Aversion Therapy of Homosexuality

A pilot study of 10 cases

By JOHN BANCROFT

Until recently it was a widely held opinion that little could be done to alter the sexual orientation of homosexuals (Curran and Parr, 1957). Most therapists confined their efforts to helping the homosexual to adjust to his role. Now opinions are beginning to change. Bieber et al. (1962) with psychoanalysis and MacCulloch and Feldman (1965) with aversion therapy have reported a significant number of successes—where homosexual orientation has been lost and heterosexual orientation gained.

There is no shortage of patients who seek such a transformation and who suffer in one way or another from their homosexual role. It is becoming increasingly clear that in these patients the term homosexuality covers a range of clinical problems, some of which will be resistant to such therapeutic attempts, and some of which will respond satisfactorily. But as yet we are largely ignorant of the factors which decide such outcomes.

Aversion therapy of sexual disorders is a relatively new technique. So far very little careful experimentation has been done in this field, even though this treatment method lends itself to careful examination more readily than most.

Freud's study (1900), using chemical aversion, involves the largest number so far, 47 homosexuals being treated with a 25 per cent. improvement rate. This study is notable for its careful and long term follow-up data, but lacks details of the treatment method and its direct effects.

Feldman and MacCulloch have provided considerable detail about their electrical aversion technique (1965) and adequate follow-up data. Their 37 per cent. improvement rate in 49 homosexuals represents the best results to date. However, they provide relatively little detail about the manner of change occurring in their patients.

Bancroft and Marks (1968) reported the results of electrical aversion in 40 cases of sexual deviation, with some attention to the types of effect produced. Marks and Gelder (1967) reported the first 5 transvestites and fetishists from this group in considerable detail. So far this has been the most comprehensive attempt to describe the nature of change which occurs in this treatment.

This present paper describes in detail the results in the first 10 homosexuals from the above group, the minimum follow-up period being one year.

The aversive method most used in this study has been a new one. Its newness depends on the measurement of penile erections by means of a penis transducer (Bancroft, Jones and Pullan, 1966). These measurements during the course of treatment have provided a great deal of objective data, which will be reported elsewhere. This paper will concentrate on the more clinical aspects of the treatment and its results.

Maroon

Two aversive methods have been used. One of these (Method A) has been used in every case and was the method under investigation. The other (Method B) was used as an additional method in the last three cases only. The reasons for doing so will be given below (see discussion).

In method A, the patient was asked to produce erotic homosexual images whilst looking at photographs of males. Painful electric shocks were delivered to his arm whenever an erection developed up to a certain level. (In most cases the level used represented an increase in the circumference of the penis of approximately 0.6 mm. This reflects a change of which the subject is not usually aware but which is reliable and distinguishable from artifact.) Following this initial shock, further shocks were given at 15 second intervals unless the erectile response was falling or was once again below the threshold level.
Aversion Therapy

A minimum of 5 shocks was given in any one trial. If the threshold level of excitation was not reached by the end of 3 minutes, the trial was ended and a new trial was started with different photographs. On the average, 4 such trials were given in each session.

In addition each session included two further types of trials: one homosensual trial with no threat of shock and 3 heterosexual trials when photographs of females were used and the patient encouraged to produce heterosexual fantasies. These heterosexual trials were included for two reasons. Firstly to allow discrimination between homosensual and heterosexual eroticism and to avoid any suppression of homosensual eroticism generalizing to both. Secondly it was hoped that either by a practice effect or by an "anxiety-reduced" effect (due to withdrawal of the threat of shock) the heterosexual responses might be reinforced.

In the last three patients an alternative method was used in the last part of treatment (Method B). In this method, the patient was asked to produce specific homosexual fantasies without the use of photographs, and to signal as soon as he had the image clearly in his mind. He was then shocked (McGuire and Valon; 1964; Marks and Goldfar, 1970). In the second method, therefore the sexual stimulus was not contingent upon the erotic response but upon the fantasy.

The shock was delivered from a battery operated apparatus (for details see Marks and Goldfar, 1970). The strength of shock was adjusted for each patient. He was asked to state what level was most unpleasant without being unbearable. Sometimes, due to intolerance developing, the shock was increased during treatment.

At the start of each session the patient was asked to comment on how he had been since the last session, with particular reference to his sexual feelings and behaviour and mood. Apart from these routine questions conversation was kept to a minimum.

Between 30 and 40 aversive treatment sessions were given to each patient. Each session lasted from 1 to 2 hours. Patients D, H and J were treated as inpatients, having one or two sessions daily. The remainder were treated as outpatients having two or three sessions per week.

Following the course of aversive treatment, a variable amount of treatment time was spent, depending on the individual's requirements. This time was used mainly for supportive and directive psychotherapy, but other behavioural techniques have been used to some extent (e.g. desensitization of anxiety (Wolpe, 1958)). Details of any additional treatment will be given with each case.

Selection of patients. Any patient was included who wanted treatment for homosexuality and who was prepared to accept this treatment when it had been explained to him. No patient referred for treatment was refused treatment, but six patients decided against it. In each case the patient was told that the treatment was part of a research project and that no indication of the likelihood of success could be given. Four of the patients treated were actively seeking aversion therapy, having read about it in the lay press.

Results

To present the clinical results of such a study in a concise but meaningful way is not straightforward. The initial problems of the patients and hence the aims of treatment will be seen to have varied considerably. The use of a general measure of improvement (e.g. worse, unchanged, slightly improved, much improved) conveys little information to the reader. Some workers (McCullough and Feldman, 1970) have used changes in the Kinsey rating (Kinsey et al, 1948). The shortcomings of the Kinsey rating in this context are fairly clear. Firstly, a single rating should only apply to one defined period in time; a man who was "Kinsey 6" when treatment started may have been "Kinsey 0" earlier in his life and therefore presents a different problem to a man who has been "Kinsey 6" all his life. The Kinsey rating is also too crude for our purpose. It merely indicates relative dominance of heterosexuality or homosexuality without in any way quantifying either.

To overcome these difficulties in this paper the degree of sexual behaviour before and after treatment has been assessed by a point scoring system. Two scales (see Table 1) one for heterosexuality, one for homosexuality, have been used.

<table>
<thead>
<tr>
<th>Table 1</th>
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<tbody>
<tr>
<td>Homosexuality</td>
</tr>
<tr>
<td>Fantasi (with or without masturabation)</td>
</tr>
<tr>
<td>A. Not the exclusive type of fantasy but no obvious difference in importance or frequency from other types of fantasy</td>
</tr>
<tr>
<td>The most frequent or most important type of fantasy</td>
</tr>
<tr>
<td>B. Finds some females that he finds sexually attractive</td>
</tr>
<tr>
<td>Relationship with females when he finds sexually interesting</td>
</tr>
<tr>
<td>C. Takes them out for dates (or finds with sexually interesting)</td>
</tr>
<tr>
<td>Kinsee and exercising but no genital contact</td>
</tr>
<tr>
<td>D. Genital contact, but no sexual intercourse</td>
</tr>
<tr>
<td>Sexual intercourse, but less frequent than other forms of orgasm as sexual outlet</td>
</tr>
<tr>
<td>Sexual intercourse, as most frequent and satisfying form of sexual outlet and orgasm</td>
</tr>
<tr>
<td>Anxiety occasionally leading to impotence</td>
</tr>
<tr>
<td>Anxiety usually leading to impotence or avoidance of intercourse or no interest in initiating intercourse</td>
</tr>
<tr>
<td>Reliance on deviant fantasies during intercourse</td>
</tr>
<tr>
<td>More than 50%</td>
</tr>
<tr>
<td>Fantasi (with or without masturabation)</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Finds some males that he sees sexually attractive</td>
</tr>
<tr>
<td>Relationship with males he finds sexually attractive</td>
</tr>
<tr>
<td>Visits places where homosexual contacts may be made, for that purpose</td>
</tr>
<tr>
<td>Occasional physical contact with males producing sexual arousal but no orgasm in either person</td>
</tr>
<tr>
<td>Sexual contact with male leading to orgasm in subject and/or partner:</td>
</tr>
<tr>
<td>More than once a month but less frequent than heterosexual genital contact</td>
</tr>
<tr>
<td>More than once a month and more frequent than heterosexual genital contact or more than once a week, but less frequent than heterosexual genital contact</td>
</tr>
<tr>
<td>More than once a week, and the most frequent type of genital contact</td>
</tr>
<tr>
<td>Experiences anxiety or revolution during homosexual acts but does not present orgasm</td>
</tr>
<tr>
<td>Anxiety makes him impotent or avoid genital contact, or orgasm</td>
</tr>
<tr>
<td>Experiences no sexual arousal during homosexual act</td>
</tr>
</tbody>
</table>
Thus a representative score for any particular period in time can be allitered. As it is important to know the level of heterosexual and homosexual behavior in the past, three arbitrary pre-treatment time intervals have been used. Firstly the two year period preceding treatment, secondly the five year period preceding the first period and thirdly the period from the beginning of the five year period back to puberty. This third period will of course vary according to the age of the patient, but it can be taken very approximately to represent the adolescent and early adult phase. Scores for such long intervals are obviously difficult to assess, but with the special purpose of this score in mind, the 4 to 8 year interval with the maximum score has been taken as representative of that period.

Post treatment scores are given for the end of treatment and for each six month period during follow-up.

Figure 1 shows the mean scores for the group presented graphically. Table II gives the scores for each patient separately. These scores have been used to quantitate the effects of treatment in the following way. The scores at the end of treatment have been compared with the two years pre-treatment scores to give a combined heterosexual and homosexual “change” score.

In addition, the same comparison has been made between the two year pre-treatment period and the last 6 months follow-up period. This score has been called the “Improvement” score (Table III).

Using the scores in this way permits a quantification of improvement and enables correlations between improvement and other variables to be computed.

A brief historical description of each patient will be followed by a short account of his response during treatment and progress during the follow-up period. In this way it is hoped to provide the reader with a clinical picture of the types of outcome.

Patient A

History. A 36 year old artist of good personality. He had a weak father who died when he was eight, and a dominating mother with whom he had had an ambivalent and not very close relationship. Apart from a few sporadic

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### Table II

<table>
<thead>
<tr>
<th>Patient</th>
<th>Before treatment</th>
<th>Follow-up period</th>
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<tbody>
<tr>
<td></td>
<td>“A-cluster”</td>
<td>5 year</td>
</tr>
<tr>
<td>A</td>
<td>Homo</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Hetero</td>
<td>9</td>
</tr>
<tr>
<td>B</td>
<td>Homo</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Hetero</td>
<td>10</td>
</tr>
<tr>
<td>C</td>
<td>Homo</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Hetero</td>
<td>10</td>
</tr>
<tr>
<td>D</td>
<td>Homo</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Hetero</td>
<td>5</td>
</tr>
<tr>
<td>E</td>
<td>Homo</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Hetero</td>
<td>10</td>
</tr>
<tr>
<td>F</td>
<td>Homo</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Hetero</td>
<td>9</td>
</tr>
<tr>
<td>G</td>
<td>Homo</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Hetero</td>
<td>9</td>
</tr>
<tr>
<td>H</td>
<td>Homo</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Hetero</td>
<td>6</td>
</tr>
<tr>
<td>I</td>
<td>Homo</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Hetero</td>
<td>5</td>
</tr>
<tr>
<td>J</td>
<td>Homo</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Hetero</td>
<td>0</td>
</tr>
</tbody>
</table>

### Table III

<table>
<thead>
<tr>
<th>Patient</th>
<th>“Normal” Personality</th>
<th>“Abnormal” Personality</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Age</td>
<td>Change score</td>
</tr>
<tr>
<td>A</td>
<td>36</td>
<td>+3</td>
</tr>
<tr>
<td>B</td>
<td>38</td>
<td>+9</td>
</tr>
<tr>
<td>C</td>
<td>37</td>
<td>+13</td>
</tr>
<tr>
<td>E</td>
<td>36</td>
<td>+6</td>
</tr>
<tr>
<td>I</td>
<td>29</td>
<td>-2</td>
</tr>
</tbody>
</table>

Mean: -32 | 6-2 | 2-8 | Mean: -29 | 4-9 | 3-8

Correlation between improvement score and age: r = + .90

Table III shows homosexual incidents from the age of 16, he was clearly homosexual in his outlook. He married when he was 36. Homosexual urges first became prominent 4 to 5 years after this. Since then he has continued an active and satisfactory sexual relationship with his wife and has also had frequent “casual” homosexual contacts. He desired treatment to stop the homosexual urges which threatened his social and marital happiness.

### Follow-up

Four months homosexual incidents were much less frequent, and devoid of orgasm. But gradually he returned to his previous patterns. He was given a further course of treatment using method 31, this gave him greater control but only while the treatment was continuing.

Three and a half years after treatment homosexual urges were definitely weaker. After 30 sessions he was initiating homosexual encounters but finding his对其进行 is not impressive. This had never happened before. Treatment was stopped after 45 sessions when he felt he could control the urges.

### Course of treatment

After 12 sessions his homosexual interest was beginning to fluctuate. After 20 sessions the

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Fig. 1.—Ratings of Heterosexual and Heterosexual in 10 Homosexuals. Mean representative scores for 3 pre-treatment periods and for each six months post-treatment period.
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BY JOHN BANCRSTO

menstruation continue but the frequency is less than before treatment, the urge is less strong, and he is getting less pleasure from them. He is not so bothered by his homosexuality which now seems less important to him.

Patient B

History. A 47 year old white man, presented for treatment because he was married to a woman and was interested in maintaining his heterosexual relationships. He was married at the age of 20 to a woman who was two years older than he. They have three children, a son and two daughters. The children are now grown and living independently. The patient has been married for twenty years and has been sexually active with his wife throughout this period. He has been faithful to his wife and has never had any sexual relations with anyone else.

Counselor. After three sessions, the patient appeared to be making progress towards maintaining his heterosexual relationships. He reported that he was focusing on his marriage and family and was trying to avoid any thoughts or behaviors that would lead him back to his homosexual tendencies. He also reported that he was comfortable with his wife and that their sexual relationship was satisfying to him.

Follow-up. After one year of treatment, the patient reported that he had maintained his heterosexual relationships and was content with his current level of sexual activity. He continued to work on his self-esteem and sexual assertiveness, and reported that he was able to engage in sexual activity with his wife without feeling any anxiety or guilt.

Patient C

History. A 23 year old white man, presented for treatment because he felt that he was being observed by the police. He reported that he had been arrested several times for homosexual activities and was afraid of being caught again. He had been married for two years and was concerned about the possibility of losing his wife.

Counselor. After five sessions, the patient appeared to be making progress towards maintaining his heterosexual relationships. He reported that he was focusing on his family and avoiding any thoughts or behaviors that would lead him back to his homosexual tendencies. He also reported that he was able to engage in sexual activity with his wife without feeling any anxiety or guilt.

Follow-up. After one year of treatment, the patient reported that he had maintained his heterosexual relationships and was content with his current level of sexual activity. He continued to work on his self-esteem and sexual assertiveness, and reported that he was able to engage in sexual activity with his wife without feeling any anxiety or guilt.
experience. He did feel some attraction to females when younger but has always been frightened of them.

**Previous treatment.** N/A

After 9 sessions he was finding heterosexual fantasies easier and after 12 months he was reporting an intense interest in women. Though fluctuating in intensity, homosexual responses and interest continued for the rest of treatment. His homosexual interest and responses were slightly reduced during the middle stages of treatment but after 15 sessions they increased again. Treatment was stopped after 30 sessions when his homosexual interest was much the same as before treatment, but he now found women strongly attractive.

**Follow-up.** Following treatment he became depressed, his homosexual urges became more marked and his heterosexual interest lessened. He remained depressed for the next five months. Then, following a minor rejection by a homosexual friend, he was admitted to hospital having been found wandering the streets at night wearing none of his clothing. He showed no evidence of psychiatric behaviour. For the first month in hospital he remained isolated and mildly depressed. He then started on a diet and showed much improvement.

He was seen and last seen in August 1981, at which time his depression had cleared and he was improving. His interests fluctuated during the next three months. He made some progress after that.

**Case I.** A 34 year old policeman, married with two children. He had a frequent homosexual encounters at school, but nothing further until five years ago. He married when 21. At first he obtained some pleasure from sexual intercourse but this has steadily waned. Since becoming active homosexually he has been mostly interested in his wife (despite retards). He has had one homosexual "affair" for the past three years and it is not promiscuous. He was seeking treatment mainly for the sake of his wife and family.

**Previous treatment.** N/A

**Course of treatment.** Little improvement was made on either his homosexual or heterosexual interest, and he was discharged after 8 sessions. The effect was that he was left with a feeling of having nothing to do but having to continue them.

**Clinical Outcome.** As a group those to patients showed a reduction, though not complete absence of homosexual interest and behaviour following treatment. The effect was that the patient was associated with a marked reduction in his homosexual interests and behaviour.

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**Patient 2.** Age 34 year old policeman, married with two children. He had frequent homosexual encounters at school, but nothing further until five years ago. He married when 21. At first he obtained some pleasure from sexual intercourse but this has steadily waned. Since becoming active homosexually he has been mostly interested in his wife (despite retards). He has had one homosexual "affair" for the past three years and it is not promiscuous. He was seeking treatment mainly for the sake of his wife and family.

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**Clinical Outcome.** As a group those to patients showed a reduction, though not complete absence of homosexual interest and behaviour following treatment. The effect was that the patient was associated with a marked reduction in his homosexual interests and behaviour.
he took no notice of them. Patient E was able to think of homosexual fantasies with complete lack of interest.

Tulio's increase in heterosexual interest has usually developed initially as increased ability to sustain heterosexual fantasies during treatment. Later this would spread to masturbation where heterosexual fantasies would become more prominent and homosexual ones less and less intrusive. The tendency to find women attractive came still later. Patients F and H developed a strong response to particular photographs of women whilst not having the same degree of attraction to "real" females.

The first seven patients (A to G) were treated with method A alone. In this group 5 patients (B, D, E, F and G) showed suppression of homosexual erections in the early or middle stages followed by a re-emergence of these responses in the latter stages. In patients B, E and F this re-emergence was associated with an increase in heterosexual responses. It was thought possible that this heterosexual increase may have depended on the presence or return of the homosexual responses. In the last 3 cases, it was decided to use method A in the first half of treatment and then use method B in an attempt to suppress the homosexual responses whilst leaving the heterosexual ones intact.

Only in patient H has this combined method been adequately tested, and in this case it produced the predicted results. Method A produced strong homosexual and heterosexual responses; method B reduced the homosexual responses whilst the heterosexual ones continued. In patient I treatment was stopped soon after starting method B, and in patient J his responses were too inconsistent to allow assessment. The possible implications of the above findings will be discussed in more detail in another paper.

EMOTIONAL REACTIONS TO TREATMENT

Three types of emotional reactions will be considered: anxiety, aggression, and mood changes.

Anxiety. Two patients (A and D) reported no anxiety during treatment, and both appeared normal, though reporting the shock to be painful. This calmness was particularly striking in D who had been intensely anxious before treatment started.

Two patients (C and E) showed particularly high anxiety during treatment. In patient C, the anxiety was of phobic type, specifically related to sexual stimuli and the treatment situation.

In patient E, who had high anxiety (paroxysmal) before treatment, paroxysmal anxiety increased during treatment after an initial decline. But this was not specific to the sexual stimuli; in fact there was no evidence of conditioned anxiety to homosexual stimuli at all.

Patients B, G and H showed moderate or high anxiety in the first part of treatment. This then settled as they became used to the shocks, but increased again in the second half of treatment.

Aggression. There was little aggression expressed in this group. Patients A, B, C, F and J gave no evidence of aggression towards the therapist or to anyone else. Patient D was unco-operative and deceitful in the second half of treatment (when depressed). Patients F and G expressed some slight aggression towards the therapist on 3 or 4 occasions. Patients E and H showed the most aggression. Both these men were usually aggressive people, H neurotically so. E it caused no problem except in relation to his wife (see below).

Mood change.

Two patients (F and G) showed marked variation of mood during treatment. In each case the pattern was of increased heterosexual interest associated with elated mood followed by a depressive phase and increased homosexual interest. In both cases, this pattern was repeated several times during treatment and in patient F continued for several weeks after treatment ended.

Patient D, having felt cheerful and optimistic in the first half of treatment became depressed in the second half. This depression was associated with a negative attitude to treatment.

Patients B, C and G showed mild depressive mood changes during treatment which followed no obvious pattern. Patient H's mood continued to vary as before treatment. In patient F and J there were no significant mood changes during treatment.

During the follow-up period depressive mood changes were more marked. Patient G became depressed soon after treatment and remained so, in spite of antidepressant drugs, until admission to hospital 5 months later. Whilst showing some improvement following admission, the most marked improvement followed the use of Dianzapam.

Patient C was moderately depressed when he presented for treatment and has had several episodes of depression following treatment. The most severe was an acute reaction to his hetero-

sexual male friend's engagement. This resulted in a serious suicidal attempt following which his mood improved. He again became depressed when his own heterosexual relationship broke up. This depression responded well to Imi-

pramine, and his mood has remained satisfactory since.

Patient F has had two severe though short-

lived depressive reactions since treatment. The first occurred after his rejection by a woman.

Patients A, B and H have shown some depression during follow-up. In patient B this continued until he relapsed to his previous homosexual pattern, when his mood improved. Patients E and I have had no significant depression since treatment, and patients D and J have been more cheerful than before treatment.

Thus, of the emotional reactions to treatment, depression has been the most significant and the most serious. These patients (C, F and G) became sufficiently depressed to warrant anti-

depressant therapy, though in each case this has occurred in the follow-up period.

CHANGES IN OTHER ASPECTS OF BEHAVIOUR

Marital relationships.

Three patients were married at the time of treatment (A, E and J). Patient A's marriage has been happier and more settled since treatment. His wife thinks that he is a more contented husband and father. Patient E's marriage became slightly more disturbed following treatment. Anxiety which previously had been only obviously related to the sexual relationship became more obviously related to other problems, and became more obviously associated with aggressive feelings towards his wife in non-sexual situations. This required marital counselling which was followed by improvement but did not prevent a later relapse.

Patient I's marriage has not altered except that he is now more resigned to homosexuality and his wife more accepting of it.

General behaviour

Patients A, D, F, G and J are definitely more content than they were before treatment. A is much less disturbed by his homosexual behaviour. D is much less anxious and more settled than he has ever been before (especially in his work record). F is more self-confident; he can now use his excellent singing voice in public which he has never been able to do before. G is more self-confident and is finding it easier to make personal relationships. J has also shown striking improvements in both self-confidence and personal relationships (these changes had started shortly before aversion therapy, following the use of chlorodiazepoxide, but have continued without the drug).

The remainder have shown no significant change in this area and none can be said to be worse in his general well-being following treatment.

DISCUSSION

Clinical outcome

The long-term therapeutic results in this small series have certainly been modest, although striking short-term changes in sexual attitudes and behaviour have been achieved. The pattern of change for the group as a whole, shown in Figure 1, summarises well the type of effect that can result. A reduction in homosexuality has occurred from the "adolescent" phase to the period before treatment and the effect of treatment has been to restore heterosexual interest to its earliest highest level. Similarly, the difference between the homosexual and heterosexual following treatment is much the same as that in the "adolescent" period. In many ways, the same type of problem arises following treatment as was present during the adolescent period, and the final success of treatment will depend on the patient's ability to overcome factors (i.e. lack of confidence, anxiety about homosexuality, fear of sexual inadequacy,
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OF HOMOSEXUALITY

Selection of patients

MacCulloch and Feldman have stressed two
important factors in assessing suitability for
their method: age and personality. Not sur-
prisingly they found youth to carry a better
prognosis. In their patients under 30, 70 per
cent. showed improvement, whereas in the
over-30's, 45 per cent. showed improvement.
In the present series the same correlation be-

tween age and outcome does not occur (see Table III).

MacCulloch and Feldman classified the
personalities of their patients according to
Scheidler, into "normal," "self-insure" and
"othered" (mainly "weak willed" and "attention
seeking"). All but one of their successes were of
"normal" or "self-insure" type. This classifi-
cation of personality disorders is not acceptable
to the present writer, but some slight comparison
can be made by dividing the present series into
"normal" and "othered" categories. The only two
those who have significantly "abnormal"
personalities (i.e. personality problems, besides
the sexual orientation, which would be con-
dered worthy of psychiatric help) (see Table III).
The numbers are too small for proper
discrimination, but certainly no obvious
trends towards better results in the normal
group.

There may be an important difference
in composition of the two series. Possibly a
higher proportion of young patients with
alcoholics would have improved the results.

Method of treatment

Up to now writers in this field have stressed
the importance of modern learning theory
principles (i.e. S-R learning theory) in under-
standing aversion therapy (Franko, 1958;
Epstein, 1960a; Feldman, 1960a). In fact, it has
been often stated that the poor results of some
workers have been a consequence of their
failure to apply these principles, whereas with
the better results achieved the reverse has
applied. However, a careful examination of
the literature of aversion therapy in both alcoholism
and sexual disorders failed to show any clear
relationship between therapeutic outcome and
the degree of correct application of learning
theory principles (Bancroft, 1966). It is therefore
necessary to get the relative importance of the
precise technique into a proper perspective.

The essence of MacCulloch and Feldman's
method is that the patient learns to avoid
electric shock by switching off a slide of an
attractive male within a certain period of time.
Their workers have emphasized their view that their
superior results have depended on the use
of this avoidance learning paradigm. In animals,
a learnt avoidance response is usually a very
stable and persistent one. But they have paid
little attention to the substantial difficulties in
extrapolating from animal to man, especially in
the case of avoidance learning. It has been
shown experimentally that stable avoidance
responses can occur in man, but if the subject
is informed that no more shocks are to follow,
the avoidance response ceases at once (Turner
and Solomon, 1960; Graham et al., 1964). Mac-
Culloch and Feldman have therefore failed
to explain how the acquisition of this "switching
off" avoidance response has affected the sexual
behaviour outside treatment.

In the present series, there has been little
evidence of learned responses which could
account for the behavioural changes that have
occurred. And yet there has always been close
correlation between the erectile response and the
attitudes towards the patient (A) a convincing
and specific suppression of erections occurred
but this had little impact on the clinical outcome.
In conclusion (C) a convincing reduction of
conditioned anxiety or phobia to homosexual
stimuli developed and this has certainly been
effective in altering long term behaviour. But
such an effect appears to be rare in aversion
therapy (Bancroft and Marla, 1960). In the
remaining cases evidence of conditioning has
been either absent, transient or merged into
more complex attitude and emotional changes.

In the writer's opinion, attempts to under-
stand the effects of this treatment in terms of
conditioning and learning are bound to be of
limited value. Much more is to be gained if the
treatment is seen as a method of changing
attitudes. The direct effects of treatment mainly
involve conditioned anxiety and suppression or
facilitation of erections. These effects may be
best understood in conditioning terms, but they
are usually short-lived. It is the effects that
these transient changes have on the patients'
attitudes that seem to be more relevant to the
long term behavioural effects. When the changes
in attitude become translated into changes in
behaviour they then become more stable.
(Most of the relapses in this series can be seen as
reversal of attitude change following failure to
translate it into behavioural change.) The same
may be said of the other emotional reactions to
attitude change, such as depression or anger.
Affective changes such as these, when they occur,
are usually associated with attitude change although
the nature of this relationship is far from clear.
This is certainly an area in which further
research is needed and it would be a mistake to
view the affective changes merely as side effects
of an unpleasant treatment. They are probably
an integral part of the process. A great deal
of experimental work in attitude change has been
undertaken in recent years, and it is possible
that this would seem as relevant to the present
issue as the experimental work on conditioning
and learning. But discussion of the implications
of their findings would be out of place here
(Hovland et al., 1953; Festinger, 1957b; Hovland

If this viewpoint is accepted, then an
explanation for the superiority of MacCulloch
and Feldman’s results does suggest itself. In the
present study the use of a low, often subliminal
level of erection as the response-to-be-punished
has frequently resulted in variable and non-
desirable effects (Bancroft, 1969). Such confusing
or conflicting results could well have an adverse
effect on the process of attitude change. A clear
unambiguous type of response is perhaps more
likely to be effective. MacCulloch and Feldman's
method may be superior in this respect.

One further point about aversion therapy
needs to be made. It should be seen as one part
of the therapist's armamentarium and its com-
bination with other available methods of "attitude
change" needs to be understood. In the present
series the need for additional treatment has
not been quite clear. In the most successful
patient (G), the attitude change provoked by aversion
was only followed by significant behavioural
change after hospitalization and the use of
drugs. In patient E additional psychotherapy
was needed in the follow-up period, and patients
SUMMARY

1. This paper reports the attitude and behavioural changes and clinical outcome in 10 homosexuals treated with electrical aversion therapy. Two methods of aversion have been used, one in which electric shock was associated with erecile responses to deviant fantasies (used in all cases) and the other in which the shock has been associated with the deviant fantasy itself (used in 3 cases). Follow-up has ranged from three to one year.

2. Of the 10 patients, 7 showed significant changes in sexual attitudes following treatment, but in only three have these changes been sustained and in only one can the result be called completely successful.

3. The direct effects of treatment and the emotional reactions to it have been summarized. It is suggested that the changes produced cannot be adequately explained in S-R learning theory terms, and a more profitable approach is to consider the treatment as a method of changing attitudes comparable to methods investigated by social psychologists in a non-clinical setting. The stability of such attitude change will depend on its translation into behavioural change.

4. The justification for using an inherently unpleasant method of modifying attitudes requires confirmation from controlled comparative therapeutic trials. Such a trial is now in progress.

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