable prejudice still exists, and will continue as long as terms such as sin, vice, crime, abnormality, deviation, treatment and cure remain in use as descriptions of homosexuality or its 'correction'. Nevertheless, there have been important social (and legal) adaptations in recent years, and this is to be encouraged, for as with other minority groups, the rights of people with homosexual proclivities deserve to be respected, provided the well-being of others is safeguarded.

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Editor's note

We hope to run further discussions and commentaries on this subject in future issues of the *Journal*. Comments on or any correspondence related to the above article will be welcomed by the Editor.

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