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Two Types of Cross-Gender Identity

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A revision of the typology of male cross-gender identity was carried out by means of formalized, easily replicable methods. The results suggest (1) that there are two discrete types of cross-gender identity, one heterosexual, the other homosexual; (2) that transvestism, and closely related conditions of cross-gender identity, occur exclusively or almost exclusively in heterosexuals; (3) that of the two types of transsexualism distinguished in this study, type A is, in heterosexuals, very rare or completely nonexistent; (4) that (in the course of time) transvestites or borderline transsexuals (defined below) may develop sustained cross-gender identity, as observed by Stoller (1971); (5) that although, according to Hoenig and Kenna (1974), transsexualism by itself is not an anomalous erotic preference, it is (virtually) always either preceded by transvestism or accompanied by homosexuality or cross-gender fetishism.

KEY WORDS: cross-gender identity; erotic sex preference; transvestism; transsexualism.

INTRODUCTION

Cross-gender identity is a virtually sustained or intermittently occurring wishful fantasy about being a person of the opposite sex. This

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study investigated (1) the validity of the clinical impression that particular modes of cross-gender identity occur, with, at most, rare exceptions, only with heterosexuals and that other modes are limited to homosexuality; (2) whether it is likely that transsexualism (which is not an erotic preference) is always preceded or accompanied by an anomalous erotic preference—homosexuality, transvestism, and/or cross gender fetishism (in contrast to fetishism proper, cross-gender fetishism is characterized by the subject's fantasizing, during fetishistic activity, that she or he belongs to the opposite sex and that the fetish, in such cases always an object characteristic of the opposite sex, is used to induce or enhance cross-gender identity).

The study proceeded in four steps. In step I, indicators of hetero- vs. homosexual interest, and of extent of partner affinity, were developed which then were used in the following steps. Step II tested the hypothesis that the dimension of hereto- vs. homosexuality plays a major role in the interindividual variation of cross-gender identity. Step III assessed whether it is possible to distribute the sample of male cross-gender identity patients in a simple, formally rigid and unambiguous way among the various presently used diagnostic categories (within the realm of cross-gender identity) and whether there is a clear difference between the distributions of heterosexual vs. homosexual patients. In step IV the results of step III were tested by less simple but equally unambiguous methods.

Before proceeding further, we define the terms hetero-, homo-, and bisexuality. Heterosexuality is the sustained erotic preference for persons of the opposite sex, homosexuality, that for persons of the subject's own sex—when there is a virtually free choice of partner not only as to sex but also as to other attributes that may codetermine erotic attractiveness. In this definition, the term sex denotes male type or female type of externally visible gross somatic features ("body shape"), particularly the type of external genitalia. Homosexuality is defined analogously.

The terms homo- and heterosexuality, according to this definition, denote only an erotic preference for body shape and not a preference for the type of sexual behavior of a potential partner or for the type of one's own preferred sexual behavior. A particular male may erotically prefer female body shape, i.e., be heterosexual, and at the same time have a preference for male-type behavioral or attitudinal components in his partner or for female-type components in his own sexual behavior.

The definition of bisexuality or bisexuality "proper" is based on the same set of observations as are the terms heterosexuality and homosexuality, i.e., an erotic preference for sex type of body shape. The smaller the relative erotic preference for the body shape of one sex over the other, the higher the degree of bisexuality. The highest degree, i.e., about equivalent bisexuality, is reached when there is virtually no difference between erotic responses to the body shapes of females and males, provided the

erotic responses are substantial. A subject's capacity to become sexually aroused by true or imagined tactile sexual interaction with persons of either sex need not necessarily be based on any considerable degree of bisexuality proper (Freund, 1974).

SUBJECTS

The source of subjects for this study was the Gender Identity Clinic of the Clarke Institute of Psychiatry. With the exception of those diagnosed by a team of clinicians to be mentally defective, prepsychotic, or psychotic, all male (according to external genitalia) patients were included who appeared during a particular period of time and who answered at least one of these two questions in the affirmative: (a) "Have you ever considered having sex reassignment surgery?" (b) "Have you ever felt like a woman?" For question (a), "unsure" was also counted as affirmative. Of the 136 subjects who passed the criterion (mean age of the subjects was $\bar{X} = 30.13$, SD = 10.60), 124 answered both questions in the affirmative. According to their self-reports, 14 subjects had not reached an educational level of 8 grades completed, and 12 subjects had graduated from universities.

METHOD

Apart from the usual clinical interview, including history taking, each subject completed a questionnaire that contained the items of 7 scales: (1) an *Andro* scale that scores the extent, indicated by the subject, to which he feels erotically attracted to males; (2) a *Gyne* scale that, similarly, scores attraction to females; (3) the main part (part A) of a *Gender Identity* scale (GI) for males (Freund *et al.*, 1977) that measures degree of feminine gender identity; (4) a *Fetishism* scale (Fet); (5) a *Masochism* scale (Maso); (6) a *Sadism* scale (Sad); and (7) a scale indicative of heterosexual experience (Het Exp). The reason for including the Maso and Sad scales was the clinical experience that strong masochism in males often occurs together with transvestism. Additionally, a *Lack of Partner Affinity* index (LPA) was calculated that measures strength (or lack) of interest in erotic (or sexual) partners—Hirschfeld's (1910) "automonosexualism." The LPA score is the subject's Z-score (with the sign reversed) on either the Andro or Gyne scale, whichever is higher. The correlations of LPA with the Gyne and Andro scales were 0.05 and −0.45, respectively. It is likely that Bentler's (1976) "asexual" transsexuals would belong among those of our

Table I. Characteristics of the Scales

Scale[a]	Number of items	Subject groups used in item analysis[b]	Number of subjects	α[c]	%[d]
Andro	13	CGI group; andro controls; andro patients; homo pedohebe	437	0.93	59.8
Gyne	9	CGI group; hetero controls; andro controls; andro patients; homo pedohebe; hetero pedohebe	605	0.85	40.4
GI(A)	19	See Freund *et al.*, 1977			
Fet	8	CGI group; hetero controls; andro controls; homo pedohebe; hetero pedohebe; courtship disorder; sadists; hyperdominants; masochists	444	0.91	59.6
LPA		See text			
Maso	11	CGI group; hetero controls; andro controls; homo pedohebe; hetero pedohebe; courtship disorder; sadists; hyperdominants; masochists	491	0.83	33.7
Sado	20	CGI group; hetero controls; andro controls; homo pedohebe; hetero pedohebe; courtship disorder; sadists; hyperdominants; masochists	491	0.87	28.0
Het Exp	6	CGI group; hetero controls; andro controls; andro patients; homo pedohebe; hetero pedohebe	606	0.82	47.8

[a]The first column contains abbreviations for scales: Andro measures erotic attraction toward physically mature males; Gyne measures such attraction toward females; GI(A) measures feminine gender identity; Fet measures fetishism; LPA (index) measures extent to which there is a lack of partner affinity (the LPA score is the subject's Z-score, with the sign reversed, on either the Andro or Gyne scale, whichever is higher); Maso measures masochism; Sado measures sadism; Het Exp measures heterosexual experience.

[b]In the third column, CGI refers to patients with cross-gender identity; courtship disorder refers to patients suffering from voyeurism, exhibitionism, toucheurism, or the pathological rape pattern; pedohebe refers to patients suffering from pedophilia or hebephilia.

[c]Kuder Richardson alpha reliability index.

[d]Percentage of total variance accounted for by the strongest factor.

patients who had the highest LPA scores. The scale items were derived from the senior author's clinical experience.

Table I shows, for each scale, the number of items, the subject groups (cross-gender identity patients and others) and the numbers of subjects used in item analysis, the alpha reliability of the scale, and the percentage of the total variance of scores accounted for by the main single factor arrived at by principal component analysis. The scales will be supplied by the authors on request.

In comparisons of subject groups on scales, analysis of variance was employed, followed by the Duncan test. In cases of insufficient

homogeneity of variance that could not be remedied by the usual transformations of data, the Kruskall-Wallis analysis was used, followed by the Extended Median test and Fisher Exact Probability tests. In these cases the Kurskall-Wallis statistic (K-W), df, and p will be reported. Significance levels of differences between single diagnostic groups will not be given separately, but, wherever the statement is made that there was a difference between such groups, the level of significance of this difference was at least $p = 0.05$.

PROCEDURES AND RESULTS

Step 1: Assessment of Hetero- vs. Homosexuality

A simple but formally rigid criterion was used to differentiate between heterosexual and homosexual patients. While separate scales were originally used as indicators of heterosexuality and homosexuality (as also postulated by Storms, 1980), the correlation between the Andro and Gyne scales was high enough (−0.71) to warrant combining them to represent a unidimensional heterosexuality-homosexuality trait. This was carried out by subtracting each patient's Gyne Z-score from his Andro Z-score. A comparison of this Andro vs. Gyne index (AG), with the diagnosis of hetero- vs. homosexuality arrived at by clinicians who did not know this score showed a high degree of concordance. If the postulate is made that all patients with AG below 0.00 are diagnosed as heterosexual, and those above 0.00 as homosexual, then among the 136 cases there were only 7 discrepancies between clinical diagnosis and diagnosis by AG; in an additional two cases, no clinical diagnosis was made as to preferred partner sex. All the discrepancies occurred within a narrow middle range of scores (from −0.50 to +0.50, embracing 17 cases, i.e., 12.5% of the sample). It would therefore seem advisable to employ AG for this range of scores only as an ancillary diagnostic device. Keeping in mind this limitation, the result of the described validation would appear to be a sufficiently reliable basis for differentiating between hetero- and homosexual subjects, simply according to the sign of the AG index. This criterion was adopted for the present study.

Step II: Importance of Hetero- vs. Homosexuality in the (Interindividual) Variation of Cross-Gender Identity

To find out how much hetero- vs. homosexuality contributes to the interindividual variation of the phenomenon of cross-gender identity,

a principal component analysis was carried out using the scores achieved by the 136 subjects in our sample on the 7 scales and the LPA index. For each scale the loading on the first (i.e., strongest) factor was assessed. This first factor accounted for 47.3%. We call it *type of cross-gender identity factor.* The remaining factors were much smaller and will therefore be ignored. No factor rotation was employed (see Garside and Roth, 1978).

The highest loading on the cross-gender identity factor was that of the Gyne scale, the next highest that of the GI(A) and Fet scales and that of the Andro scale (0.91; −0.79; 0.79; −0.78). The loadings of the Het Exp, Maso, Sad, and LPA scales, on this factor, were much lower (0.62; 0.50; 0.58; −0.38).

A combined cross-gender score was compiled by multiplying every scale score by its factor loading with reversed sign and adding these weighted scores. The frequency distribution of these combined cross-gender scores (CCG) showed a unitary trend and not discrete types. This is likely due to self-selection of clients of a gender identity clinic where recommendations are made for sex reassignment surgery (relatively few transvestites, and not many more borderline transsexuals, were seen).

Step III: The Four Diagnostic Categories

The four categories were derived from current trends in differentiating between types of cross-gender identity (Buhrich and McConaghy, 1977a,b, 1978, 1979). Let us first define these four categories:

1. *Transvestism* is the condition in which a person fantasizes her- or himself as a member of the opposite sex only when sexually aroused. If conceived of in this way, transvestism is an erotic preference (Freund, 1978). In the vast majority of such cases, clothing characteristic of the opposite sex—rarely some other symbol of cross-gender identity—is a highly arousing fetish (Stoller, 1968, 1971).

2. The term *borderline transsexualism* will be used for a state of gender identity fluctuating substantially between female and male types in a sexually nonaroused person. This category corresponds to Buhrich and McConaghy's (1977b) "marginal transvestism."

3. *Transsexualism* is a subject's sustained cross-gender identity that is also present when there is no sexual arousal and includes the wish that her or his body be of the opposite sex (Benjamin, 1968). However, some patients afflicted by transsexualism do not ask for sex reassignment surgery proper. They wish only for a partial anatomic change, in particular to have female breasts (Benjamin, 1968). In the present context, *sustained* indicates there has been no reversal of gender identity over a period of at least 1 year.

According to Hoenig and Kenna (1974), there is no reason to include transsexualism among the anomalous erotic (or sexual) preferences. These authors' main argument is that the response of transsexual subjects to pharmacological reduction of sex drive, and to castration, is very different from the response of persons with anomalous erotic preferences. In contrast to the radical diminution of erotic or sexual acting out of an anomalous erotic pattern, transsexualism continues unabated (or develops further).

4. *Two types of transsexualism* will be distinguished: type A, which is neither preceded by transvestism nor accompanied by cross-gender fetishism; and type B which is preceded by transvestism and/or accompanied by cross-gender fetishism. This differentiation is derived from the diagnostic rule, introduced by Baker (1969) and confirmed by Stoller (1971), that a single episode of cross-dressing, associated with sexual arousal, suffices to exclude a diagnosis of transsexualism (our type A). Buhrich and McConaghy (1979) use the term *fetishistic transsexualism* for such cases.

The differential diagnosis among categories 1 to 4 was according to the answers to two questionnaire items. Item (A) pertains to the relationship between sexual arousal and cross-gender identity feelings, and item (B) pertains to presence or absence of cross-gender fetishism. The alternative answers are as follows: (A_1) has felt like a woman only when wearing at least one piece of women's underwear or clothing; (A_2) has felt so in such a situation and occasionally at other times as well; (A_3) has felt this way at all times and for at least 1 year; (B_1) has felt sexually aroused when putting on women's underwear or clothing; (B_2) has never felt sexually aroused in this situation; (B_3) has never put on female attire.

Figure 1 shows the combinations of alternative answers A_1 to A_3 and B_1 to B_3 according to which each patient was assigned to any one of the four diagnostic categories and the distribution of these diagnostic categories among 54 heterosexual and 75 homosexual patients. Hetero- and homosexuality, respectively, were assessed by the AG index in the earlier mentioned manner. Seven patients had to be omitted from this diagnostic procedure. Three of them had failed to give information pertaining to (A), and four patients gave a contradictory response by combining (A_1) or (A_2) with (B_2) or (B_3).

With one exception, all patients who were transvestite or borderline transsexual (according to their self-reports) were heterosexual. In contrast, two-thirds of the homosexuals, vs. only about 10% of the heterosexual patients, obtained a diagnosis of transsexualism type A.

Among the five atypical heterosexuals, three had AG scores between -0.50 and $+0.50$, i.e., in the earlier mentioned narrow range of weak diagnostic efficacy in which all the discrepancies between clinical and index diagnoses of hetero- vs. homosexuality occurred. Two of these three cases

Mode	A	B	Het	Hom
Transvestism	1	1	10	0
Borderl. trans.	2	1	19	(1)
Type B transsex	3	1	20	22
Type A transsex	3	2 (3)	(5)	52

Fig. 1. Four modes of cross-gender identity in heterosexual and homosexual males: A_1, has felt like a woman only when wearing at least one piece of female underwear or clothing; A_2, has felt so in such a situation and occasionally at other times as well; A_3, has felt this way at all times and for at least 1 year; B_1, has felt sexually aroused when putting on female underwear or clothing; B_2, has never felt sexually aroused when putting on female underwear or clothing; B_3 (in parentheses), has never put on female attire (in the whole sample there were only 3 cases of this kind). Circled numbers indicate the six atypical cases.

were among those seven discrepancies between clinical and AG diagnosis, and one of these two patients was, according to his case history, clearly homosexual. The fourth case of type A transsexualism had an AG score of −0.61, close to the range of weak diagnostic efficiency. In only one heterosexual case was the AG score clearly out of this realm. The AG score of the homosexual patient who had to be diagnosed as borderline transsexual was also within the range of low diagnostic efficacy of the scale. It is therefore easily possible that the atypical cases are artifacts caused by the limitations of our presently available exploratory methods.

There was an appreciable difference in ages between heterosexual and homosexual type B transsexuals ($F = 9.4$; df = 3, 119; $p < 0.0001$). The heterosexual type B transsexuals were significantly older than any other group (mean age, 38.7). No age difference could be established between the combined transvestite-borderline transsexual group (mean age, 31.2) and the homosexual type B transsexuals (mean age, 32.2). The homosexual patients with the diagnosis transsexualism type A were younger (mean age, 25.7) than any other group.

Step IV: Differentiation among Diagnostic Groups by Scales

Apart from hetero- vs. homosexuality, which was derived from scales, the simplicity of the criteria of grouping of subjects in step III

invited doubts as to whether the result would be altogether meaningful. Therefore, the diagnostic groups were also compared on our set of scales and on the combined cross-gender identity scores. Although this comparison distinguished between heterosexual and homosexual subjects according to the AG index, the subject groups were also compared on the Gyne and Andro scales separately, bearing in mind that these self-report scores need not always behave in a reciprocal fashion as if representing a unidimensional continuum between hetero- and homosexuality (see Storms, 1980).

Figure 2 shows, for the Cross-Gender Identity score (CCG) and for each of the seven separate scales, whether there were significant differences among the individual diagnostic groups and which group had the higher or lower standing.

These are the results of the tests of significance (see Method section) of the overall differentiation by scales among the diagnostic groups: for CCG, K-W = 84.2; df = 3; $p < 0.0001$; for Gyne, $F = 141.5$; df = 3, 119; $p < 0.0001$; for Andro, K-W = 84.0; df = 3; $p < 0.0001$; for GI(A), K-W = 73.9; df = 3; $p < 0.0001$; for Fet, $F = 38.5$; df = 3, 119; $p < 0.0001$; for Het Exp, $F = 13.6$; df = 3, 119; $p < 0.0001$; for Maso, K-W = 17.5, df = 3; $p < 0.001$; for Sad, K-W = 17.4; df = 3; $p < 0.001$.

		CCG	GYNE	ANDRO	GI(A)	Fet	Het Exp	Maso	Sad
1)	Transvest-borderl. trans.								
vs	Het type B transsex	0	(+)	(0)	-	(+)	(0)	(0)	(0)
vs	Hom type B transsex	-	+	-	-	(+)	+	(+)	(+)
vs	Type A transsex	-	+	-	-	+	+	(+)	(+)
2)	Het type B transsex								
vs	Hom type B transsex	-	+	-	(0)	(0)	+	0	0
vs	Type A transsex	-	+	-	-	+	+	+	0
3)	Hom type B transsex								
vs	Type A transsex	-	(+)	(-)	-	+	0	0	0

Fig. 2. Comparison of diagnostic groups on scales. The diagnostic groups are indicated in the first column. Each of the diagnostic groups in this column, marked (1), (2), and (3) is compared with the diagnostic groups indicated in the succeeding rows, which are not marked by numbers. The remaining eight columns show the comparison of diagnostic groups on one of the scales: CCG, the combined cross-gender identity scale; Gyne, the scale measuring degree of erotic interest for females; Andro, the scale measuring the same for males; GI(A), part A of the gender identity scale (for males); Fet, the fetishism scale; Maso, the masochism scale; and Sad, the sadism scale. The result of the statistical comparisons of subject groups on scales are as follows: a plus sign indicates that the diagnostic group in the nearest row above, marked by (1), (2), or (3), scored significantly higher than the subject group indicated in the row to which the cell belongs; a minus sign indicates the opposite; and a 0 indicates that there was no significant difference between groups. Results of these comparisons that may be of particular interest are circled.

The majority of these results were trivial, and their only significance is that of a confirmation of the grouping of patients into categories by the few criterial items used in step III. However, some among these results are interesting by themselves: (1) there was no appreciable difference between the two heterosexual groups on the combined cross-gender identity score, on heterosexual experience, or on masochism and sadism, but the combined transvestite-borderline transsexual group was more fetishistic and more attracted to females than the heterosexual type B transsexuals, who indicated a lower erotic partner affinity in general; (2) the combined transvestite-borderline transsexual group showed more fetishism, masochism, and sadism than the two homosexual groups; (3) there was no appreciable difference between the heterosexual and homosexual type B transsexual groups on GI(A), where one could have expected such a difference.

DISCUSSION

The study was an attempt to arrive at an orderly description of the interindividual variation of cross-gender identity in males. In these cases, we are still largely dependent on information derived from patients' self-reports, and our study was correspondingly carried out by means of self-report scales.

From our clinical experience, we had gained the impression that the dimension of hetero- vs. homosexuality accounts for the largest proportion of interindividual variance in this realm, and the present study tested this conjecture by principal component analysis (step II). The result showed that the two scales from which our index of hetero- vs. homosexuality was derived were among those with the highest factor loadings on the strongest factor. Prior to that (step I) we had made sure the hetero- vs. homosexuality scales had a satisfactory extent of validity by comparing them with clinicians' impressions noted in the clinical patient charts.

Our next step (step III) formalized the clinical procedure of differentiating between various modes (diagnostic categories) of cross-gender identity, and assessed for each such category the numbers of hetero- vs. homosexual patients with this diagnosis, as well as these patients' mean age. The result showed that some diagnostic categories of cross-gender identity are closely associated with heterosexuality, others with homosexuality.

Since step III was based on a very simple set of differentiators between the diagnostic categories, step IV was to check, by means of scales, whether differences between diagnostic categories that could be expected

would, indeed, emerge in terms of scale scores. The result of step IV was satisfactory in this respect.

In summary, the results of steps I to IV supported the main hypotheses of this study: (1) apart from rare exceptions, some modes of cross-gender identity occur only in heterosexuals, others only in homosexuals; (2) transsexualism is virtually always accompanied or preceded by a corresponding anomaly in erotic preference. If accepted at face value, the present results would suggest modification of these hypotheses by replacing the words *only* and *always* by *in the vast majority of cases.* However, if the earlier discussed context is to be considered, in which the six contradictory observations occurred, the original version of the hypotheses would appear viable.

According to Stoller (1971) and also to Bancroft (1972), transvestites experience increasing cross-gender identity with increasing age. Buhrich and McConaghy (1979) tested this claim by comparing the ages of their "nuclear" transvestites (our transvestites), "marginal" transvestites (our borderline transsexuals), and fetishistic transsexuals (our type B transsexuals). No significant age differences could be ascertained. Buhrich and McConaghy also found that the histories of these groups differed with respect to gender identity. They concluded that transvestites do not experience a gradual increase in cross-gender identity and that transvestism, on the one hand, and "marginal" transvestism or fetishistic transsexualism, on the other, are discrete independent syndromes. The results of the present comparison of the diagnostic groups in terms of subjects' age would, however, appear to support Stoller's view of increasing cross-gender identity with age in transvestites (and/or in borderline transsexuals), a tendency that is not paralleled in the homosexual patients. On the other hand, the present study confirmed Buhrich and McConaghy's finding that the self-reports of the two heterosexual groups differed on early history of gender identity.

Figure 2 shows that, in contrast to the difference on the Gyne scale between the combined transvestite-borderline transsexual group and the heterosexual type B transsexuals, no difference could be established between these two groups on Andro and that the heterosexual (and homosexual) type B transsexuals indicated a lesser erotic partner affinity than the combined transvestite-borderline transsexual group. This would appear to indicate that, with decreasing "partner affinity," the original transvestite-borderline transsexual subjects develop stronger cross-gender identity, but without becoming homosexual. The first phase in this process would be the change from transvestism to borderline transsexualism (our sample was too small for a comparison of these two groups).

Buhrich and McConaghy's (1977b) thoroughgoing study confirmed the clinical notion that transvestism and transsexualism are discrete

syndromes and that transvestites tend to be heterosexual, transsexuals homosexual. In later publications (1978, 1979), these authors described subtypes within each of these two syndromes. The present study somewhat modified, but largely confirmed, this typology and showed that at least at the current state of available diagnostic procedures, which are based almost entirely on self-reports, the most useful differentiation between types of cross-gender identity is hetero- vs. homosexuality.

An interesting consequence of the documented extent of the difference between heterosexual and homosexual cross-gender identity is the question of whether this distinctiveness is due to the same disturbance interacting with different partner preferences (hetero- vs. homosexuality) or whether there is a more basic causal difference. Buhrich and McConaghy's (1977b) views tend to favor the first option. In contrast, from what is known about the prevalence of hetero- vs. homosexual cross-gender identity, one would expect the second possibility to be closer to the truth.

There are notable peculiarities in the prevalence of cross-gender identity, in respect to distribution across sexes and within families: (a) In females, transvestism would appear to be nonexistent (Kronfeld, 1923; Walter and Bräutigam, 1958; Hamburger and Stürup, 1953) or extremely rare, though transsexualism in conjunction with homosexuality might occur not much less often than in males. However, Randell (1959) thought one of his female transsexual patients was heterosexual. (b) It would appear that when cross-gender identity occurs more than once in the same family, all the afflicted members are either likewise homosexual and not transvestite or likewise heterosexual and transvestite. There are a number of direct, quite clearly described observations on at least two cases of homosexual transsexualism in one family. Edelstein (1960), Hore *et al.* (1973), and Stoller and Baker (1973) all reported on two homosexual transsexual brothers, Sabalis *et al.* (1974) about three such brothers. McKee *et al.* (1976) reported about two male homosexual transsexual members of a triplet and indicated that there was a third, not directly observed. There are three additional, rather thoroughgoing, reports on monozygotic twins (Anchersen, 1956; Green and Stoller, 1971; Hyde and Kenna, 1977), and Benjamin's (1971) cursory remarks on having seen two such pairs. However, simultaneous occurrence in monozygotic twins is not the same as simultaneous occurrence in more than one among regular siblings or other related persons. Therefore the monozygotic cases may not be pertinent with respect to familial prevalence.

There are some reasonably clear reports on direct observations of at least two cases of heterosexual cross-gender identity in one family. Karpman (1947) reported on two brothers, Liakos (1967) and Buhrich (1977) on simultaneous affliction of a father and son, and Krueger (1978)

on such concordance in a father and three sons. In a number of additional reports on familial occurrence, either only one of the probands was seen directly or the information given on the type of observed disorder is missing or inconclusive. This pertains e.g. to Randell (1971) who remarked that among his 340 transvestite patients he saw 9 familial cases; he did not elaborate further on this statement. There are other similarly inconclusive reports (Hoenig and Duggan, 1974). Our present knowledge on the distribution of transvestism and transsexualism, across the sexes and within families, would suggest that heterosexual and homosexual cross-gender identity may have a different etiology (no matter to what proportion its causes are experiential or genetic). However, this is still only a hypothesis because there are not enough thoroughly examined familial cases. The difference between female and male prevalence of transvestism also does not show conclusive evidence, because not enough is known as yet about anomalous erotic preferences in females.

Existing studies on brain pathology in cases of cross-gender identity are not very helpful either, in this respect. Too often there is no clear diagnosis of hetero- vs. homosexuality (Hoenig and Kenna, 1967; Freund, 1969; Nusselt and Kockott, 1976). The overall impression from these studies would also favor the hypothesis of a dual genesis of cross-gender identity.

It is hoped that, though largely limited to self-report data, the present study has supplied a rationale and methods that will make future analyses of familial data and of connections with brain pathology more useful.

ADDENDUM

Dr. Ray Blanchard has recently replaced the single item used in this study to assess presence or absence of type B transsexualism, by an expanded cross gender fetishism scale. Preliminary analysis of his data suggests that the proportion of type B transsexuals who are homosexual is much smaller than indicated by our results. This makes it very likely that the two types are even more distinct.

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