Reports from the Research Laboratories

of the

Department of Psychiatry

University of Minnesota

Therapeutic Treatments for Sex Offenders [1]

by

IAN MACINDOE

Report Number PR-71-3

April 20, 1971

Therapeutic Treatments for Sex Offenders[1]

by

Ian Macindoe

April 20, 1971

PR-71-3

[1]This review paper was completed while the author was supported by funds appropriated by the Minnesota State Legislature for the study of the legal, sociological and psychological status of sex offenders and their treatment.

"The correctness of the statement, 'with a satisfactory sex life, there are no neurotic disturbances,' could not be doubted. This contention, naturally, has individual as well as social consequences; the significance of its implications is obvious. But, in spite of Freud, official science refused to concern itself with sexuality."

Wilhelm Reich: "The Function of The Orgasm"

"Apart from psychoanalytic speculations, few investigators have studied the relation between personality and sexual attitudes and behavior."

Hans J. Eysenck: "Introverts, Extroverts and Sex"

FORWARD

A preparatory word to the reader is in order. The approach taken here is not concerned with the rights and wrongs of sexual activity. Emphasis is placed on the problem of how sexual interests, impulses and behaviors might be altered. That is, given a person's behavior pattern, and given his motivation to change that behavior, what range of techniques are available to effect the desired change? Accordingly, the mechanism and technology of sexual deviancy (its causes, manifestations and cures) is dealt with here, rather than the moral aspects. This intentional avoidance of moralism does not imply a lack of interest or concern for the ethics of intruding into a person's sexual life. The welfare of the sex offender must constantly be considered alongside the welfare of the potential victim. The ethical balance between the two will frequently lead to debate, and the writer's opinions in this regard will be obvious enough. However, a concern with the ethics of humane treatment is not the same as moralism (which implies a demand that others should conform to one's own moral standards).

Human sexuality is most commonly discussed in terms of loving relationships, sensitivity and mutual devotion - the religious, spiritual and emotional concomitants of sex frequently are emphasized. Readers familiar with such a context may well be perplexed, if not shocked, by the mechanistic approach adopted here. It may seem that the writer has a callous attitude to the subject, or has rejected a more sensitive treatment of the topic. The truth is that the traditional context has been purposefully ignored in favor of a set of concepts and terms consistent with experimental psychology. This does not mean that the more traditional approach and the psychological approach are incompatible. They are simply different levels of discourse. The mechanistic terminology used here is more suited to the behavioral engineering which is the focus of this paper.

This non-moralistic and somewhat mechanistic approach to the treatment of sex offenders and sexual deviancy stands outside the moral issues and can be accepted by people of very different moral persuasions.

THERAPEUTIC TREATMENTS FOR SEX OFFENDERS

INTRODUCTION:

The aim of this paper is to try to clarify most of the methods for producing changes in sexual behavior or preference among persons who desire such a reorientation. The author has attempted to remain detached from any particular therapeutic ideology, but his biases are bound to be reflected in his emphasis and sampling of the literature. Liberal use of quotations has been deliberately employed in order to give the reader a feel for some of the better and most illuminating writing in the area of therapy for sexual aberrations. No attempt has been made to review the field comprehensively. Rather, a sampling of the more methodologically relevant articles over the last decade has been emphasized. The literature to the end of 1969 has been closely scrutinized in preparing this paper. Occasional articles appearing during 1970 have been included, although no systematic attempt has been made to cover developments during the last twelve months. It needs to be pointed out, however, that this is a rapidly developing field of investigation. It is very likely that the publishing of the Report of the Commission on Obscenity and Pornography (1970) will herald a marked increase of investigations into erotic arousal and sexual behavior.

Some consideration is given to the nature of sex offenders and the circumstances in which attempts are made to change them.

Treatment techniques are dealt with as separate entities despite the fact that in practice a combination of approaches may be utilized concurrently. The emphasis is on methods rather than outcomes although the latter are incorporated where data are readily available. While any fully satisfactory study should report the outcome of a particular approach, the literature is notoriously incomplete and confused on this score. Many techniques are reported for single cases only or for an extremely limited series, usually without control groups, so that one is forced, in reviewing methods, to by-pass a rigorous assessment of relative effectiveness in terms of outcome. Such an assessment is, of course, absolutely essential in the long run if any decisions are to be made concerning the most appropriate and effective treatment.

Measurements methods for determining treatment effectiveness are discussed separately below. Outcome studies will continue to be an area of debate until valid and reliable methods of assessing treatment effects are more highly developed.

Conclusions and recommendations for the treatment of sex offenders must necessarily be speculative, if only because no final answers on how best to modify aberrant sexual behaviors and attitudes can confidently be given on the basis of research to date. A vigorous and extended program of research is beginning in this country, however, and one can anticipate clearer answers in the future.

SEX OFFENSES AND OFFENDERS:

The definition of sex offense used here is that given be Gebhard et al. (1965) as "an overt act committed by a person for his own immediate sexual gratification which (i) is contrary to the prevailing sexual mores of the society in which he lives, and/or is legally punishable, and (ii) results in his being legally convicted". It should be noted, however, that the emphasis in this paper is placed on sexual behaviors that are commonly regarded as psychiatrically aberrant. Specifically excluded from consideration are "offenses" which can hardly be regarded as criminally and psychiatrically deviant such as fornication, consenting acts between adult homosexuals, consensual acts under the sodomy statute, and adultery. Neither will much attention be focused on sexual behaviors which, while they may transgress usual

social custom, do not ordinarily constitute a hazard to other members of society, e.g. transvestism, fetishism. Bestiality and necrophilia are not frequent offenses and literature concerning them in recent years is almost nonexistent. Exhibitionism and peeping, while offensive to many, are minimally harmful to the adult victim.

One additional, minor reservation must be made concerning the definition quoted from Gebhard et al. above. There is evidence to suggest that not all sex offenses are committed with the aim of "immediate sexual gratification". For example, Cohen et al. (1969) have described a particular class of rapist, called by them the "rapist-displaced-aggression" type, in which a sexual excitation at the time of the offense is not a major feature. "The offender must masturbate to get an erection and in a large number of cases he cannot reach orgasm. It is readily apparent that the sexual behavior is not meant to gratify an intense sexual desire but rather is serving an aggressive motive" (Cohen et al., 1969, p. 250). In deciding whether a rape should be regarded as a sex offense, from a psychiatric point of view, one would want to know, then, whether the driving force was sex or anger.

Hence, sexual offenses which either involve force or intimidation, or which involve contact with young people, constitute the main areas of concern in the treatment of sexually aberrant behaviors. From the point of view of treatment, behavior disorders of a fixated, repetitive, obsessional, compulsive or impulsive kind are of greater interest than behavior which has occurred once and has never been a problem to the individual, nor to society, before or since.

Persons who repeatedly engage in acts which are both socially and psychiatrically undesirable have been, and should continue to be, subject to intensive research. Treatment will become increasingly effective as the parameters of the offender's personality and sexual behavior are better understood. Cohen et al. (1969) have elucidated four types of rapist and three types of pedophile, each type committing offenses which are identifiably different in their etiology, circumstances or execution. It is very probable that treatment stategies will need to be tailored to the particular type of offender and, within each strategy, the tactical details will need to be tailored to each individual's particular problem, as is the case with other kinds of behavior disorders.

Psychiatric diagnosis and disposition of sex offenders will inevitably be influenced to some degree by the professional and ideological orientation of the examiner, by the legal and social circumstances prevailing in the state, and by the psychiatric and social zeitgeist prevailing in the country. Smith (1968) quotes, as an example of this, Glueck's (1956-b) finding that 76% of the homosexual pedophiles in his series gave evidence of a sufficiently serious form of schizophrenic adaptation to warrant intensive ECT. In contrast, the current prevailing view is that the homosexual pedophile is rarely psychotic - a view which enhances the pedophile's chances of treatment under the sex psychopath statutes which frequently specify that the offender be non-psychotic.

Some of the complexities surrounding the nature of sex offenders and the circumstances surrounding their offenses can be appreciated through a brief consideration of illegal adult sexual conduct with children. Swanson (1968) made an intensive investigation of 25 such cases, designating 56% of them as having inadequate heterosexual adjustment, 24% as having a history of sexual deviation and the remaining 20% as being adequately adjusted to adult heterosexual relationships. He maintains there is no clear-cut pedophile type and that there can be a multitude of reasons for sexual conduct with a child - from regarding the child as a simple substitute for an unavailable adult woman, through an impulsive, or uncontrolled, ego-dystonic act, to a calculated and callous exploitation of a child's naivete to gain some immediate pleasure. Only about 1 in 4 were regarded by Swanson as typical of the classic pedophile: variously described as "impotent and

inadequate with mature women", "emotionally immature and physically underdeveloped", and as either "timid, passive and with strong feelings of sexual inadequacy" or "self-righteous, and arrogant". The majority of cases examined by Swanson "had one of several types of personality disorganization or inflexibility which, when accentuated by environmental factors, resulted in sexual activity with a child who, through convenience, replaced a preferred adult sexual object" (Swanson, 1968, p. 683).

A similar attempt to avoid oversimplified typing of sex offenders is characteristic of Kozol and his co-workers at the Center for the Care and Treatment of Sexually Dangerous Persons in Massachusetts. They make a thorough investigation of the offender's mental state at the time of his offense, as well as taking the circumstances of the offense into consideration. Such a detailed understanding of the case implies a more sophisticated assessment in the development of the most appropriate therapeutic strategy. "Impulsivity, unwillingness or inability to delay gratification, gross indifference to the interests of the victim, viciousness, brutality and sadism - all these are relevant to our final opinion...What was the patient's object choice in terms of an assault - a mature woman, a child or a youth? Was the fondling of little children associated with attempts at penile penetration? What is the general history of the patient's sexual behavior? If pedophilic, has it ever involved the use of force or violence? What has his reaction been to frustration or delay? Has his behavior been repetitious, complusive or impulsive? Has he ever had an apparently adult sex experience? How has he handled it? Has he regressed from such an experience to involvement with children? Has the patient with a mature sex adjustment vented his rage substitutively on an innocent victim when frustrated or angered with another person? What sort of fantasies does the patient have in relation to sex?" (Kozol et al., 1966, p. 81).

It will be appreciated, then, that neither the blanket legal term "sex offender" nor the medico-legal labels such as "rapist", "pedophile", "exhibitionist" and so on, necessarily imply either a common type of personality structure or a clearly defined syndrome of aberrant dynamics and behavior. The terms refer to a class of behaviors characterized by identifiable features they have in common and all of which fall outside the generally accepted limits of social approval. The causes of each "class of behaviors" may be multiple and could be substantially different from one case to another. In view of this it is likely that any single-theory or uniprocess approach to therapy is premature. The most effective techniques for identifiably similar cases of sexual aberration will emerge only gradually as research progresses pragmatically and is continually refined and adjusted.

TREATMENT MILIEU AND PROBLEMS OF MOTIVATION:

Most published work concerning unusual sexual behavior has been done with people who have solicited help from psychiatrists, psychologists and others. Only a relatively small proportion of the published reports involve incarcerated cases treated for sexual offenses. Where individuals with a sexual problem refer themselves to a therapist it can reasonably be assumed that they are highly motivated to change their sexual behavior. It is by no means clear that a prisoner is under the same, or even similar, high motivation. For example, Kozol et al. (1966) point out that patients whose release back to the community depends upon their apparent "cure" will be motivated to <u>appear</u> to have changed in order to attain their freedom: "Articulate, communicative patients possess the tools for artful manipulation of their environment, and their prime target is bound to be the therapists who hold the keys to their release" (Kozol et al., 1966, p. 84).

Many, if not most, people with continuing sexually aberrant behavior do not think of themselves as being in need of help. Generally, they manage to fulfill their socially disapproved sexual needs without placing their freedom

in jeopardy. If they are apprehended they not infrequently deny any problem or any need for treatment. Where treatment is offered under legal duress the prisoner's denial of his anxiety-provoking condition is aggravated by his public humiliation and his loss of family, community, employment and liberty. Under these conditions the question of motivation to change becomes critical. Even more critical is the question of how we assess real change as opposed to apparent change, protestations of felt change on the part of the prisoner, or statements of good intention for future conduct.

The overriding desire for release from a confining situation complicates all questions of a prisoner's motivation to change his sexual orientation. Motivation can be impaired by sex psychopath statutes which provide for indeterminate sentences or indefinite hospital commitment, as Smith (1968) has argued: "We know that inequitable sentences often have adverse effects on the sensitive motivation of prisoners who are undergoing treatment. Successful treatment requires that both the therapist and patient recognize when improvement has occurred. It is neither therapeutic nor economical to confine a patient after he has recovered. Prisoner and patient alike will "do time" easier when they can see an end to their confinement" (Smith, 1968, p. 619).

Even if one could assume no major difficulties with motivation, there are other extremely important shortcomings of the prison situation from a therapeutic viewpoint. The inadequacy of the prison situation is illustrated by Cohen et al. (1969) who describe the etiological and existential differences between persons classifiable as "rapist-displaced-aggression" and those classed as "rapist-impulse". The former type of patient tends to have a large number of social and adaptive skills and can therefore more easily be engaged in a classical therapeutic relationship so that positive results might be expected to be relatively rapid. However, in the case of the "rapist-impulse" patients "the sexual problem is secondary to the general inability to adjust to social demands and to effect a close, positive, interpersonal relationship. For patients so diagnosed, formal psychotherapy must take place in a context of an overall effort at socialization. And, as the antisocial behavior has had such an early onset (prepubertal years) and pervades so many aspects of the patient's life, the treatment will be a long and arduous process" (Cohen et al., 1969, p. 255). For this kind of patient the treatment milieu should facilitate interpersonal relationships which approximate as closely as possible normal community relationships, thus providing an appropriate context for socialization. One cannot help but agree with Smith's opinion that "it is much more difficult, if not indeed impossible, to conduct treatment of sexual deviants in correctional settings where the pressures of adaptation tend to cause the deviate to be shunned, if not completely isolated" (Smith, 1968, p. 72).

Apart from the above considerations the general authoritarian atmosphere that pervades prisons, the rigid structure of prison functioning, the interpersonal isolation and the ubiquitous homosexual context of social interaction are among factors working against successful treatment of sex offenders who are incarcerated under traditional conditions.

These kinds of considerations no doubt lie behind the following words of Pacht et al. (1962-a) who, after reviewing nine years' work on the treatment of sex offenders under the 1951 Wisconsin Sex Crimes law, concluded: "Obviously even an enlightened prison setting is not an ideal environment in which to conduct a flexible treatment program. Until we can build our own 'prison-hospital' for this group of offenders, we are forced to make many compromises which may not be therapeutic. Finding adequately trained therapists to work in a correctional environment remains a constant problem. We do not feel that we are anywhere close to giving optimum psychotherapy to each offender who can benefit thereby. A constantly haunting problem is our inability, because of the statutory requirements, to set up adequate control studies which would afford scientific validity to our work" (Pacht et al., 1962-a, p. 808).

FORMS OF TREATMENT

To some degree the breakdown of treatment programs into isolated treatment techniques is artificial and runs the risk of presenting a misleading picture to the reader. Nevertheless, in a review of this kind, in which an attempt is made to clarify and assess a variety of different approaches, a clear picture cannot emerge whenever the major forms of treatment technique are intermingled with ancillary procedures. The reader should bear in mind that none of the techniques considered below are utilized in total isolation from other influences on the patient. For example, if the patient's treatment is predominantly in terms of psychoanalytically-derived group psychotherapy, it should be supposed by the reader that the patient may also occasionally see a therapist in an individual (one-to-one) therapy session, that in addition the patient may be influenced therapeutically by others in his social surroundings, that sexual encounters or experiences may produce effects quite separate from formal therapy, and so on. Which experiences advance, and which retard, his sexual orientation may very well be a matter for conjecture under such circumstances.

The purpose of a scientific approach to the treatment of sexual offenders is to attempt to isolate those factors which appear to influence the offender's behavior in a desirable direction. Both ethical and practical considerations place severe limitations on the extent to which the scientific method can be used for this purpose. As the literature on the subject accumulates, as various treatment procedures are tried, modified, and tried again, it will (hopefully) begin to come clear as to which combinations of factors produce the most permanent, beneficial and desirable changes in the aberrant sexual inclinations of various types of sex offenders.

One statement can be made with the utmost confidence from the outset. There is no one method, no one technique, no one approach which is generally recognized as superior to all others. A continuing program of research will point us in the most hopeful directions for effective treatment, if only by identifying those procedures which are currently being used but which are clearly ineffective or inadequate After three years of intensive research on sex offenders in Sing Sing the researchers concluded, among other things, that "continued experimentation with treatment techniques is essential, if the individuals who are incarcerated for sexual offenses are to be successfully rehabilitated, and returned to the community with some assurance that they will not repeat their anti-social sexual acts. We have the distinct impression that a great deal can be done in this area, particularly with the newer treatment techniques that are being developed" (Glueck, 1956a, p. 89). The situation in 1970 is essentially the same as it was in 1956, there having been very little in the way of extensive research on the treatment of sex offenders in the intervening years. There is, perhaps, less reason for scepticism now than there was then, since the "newer treatment techniques" have had 14 years to develop.

One aspect of research in this area which has received little, if any, attention concerns the therapeutic qualities of the therapist. It may well be that for certain kinds of sex offenders there is an optimal kind of therapist - a therapist whose personal qualities, attitudes, manner and ways of relating to patients make him or her a more effective agent for change. "With sexual deviation, as with any emotional condition, there is no radical cure for its pain, no generally effective means for remediation, no universally applicable technique of psychotherapy that can be described in detail. Added to these difficulties of treating neurotic sexual suffering is the fact that the therapist himself is a human being, with all the psychogenic frailties, fears and regrets. It would naturally follow that the psychology of the therapist - that is, his or her own particular attitude and prejudices, both deep and superficial - must have a decided influence on the course of treatment and its impact on the patient" (Willis, 1967, p. 208). One strategy

for future research will no doubt be investigations of the interactions between a particular therapeutic emphasis (i.e. emphasis placed on a specific therapeutic technique) and a particular kind of therapist (i.e. male-female, permissive-controlling, and so on).

With these observations noted above, then, a consideration of specific treatment techniques follows.

I. INCARCERATION

There is little reason to suppose, on logical grounds, that imprisonment in and of itself should produce a desirable reorientation of a prisoner's aberrant sexual inclinations - unless one were to argue that his previous sexual predilection might be replaced by a preference for consensual or inflicted homosexual activity as a result of his sexual experience in prison. There can be no doubt that opportunities for normal heterosexual activities are negligible.

A current strong hypothesis concerning the causes of sexual deviancy is that a deviant masturbation fantasy is strengthened (or reinforced) by sexual pleasure and especially by the ecstacy of orgasm. The person is rewarded for having deviant fantasy by the sexual pleasure associated with it. Hence the fantasy is reinforced, and the person is more likely to use that deviant fantasy during further masturbatory sessions, which will further reinforce the fantasy. If the person acts upon the deviant fantasy - or, as psychiatric language puts it, if he "acts out" his fantasy - he can be called a sexual deviant. If this sexually deviant behavior also happens to contravene the law, and he is apprehended, he is called a sex offender.

Now this hypothesis has some very serious implications in relation to the incarceration of sex offenders. Among incarcerated men it is almost certain that the most frequent form of sexual activity is masturbation. If the sex offender's sexual acting out is related to his masturbation fantasies it can be assumed that these fantasies continue to be reinforced during his period of imprisonment, which would suggest that the potential for subsequent deviation is not diminished. In fact, it may be increased.

The only way one could begin to assess the effects of imprisonment on subsequent sexual behavior is in terms of recidivism. In both Minnesota and Wisconsin (Long et al., 1970) recidivism for sex offenders is around 10%. However, this is at best a poor indicator of the persistence of aberrant sexual behavior. It can be assumed that ex-prisoners with some degree of impulse control and sophistication will express their aberrant sexual behavior more discreetly and thus avoid detection. A careful breakdown on recidivism figures would be necessary to determine whether subsequent convictions were for substantially the same kind of sexual behavior for which a recidivist was first apprehended. If a particular offender had first served a sentence for sexually molesting a seven year old boy and was later charged with rape of a 50 year old woman, this inconsistency in sexual behavior would have serious implications for <u>any</u> form of treatment he had been given - in this case, incarceration.

On the other hand, in the absence of controlled studies, one cannot tell whether the rate of repetition of sex offenses by recidivists is the same, or is higher or lower than sex offense repetition rates for non-apprehended deviates. Any serious study of sex offenders should go to great lengths to differentiate those persons whose sex offense was only one incident in a long series of similar or related behaviors, as opposed to those whose offense would appear to be a single isolated incident in an otherwise apparently normal sexual adjustment. Such information has great relevance to treatment techniques. In any event, bald recidivism rates which fail to clarify these aspects of repeated offenses do not convey very much worthwhile information as far as treatment procedures are concerned.

II. MEDICAL APPROACHES:

A. CASTRATION:

The most thorough and critical assessment of surgical castration as a therapeutic treatment for sex offenders is that by Bremer (1959) who investigated the follow-up studies of legal castrations in Switzerland, Denmark, Germany, Holland and Norway. He cites a general agreement among authors of these studies that, provided it is sufficiently indicated, castration has minimal effects on the physical and mental health of castrates because "the somatic and psychic consequences outside the range of sexual life are surprisingly small." On the other hand, "all authors seem to be agreed that other, less radical treatment, if possible, should be tried before castration therapy is advocated" (Bremer, 1959, p. 302).

Bremer himself followed up 215 men who had been castrated in Norway. After raising the possibility that 13% of these cases may have ended with deteriorated health or death, he goes on to make the following points: (i) non-sexual criminality is unaffected by castration; (ii) among sexual deviates, psychopaths and morons about half are relatively satisfied with the results of the operation, while a third of them feel embittered about the experience; (iii) surgical castration is only of real benefit in cases of uncontrollable sexual urges; (iv) most castrates agreed to the operation in order to regain their freedom as soon as possible.

Vail (1968) quotes Sturup's three indications for surgical castration of males: "(1) Repeated sexual offense, or propensity thereto; (2) the subject must apply for it; and (3) there must exist a morbid state of dread or terror concerning the sexual impulse, so that it becomes a source of constant anxiety that can seemingly only be relieved by substantial limitation of the sexual impulse" (Vail, 1968, p. 136).

Sexual recidivism among castrates in Scandinavia and the Netherlands is between 2-3%. Bremer (1959, p. 305) notes that among institutionalized psychotic cases, for a period of 1-16 years after castration, 8-10% of castrates engaged in sexual practices that would have led to legal charges if performed outside the institution. Such an observation may be interpreted in two ways. First, it suggests that recidivism rates are an unsatisfactory measure of post-treatment sexual behavior. Secondly, it illustrates that castration in the case of psychotics does not always eliminate anti-social sexual behavior.

Sturup, the superintnedent psychiatrist at Herstedvester in Denmark, has been an advocate of castration for many years. The Herstedvester castrates were generally recidivists for whom prognosis was judged to be poor. Subsequent to the operation, released sex offenders recidivate at about 1/10 the rate for non-operated offenders who have had some years of treatment - a relapse rate that is approximately 30% to sexual and 20% to non-sexual offenses. Sturup is aware of expert reservations about castration and quotes Kinsey's opposition to castration laws based on scientific evidence of its effects on animals and humans. He agrees that castration should not be used punitively, nor to protect others. His support of castration is on humanistic grounds: "...an unhappy, terrified sexual offender may through castration be able to obtain so much help in managing life that he can obtain security against once more being overwhelmed by a situation ending in a new sexual offense which - and this we must always remember - he regrets deeply, regardless of what he says about it spontaneously" (Sturup, 1965, p. 262). It would be interesting to know whether the offender's "deep regret" dates from the time of the offense or from the time of his arrest.

In considering treatment for the sex offender Sturup makes a very basic distinction between offenders guilty of "one-time situationally conditioned" illegal behavior for whom prognosis is generally optimistic, and offenders whose criminal behavior is of a persistent character despite earlier legal action and whose prognosis is one of "increasingly more frequent violations

of the same nature". It is the latter group for whom castration is a real alternative in Sturup's opinion. He quotes sexual recidivism rates in Scadinavia generally as about 10%, composed of 6.9% rate for first offenders and 23% rate for previous sexual recidivists. In this group of persistent sexual recidivists Sturup concludes that many offenders suffer acutely from uncontrollable sexual drives and welcome castration as giving relief from their sexual urges. For these men the main beneficial effect is held to be that "their capacity to respond to sexual stimuli is diminished, as is their sexual fantasy life and their sexual interest in general" (Sturup, 1968, p. 17).

Glueck (1956a, p.89) expressed scepticism concerning the beneficial effects of castration reported in Denmark on the grounds that "it adds reality castration to the marked emotional concerns and fears about symbolic castration" prominent among sex offenders. He also points out that, since many sexual offenses are often a function of motives other than sexual gratification, castration is frequently of doubtful efficacy.

There is no evidence that surgical castration produces a general pacifying effect; nor does it harmonize emotional life. Its effect on anti-social behavior is limited strictly to the sexual sphere, and then only in cases of non-psychotic compulsive sex deviates with uncontrollable urges.

"It should always be decided whether castration is really necessary, whether it is the most expedient treatment of the case, and whether all other possibilities have been exhausted. From a medical point of view the bringing to bear of pressure (on the offender) is absurd" (Bremer, 1959, p. 319).

B. HORMONAL AND DRUG TREATMENT:

The use of estrogens in the treatment of sex offenders aims at the suppression of sex drive (libido) by inhibiting anterior-pituitary gonadotrophin production.

Golla and Sessions Hodge (1949), after reviewing articles concerning persistent sexual behavior for many years subsequent to castration, describe the treatment of 13 non-castrated patients with either estradiol benzoate or estrone. They report disappearance of sexual feelings within one month from the start of daily drug dosage, and this loss of libido is maintained so long as the drug is administered daily. They conclude: "In view of the non-mutilating nature of this treatment and the ease with which it can be administered to a consenting patient we believe that it should be adopted whenever possible in male cases of abnormal and uncontrollable sexual urge" (Golla and Sessions Hodge, 1949, p. 1007).

The case of a 33 year old man with "rape compulsion" fears is described by Bierer and van Someren (1950). This man had locked himself inside a room in his parents house for 15 years due to his fear that his sexual urge would lead him to rape women and children. Stilboestrol was administered by the authors to eliminate his sexual feelings while an intensive socialization treatment was used to accustom him to being in the presence of women and children without feeling fearful. After the patient lost his "rape compulsion" fears the hormone therapy was discontinued and the patient was integrated into the community. The authors felt it worthwhile reporting this single case as an encouragement to others "to experiment with the use of stilboestrol in the out-patient treatment of potential and actual sex offenders as an adjunct to various methods of psychotherapy and re-socialization" (Bierer and van Someren, 1950, p. 936).

Scott (1964) reviews hormonal treatment of sexual deviations up to the early 1960's and concludes that if a sufficient dosage is used there is always a diminution of sexual activity and sexual fantasy, although it "does not necessarily prevent sexual offenses" because patients may default, either consciously or unconsciously, in taking their tablets. Where failure to maintain dosage is not a problem, Scott claims the method is highly successful "in

those rather rare hypersexual individuals who engage in all sorts of normal and abnormal sexual acts at any time of the day or night, whose main preoccupation in life is sexual activity. The gratitude of these patients, for the relief which stilboestrol brings, is only exceeded by that of their wives" (Scott, 1964, p. 112).

Hormonal treatment to dampen or eliminate persistent sexual urges may well be a useful adjunctive measure preliminary to other treatment techniques which may be more permanent in their effects.

Servais (1968) reports the successful use of methyloestrenolone with 13 males who experienced difficulty in controlling their psychosexual disorders. After an initial daily dose of 20 mg. the dosage was reduced over a 6 to 12 month period to 5 mg. daily or on every other day. Six of the patients received this dosage for up to 2 years during which time their sexual disorders were alleviated. Servais considers methyloestrenolone to be an excellent inhibitor of the male libido, helping in the treatment of men with sexual troubles.

An optimistic report by Laschet and Laschet (1970) covers 110 men (50% of them sex offenders) treated orally with the antiandrogen cyproterone acetate in doses of 50-200 mg. per day. Cases were treated from a minimum of 4 months to a maximum of 4 years. The authors claim this treatment proved a great aid in the reconditioning therapy of sex offenders. Unfortunately, no outcome statistics are given in the abstract available on this work.

Using the same synthetic antiandrogen Horn et al. (1970) treated 26 patients over a 2½ year period. All their patients were described as suffering from hypersexuality or a sexual abnormality. The authors note that side-effects are minor, the suppression of libido and potency is reversible, and there is no contraindication for age level (although 3 of their pedophiles over 60 years of age and 2 adolescents had metabolic disturbances which complicated treatment) Again they point out that concurrent psychotherapy is aided by the libido reduction provided the patient is capable of "cooperation and personal understanding". Cases of senile dementia, chronic alcoholism and oligrophrenia were not amenable to this form of treatment. "Optimal suppression of libido and potency was achieved in 4 out of 6 delinquents having committed rape. The remaining 2 were aggressive polytropic criminals, where the prognosis had to be considered dubious. Treatment cannot be performed in psychotic delinquents and in patients with hypothalmic pathology" (Horn et al., 1970).

In the case of sex offenders a major problem in the use of chemical inhibitors of libido is the problem of daily administration. The answer to this problem might lie in the use of an implantable infusion pump which feeds small amounts of drug or hormone into the bloodstream at a constant rate. This implantable infusion pump, or "artificial gland", is surgically placed in an appropriate part of the body and can be refilled every month. It is currently being developed for clinical trials in the Department of Surgery at the University of Minnesota (Blackshear et al. 1970).

The use of the hallucinogenic drug, LSD 25, in the treatment of sexual aberrations has been tried by Ball and Armstrong (1961). They administered a single large dose on one three-day psychiatric admission and reported only two "successful cures" out of ten patients treated. LSD 25 is used to facilitate psychotherapy, so that improvement in a patient's condition is attributed to the psychotherapy made possible with the aid of the drug, but not to the effects of the drug itself.

III. BEHAVIORAL APPROACHES:

In the treatment of sexual aberrations, behavioral approaches essentially involve the application of the principles of conditioning and learning in an attempt to alter the direction of the client's erotic impulses and behavior. The principle of reinforcement (or reward) is central to all behavioral techniques.

Viewed from this theoretical frame of reference sexual arousal and orgasm

can be thought of as pleasurable and therefore reinforcing. Any stimulus (woman, man, child, clothing, etc.) which has regularly been associated with sexual pleasure, and hence reinforcement in the past, is likely to elicit sexual feelings in the future and is likely to be approached sexually. But if a stimulus has provoked sufficient fear or anxiety then there will be a tendency to avoid it (the woman, man, child and so on) and so avoid feeling fearful.

Basically what the behavioral techniques aim at are (i) to reduce fear/anxiety to socially acceptable situations (appropriate sexual overtures to a mature woman of legal age) so that the man can direct his sexual impulses in a socially acceptable way, (ii) to condition fear/anxiety to socially unacceptable situations (children, uninterested women, other men, underwear, etc.) so that the man comes to inhibit his sexual impulses and behavior in socially inappropriate situations, and (iii) to reinforce the man for socially appropriate sexual feelings and behavior.

From the point of view of a behavioral approach to the treatment of sex offenders the causes of a person's sexually deviant behavior are important only insofar as they are the relevant point to begin treatment. In many cases the behavioral therapist will decide there is little he can do to rectify, say, a disturbed relationship a man had with his mother forty years ago at the age of 4, but will begin, instead, to alter the reinforcing value of the man's rape fantasies, or his predeliction for fondling little girls. The emphasis is on changing his behavior rather than attempting to revamp his personality.

A. SYSTEMATIC DESENSITIZATION:

This technique has greatest relevance to sex offenders who are inhibited in social and sexual contacts with mature women. The inhibition results from anxiety whenever personal contact with women is contemplated. The aim of the technique is to "decondition" or "reciprocally inhibit" the feelings of anxiety in the presence of female stimuli. Since this is often done in a face-to-face situation with the therapist it is also called "verbal desensitization", although the term "cognitive desensitization" would also cover the cases in which visual stimuli, rather than spoken words, are used.

Systematic desensitization is the most common term used for the technique, the reason being that a systematic attempt is made to eliminate the client's anxiety to a whole hierarchy of fear-producing situations, starting with the least worrisome and gradually progressing to the most anxiety-inducing situations. This procedure was first popularized in the USA by Wolpe (1958) who utilized the progressive relaxation training developed by Jacobson(1938). The client is shown how to train himself in "deep relaxation", a state in which it is not possible to feel anxious since the autonomic conditions of anxiety and deep relaxation are mutually exclusive. The client is encouraged to imagine a mildly disturbing situation (e.g. talking to a woman at a party) while relaxed, so the relaxed state reciprocally inhibits the anxiety state the client would ordinarily experience in thinking about the situation. When the client no longer feels anxious about imagining this situation, the next most worrisome situation is presented,the client's anxiety to it is desensitized, and so on. Ideally, once the client can imagine these situations without anxiety a similar graduated desensitization should be carried out in the real life situations.

Hypnosis is sometimes used with suitable clients to produce a relaxed state. Another shortcut method to achieve relaxation is the use of short-acting barbiturate methohexitone sodium while carrying out the desensitization procedures.

An alternative, or additional, response to relaxation as an inhibitor of anxiety is that of self-assertion. In the case of social or interpersonal timidity the therapist can encourage the client to be assertive, providing various verbal reinforcements when the client emits the assertive behaviors.

A variety of techniques can be used to this end - role playing and social imitation being two common ones. A good deal of debate has gone on in the literature as to whether the desensitization of anxiety is the common element in most, if not all, forms of psychotherapy.

There is one aspect of systematic desensitization that could prove to be a problem for sex offenders for whom the technique would otherwise be indicated. This is the fact that, to consolidate the gains made by verbally desensitizing the client's anxiety, real life reinforcement of socially approved behavior should take place. For example, once a man's anxiety about intimacy with a woman has been systematically desensitized in a laboratory setting, his social and sexual approaches to women should then be reinforced by having pleasurable and successful social and sexual experiences with women. Of course this technique will be of most value to those men whose sexual difficulties involve inhibitions in performing socially approved behaviors, due to anxiety they feel toward mature women. Once the aberrant behavior has been inhibited or weakened, either due to systematic desensitization or via one of the other procedures discussed below, these men should be given the opportunity to be rewarded for expressing their sexuality in more conventional directions. That is, their social and sexual rehabilitation at this point will depend upon their having gratifying relationships with women. The lack of such opportunities is an obvious cause of failure in the treatment of sex offenders, particularly for those who are incarcerated or for older men to whom women are less available. Successful treatment along these lines is most likely when the man either has some kind of heterosexual relationship already established (e.g. a married offender), or for whom access to a sexually receptive female is made possible.

While most behavioral approaches to the treatment of sex offenders have used aversive conditioning (see below) some authors (e.g. Dengrove, 1967) claim that systematic desensitization is not only a more humane but also a more effective technique, particularly in treating homosexuality.

Kraft (1967) hypothesized that "the development of sexual deviations occurs in a setting where normal hetersexual development is inhibited" (p. 356), and describes systematic desensitization over ten sessions for a 22 year old art graduate who was disturbed by a variety of sexual aberrations including transvestism and sado-masochism. While it is probable that this young man's sexual "perversions" were nothing more than guilt over a marginal heterosexual adjustment, it is believable that desensitizing his anxiety towards sexual contact with mature women resulted in a disappearance of his sexual "aberrations", the acquisition of a girl friend and a normal heterosexual adjustment reported at twelve month follow-up.

A similar pattern of recovery is reported by Huff (1970) in a 19 year old homosexual who began to feel erotic to heterosexual fantasies as his anxiety towards women was desensitized. The youth was able to transfer this heterosexual eroticism from the fantasy situation to his contacts with real women in his environment.

Some indirect, but convincing, evidence that homosexuals find heterosexual erotic situations aversive resulted from a study by Ramsey and van Velzen (1968). Homosexuals, heterosexuals and bisexuals answered a questionnaire on which they rated their positive or negative feelings toward certain sexual situations. Those situations for which heterosexuals claimed greatest positive reaction were also the situations toward which homosexuals felt most negative. The authors recommend systematic desensitization to alleviate homosexual anxiety toward intimacy with females and comment: "If it is true that homosexuals are afraid of opposite-sex intimate situations, then depriving them of satisfaction in same-sex situations without providing alternative and more adaptive behavior will cause emotional problems and probable relapse" (Ramsey and van Velzen, 1968, p. 233).

In the above quotation the clause "depriving them of satisfaction in same-sex situations" refers to the use of aversive conditioning to inhibit

sexual arousal to male stimuli. Before discussing this in detail below it might be well to point out that at least one case has been reported in which both aversive conditioning and systematic desensitization were used in parallel (Levin et al., 1968). The case concerned a marginally homosexual young man who had felt guilt and discomfort on the two occasions of heterosexual activity in which he had engaged. He had fled from each encounter and felt unable to see either woman again. The therapists used an avoidance conditioning procedure to inhibit his homosexual tendencies while also using systematic desensitization to reduce his heterosexual anxiety and to increase his assertiveness in heterosexual situations. Satisfactory sexual intercourse with a female friend was reported at seven months follow-up and this was taken as evidence for the efficacy of the treatment. The authors point out that they reported this case "because it illustrates the application of therapeutic procedures derived from the laboratory study of learning...(and) points up the necessity of maintaining a flexible orientation to behavior therapy in order to deal with problems unique to the individual patient" (Levin et al., 1968, p. 160)

B. AVERSIVE CONDITIONING:

In the broadest terms the basic principle of any aversive conditioning procedure is to make an unpleasant stimulus contingent upon the behavior to be eliminated. For example, if a client's sexual arousal or thoughts or behavior in the presence of a socially inappropriate object is followed by an aversive stimulus there should be a tendency to inhibit those feelings, thoughts or behaviors whenever the same object is present in the future.

The general approach in the treatment of sexual aberrations follows the pattern used in the treatment of alcoholism in which an emetic produces nausea when alcohol is ingested. Indeed, as late as 1967 Strzyzewsky and Zierhoffer reported the successful treatment of an 18 year old fetishist whose arousal for female underwear was eliminated over a 5 day period via 14 nausea-inducing apomorphine injections. Franks (1967) has sketched the historical parellel between alcoholism and sexual disorders treated with aversive techniques. Barker (1965) described two cases of transvestism, one treated with a nausea-inducing drug and one treated by electric shock. He points out five advantages of faradic aversion as compared with chemical aversion methods: (i) it is simpler, cheaper and less time consuming, (ii) it is safer, (iii) it is easier to control, (iv) it is possible to have exact control over the timing of electric shocks and is therefore more precisely applied, and (v) it is less unpleasant, but just as effective.

If electric shock or the threat of it, is paired closely with the stimulus that produces sexual excitement then an autonomic anxiety reaction is, in theory, eventually elicited by that stimulus. The anxiety would then inhibit sexual feelings and behavior. In practice, the loss of interest in the stimulus, rather than anxiety, is reported by those subjected to this treatment.

A major problem with aversive conditioning is the assessment of treatment effects. Many studies have relied solely on the client's report of his subjective state and behavior. Two very obvious factors may incline many clients to report more favorable results than are really warranted: (i) a desire to please the therapist, to reassure the therapist that his treatment method has been successful, and (ii) a desire to avoid continued aversive conditioning simply because it is an unpleasant experience.

If the client is married then somewhat more confidence may be placed in his wife's claim that his aberrant behavior is diminished (if, in fact she is able to observe it) and that there is an improvement in normal heterosexual responsiveness. In any case, the unpleasant nature of the treatment should lead the therapist to be particularly concerned about the problem of motivation. Most studies utilizing this approach have been concerned with outpatients, or with short-term in-patients. In either case, the client generally

has been self-referred and has been highly motivated to change his sexual orientation. Motivational strategies would probably be an important first step in planning aversion therapy with sex offenders.

Another aspect of such a severe form of treatment is the need for at least a minimally supportive back-up therapeutic regime. Apart from the loss of sexual interest in the previously exciting stimulus situation, the client may experience relapse, aggressive-hostile feelings and depression. These considerations led Bancroft and Marks (1968) to conclude that "aversion therapy, like any other psychiatric treatment, can only properly be given within the context of full psychiatric management...In some cases aversion therapy alone is sufficient to produce improvement not only in sexual behavior, but also in personal adjustment and self-esteem. In most cases, however, aversion should form part of a more comprehensive therapeutic approach. Where the deviation depends on an abnormal sexual object or on a special way of relating to the sexual object (as in sado-masochism) then aversion is a quick and effective way of diminishing the deviation. Such diminution is often accompanied by an increase in normal heterosexual fantasies, but progression from normal fantasy to normal overt behavior occurs much more slowly and less often. Here the personality of the patient is obviously important and other techniques may also be required, e.g. desensitization of heterosexual anxiety or psychotherapy" (Bancroft and Marks, 1968, p. 799).

A number of variations can be distinguished under the heading of aversive conditioning. A recent development called covert sensitization is a kind of reciprocal procedure to systematic desensitization. That is, instead of breaking down an undesirable inhibition the aim is to build in a desirable inhibition, utilizing fantasy or symbolic aversive stimuli in lieu of physiologically unpleasant ones. Fantasy of nausea and vomiting were used by Barlow et al. (1969) to reorient the sexual preferences of a pedophile and a homosexual. Strong suggestion and instruction were given to the effect that as they approached a sexually exciting object in fantasy they would imagine overwhelming feelings of nausea and vomiting. These two men then reported total number of aberrant sexual urges experienced daily. The number of aberrant sexual urges were decreased, increased, and again decreased as a function of introducing, removing, and reintroducing the noxious scene in this way. Of this experiment the authors say that "an intensely imagined noxious scene can also act as an effective aversive stimulus" (Barlow et al., 1969, p. 601) and they point out that (i) clients are less likely to refuse treatment because of pain involved, and (ii) since no apparatus is involved it can be used readily by many therapists.

In a commendably sophisticated follow-up of their preliminary work Barlow et al.(1970-b)set out to test the possibility that the reported rises and falls in sexual interest of their two clients may have been due to the demand characteristics of the situation, i.e. to the client's expectancy of increased or decreased arousal. The therapists again used a single case experimental design with two homosexual clients, but the instructions that accompanied each phase of the experiment suggested changes in the reverse direction from those that would actually be expected by the therapist due to pairing the noxious scene with the sexually arousing fantasy. In addition, measures of penile circumference changes in response to colored slides of sexually attractive males and females were recorded. The results, while complex, generally pointed to the efficacy of covert sensitization, although in one of their subjects the contrary instructions tended to override the pairing procedure. On the other hand, therapeutic instructions alone produced little effect, but did facilitate the therapeutic effect when utilized with the covert sensitization procedure. "Overall these findings suggest that while pairing may be necessary to covert sensitization it is not always sufficient, and that therapeutic instruction can make a significant contribution to the procedure. Further research is required to substantiate this finding" (Barlow et al., 1970, p. 8).

Instead of a fantasied noxious stimulus Mandel (1970) used symbolic aversive stimuli, in this case projected color slides of running sores. Homosexual clients viewed colored slide projections of an attractive naked male, saying "mhm" when aroused. The therapist then superimposed (from a second projector) the running sores on the naked male. When sexual interest subsided the client signalled this and both slides (naked male and running sores) were replaced by a colored slide projection of a naked female and the client concentrated on feeling relaxed while viewing it.

Another recent aversive technique is that of shaming, or shame aversion therapy (Serber, 1970-a, 1970-b). Of eight clients treated within 2 or 3 sessions by Serber (1970-a), five had not repeated their deviant behavior after 6 months (3 transvestites, 1 pedophile and 1 exhibitionist), one (a voyeur-exhibitionist) had engaged in 1 episode of voyeurism and two (a frotteur and a transvestite) remained unchanged after shame aversion therapy. The therapy involves the client's acting out his deviant behavior under the observation of others. Serber employs a large dressing mirror which enables the client to simultaneously observe both his own behavior and the mental health workers who are watching him. The client must meet the following criteria, says Serber, if this form of treatment is to be successful: (i) the client must be ashamed of the act and want not to be observed in its execution, and (ii) the client must be aware that he is performing an asocial act (i.e. psychotic loss of contact with social realities must be absent).

Shame aversion therapy may have a possible relation to two similar procedures that have recently been described. Kellam (1969) used a film showing the client engaging in socially disapproved acts to eliminate compulsive shoplifting in an intelligent middle-aged woman. In this case, at the start of the film, the woman saw herself entering a supermarket. A client-surrogate was used to complete the film, her face not being shown. With every subsequent antisocial act in the film eight frames of a disapproving face were flashed on the screen for 1/3 second and the client received an electric shock to the forearm. Nursing staff showed this film and administered the shocks over a 5 week period, 40 viewings in all. The woman subsequently reported anxiety and tension whenever she felt an impulse to steal in shops, and a strong memory of the film (especially the faces) occurred. She imagined everyone in the store watching her and the impulse to steal disappeared. The therapist planned to provide booster treatment at quarterly intervals. The way in which the film had been made (with the client's face appearing only in the initial scene) would allow the movie to be used with other clients having the same behavior problem: only the initial scene would need to be re-filmed.

While this case reported by Kellam (1969) does not involve sexual aberration, it is not difficult to imagine the technique being used to treat, for example, compulsive child-fondling or rape impulses. The rationale in both the shame aversion therapy and the "disapproving faces" film appears to be a social shaming procedure to enhance inhibiting guilt feelings.

The second technique which appears to have some elements in common with shame aversion has been described by Robertiello (1969) as the encouragement of clients to "live out" their sexual fnatasies.

In illustrating this approach Robertiello describes the case of a 27 year old male who was a severely masochistic homosexual. He was also beginning to have sadistic fantasies, but was afraid of losing control of himself if he tried to practice his fantasies. The therapist encouraged him to live out some of these fantasies which he was able to do through the cooperation of a number of partners. "During the living out his activity was relatively mild. However, he was able to experience sadism and also to diminish his fear of losing control. This was one of a series of many steps that made him more assertive, bisexual rather than exclusively homosexual and considerably less masochistic in his sexual behavior and his general life style" (Robertiello, 1969, p. 185).

On the face of it, the enactment of sexual fantasies is incompatible with

the treatment of sex offenders whose problems would appear to be impulsive acting out. However, Robertiello's technique may be more rational than initial impression suggests. He explicitely distinguishes between "acting out" and "living out", the latter being characterized as part of the psychotherapeutic process of "working through" in neurotic clients who are attempting to shed an overly constricted life style. "The patients need encouragement to embark on living out. They are not people who tend to act out or live out. The living-out is under the aegis of the ego rather than that of the id. This makes it a totally different experience in every respect from the 'acting out' behavior of patients with deficient ego controls. After one or a few such experiences, the desire to repeat them diminishes or disappears" (Robertiello, 1969, p. 184).

Robertiello posits two major reasons for encouraging the living out of fantasies: (i) the actual experience provides a more profound emotional impact (than can be achieved in verbalizing), often leading to greater intellectual insight, and (ii) the experience can have a strong reinforcing effect on the client's sense of his identity. Both of these reasons, if they are in fact real consequences of living out sexual fantasies, could be therapeutic in the case of selected sex offenders who can fantasy normal heterosexual relations but who have, as yet, not been able to "live out" those fantasies. Both reasons may also operate, although with different consequences, in the shaming situations. Whereas in the social shaming procedure the client must face up to the reality of the socially unacceptable nature of his behavior, with encouragement to make his behavior ego-syntonic in the future, in the living out situation the client can be encouraged to assert a new self-concept ("normal heterosexual") to replace the ego-dystonic aberrant self-concept.

It is recognized that Serber's "social shaming" and Robertiello's "living out" are really not just the opposite sides of the same coin. The "living out" is almost always the real-life experiencing of socially unconventional sexual behavior (e.g. sado-masochism) and results in a kind of "satisfaction of curiosity" so that the fantasied situation loses its sexually titillating value. Both techniques have in common the fact that one, two, or three experiences seem to be all that are needed to produce changes in behavior. More importantly, perhaps, the two theoretical reasons given by Robertiello for the therapeutic effects of "living out" (reinforcing a sense of identity and producing important changes in behavior and feelings) might function in a negative way to produce changes as a result of "social shaming".

There may also be some relationship between the "living out" of sexual fantasies and the sexual retraining reported by Serber (1970-b). The two basic techniques for sexual retraining are (i) assertive training and (ii) modeling. The general aim is to provide the client with the social and interpersonal skills needed to initiate normal heterosexual contact. A graded series of appropriate gestures and acts are learned and practiced, often with the therapist acting as a model to demonstrate the desired responses. Audio-visual feedback helps in the process of behavioral rehearsal. "Heterosexual courtship consisting of numerous non-verbal cues is particularly suited to being learned by modeling, interspersed with behavioral rehearsal. The inclusion of females into the modeling program is a necessity. The heterosexual skills demonstrated and practiced consisted of those utilized in social situations. It would appear if the social-sexual skills are well learned, the more intimate contact doesn't pose a serious therapeutic problem" (Serber, 1970-b).

Serber (1970-b) reports that of 5 clients who received shame aversion treatment alone all had reverted to their deviant behavior within 6 weeks. On the other hand, of 10 clients for whom shame aversion was followed by heterosexual retraining, 8 maintained normal sexual activity within the one year follow-up, while 2 reverted to their sexual aberration but with diminished frequency.

Within the field of aversive therapy the largest number of reports

describe an aversive conditioning paradigm in which electric shocks are paired with either an erotic stimulus or an erotic response. When an aversive stimulus such as electrical shock is used in this way there are three well recgg-nized ways in which the situation can be handled. (i) If the client can only receive the shock, either self-administered or administered to him, it is a "punishment" situation. (ii) If the client can terminate the shock after its onset, it is an "escape" situation. (iii) If the client can take appropriate action to prevent himself from receiving the shock, it is an "avoidance" situation.

The primary requirement for the successful use of punishment is that it reduce the frequency of undesirable behavior. Punishment, in this sense, is the opposite of positive reinforcement which increases the frequency of the response that is reinforced. Present evidence indicates that aversive stimulation influences behavior in two ways. First, the cessation of such stimuli is reinforcing so that escape and, eventually, avoidance responses come to be elicited by stimuli associated with punishment. Secondly, the uncomfortable feelings produced by punishment may be directly incompatible with other motivating feelings such as sexual arousal. For example, if a man experiences sexual arousal on approaching a child, this arousal tendency may be directly counteracted by presenting an aversive stimulus. Moreover, if that aversive stimulus is discontinued only when he moves away from the child, then his "moving away" response will be reinforced and therefore should become more probable on future contacts with children. Ideally, the man should also be encouraged to approach a receptive mature female, to feel erotic in the context of her receptivity, and his appropriate "approach" and "erotic" responses would then become more probable in the future due to the positive reinforcement of sexual gratification. That is, providing an alternate response which can be positively reinforced is the clincher in any serious attempt to reorient behavior. Seldom, if ever, can a procedure which relies solely on aversive contingencies be expected to provide prolonged behavioral change.

Frequently the escape behavior just described will develop into avoidance behavior, i.e. a response which is incompatible with the undesired response and which avoids the aversive stimulus entirely. Again, positive reinforcement of a socially approved alternate response provides the best insurance against a relapse into the undesirable behavior.

Sexual difficulties can often be seen as forms of escape or avoidance responses. Some homosexuals behaviors, for example, probably result from shame or fear experienced when the male approaches a female sexually and is harshly rejected or belittled. If an alternative response of approaching another male is reinforced, then the frequency of "approaching males" will increase and the frequency of "approaching females" will decrease. The homosexually reinforced male will then tend to avoid females and, since the latter's reactions to him represent an aversive stimulus, his female-avoidance response is reinforced.

In these instances where a sexually aberrant behavior represents an escape or avoidance response, punishment of the escape or avoidance is a tricky business and, if improperly executed, runs the risk of increasing, rather than decreasing, the punished escape or avoidance behavior.

Punishment is most successfully applied to reduce the frequency of undesirable behavior which is being maintained via positive reinforcement. Take, for example, the case of a man whose overly aggressive sexual advances to women are reinforced by sexual gratification when the women capitulate in the rape situation. Extremely aggressive sexual advances are then likely to increase in frequency due to positive reinforcement. The initial resistance and objections by the female to the male's advances are sufficiently aversive to suppress most males' sexual arousal and behavior towards the female, at least temporarily. If the aversive stimuli provided by the female are too weak to suppress the male's arousal and behavior, so that his persistence is reinforced by sexual gratification, there is a greater probability that he

will use persistent aggressive sexual advances in the future. That is, he learns that it "pays off" to be a rapist. If, on the other hand, the aversive stimuli (presented to the male during his aggressive sexual advances) are sufficiently punishing, his sexual arousal and behavior are more likely to be suppressed. If the male can then be induced to emit socially approved sexual behaviors (by instruction, imitation or other "behavior shaping" techniques) there is a higher probability of their being reinforced.

After considering these complexities Kushner and Sandler (1966) suggest the following guidelines in utilizing punishment: (i) the undesirable response to be punished should be one that has been maintained by positive reinforcement; (ii) if an escape or avoidance response is to be punished, the aversive stimulus should be of different physical dimensions to the stimulus which produced the initial aberrant behavior; (iii) the aversive stimulus should be intense (i.e. highly aversive) but not immobilizing; (iv) punishment should consist of an aversive stimulus/aberrant response contiguity; (v) punishment should initially be continuous with the option of a subsequent partial schedule.

McGuire and Vallance (1964) described a simple portable electric shock apparatus so that either a therapist or the client himself can administer the aversive shock whenever the undesired response occurs. "Beside saving the therapist's time and making frequent treatment possible, this arrangement is to be preferred when the symptom is one usually indulged in alone, for example, masturbation to perverse fantasies. While the patient can use the apparatus whenever he is tempted to masturbate, he should also each day deliberately carry out the treatment at a time when the desire to masturbate is not strong" (McGuire and Vallance, 1964, p. 151). Of 11 cases treated for sexually aberrant fantasies the authors report one case mildly improved, four cases of good improvement and six cases of complete symptom removal. The typical findings in this and subsequent studies is that as treatment continues the deviant fantasies become increasingly difficult to conjure up.

This treatment of perverse sexual fantasies is of more than passing interest. McGuire, Carlisle and Young (1965) have hypothesized that sexual aberrations come about through orgasm-reinforcement of sexual fantasies. Such fantasies may be based on early experience (e.g. a seduction, observation of a partly naked woman, or similar incident) which may not have been particularly arousing at the time but which is used in fantasy later during masturbation. According to conditioning principles any fantasy (or other stimulus) which regularly precedes orgasm by the appropriate time interval should be reinforced and become increasingly exciting and necessary for arousal increments. It is hypothesized that particular sexual preferences, including socially undesirable ones, are acquired and developed in this way.

But why do some people masturbate while entertaining sexually deviant fantasies, rather than fantasizing relatively conventional sexual activities and situations? McGuire, Carlisle and Young report that 75% of their clients reported that the incident which precipitated their deviant masturbatory fantasies was their first <u>real</u> sexual experience, as distinct from vicarious sexual experience (stories from others, books and so on). As a result, they suggest, the real-life experience has stronger stimulus value as a masturbatory fantasy and other potential fantasies are extinguished through lack of reinforcement.

An alternative answer to the above question, and equally speculative, is the possibility that there is a period (or a series of periods) in male psychosexual development during which imprinting to a particular stimulus situation may occur. If the male is imprinted to an experience other than conventional heterosexual intercourse this other experience may possess greater psychosexual valence for him.

In either case - whether the initiating fantasy is provided by a remembered real-life experience, or imprinting - masturbatory activity might provide a clue to answer the question as to how deviant sexual interest develops.

McGuire, Carlisle and Young argue that deviant sexual preference can develop from more normal sexual interests as a result of regular fantasy during masturbation. "This is because fantasies, based on memory, are subject to the usual psychological processes of recall with the result that distortion and selection of cues takes place. In addition, a particular cue initially given the slightest emphasis becomes more and more dominant because of positive feedback involved in the conditioning process; the more sexually stimulating it becomes, the more emphasis it is given in a masturbatory fantasy and consequently, by conditioning it becomes still more stimulating" (McGuire, Carlisle and Young, 1965, p. 186). Concurrently, other sexual stimuli are being extinguished so that sexual interest focuses increasingly on a specific sexual fantasy situation, activity or object. Similar situations, activities or objects in real life then come to have sexual arousal value and, if these are far removed from conventional heterosexual situations, activities or objects the male is said to be sexually deviated. So runs the hypothesis. (A number of interesting deductions in support of the hypothesis are outlined by the authors. Readers interested in the hypothesis, and the case evidence offerred in its support, are referred to the original article).

Implications of this hypothesis for the treatment of sexual aberrations follow logically. (i) Since the development of an aberration is held to result from conditioning to fantasy alone, treatment need only be to fantasy (as reported by McGuire and Vallance, 1964). (ii) Clients are educated about the reinforcing effects of orgasm and are instructed to avoid deviant fantasy for some seconds prior to orgasm. (iii) Orgasm-reinforcement of normal heterosexual fantasy is encouraged. "The authors have had successful results in reorienting sexual deviates who had no normal sexual interest by instructing them that whatever the initial stimulus to masturbation the fantasy in the five seconds just before orgasm must be of normal sexual intercourse" (McGuire, Carlisle and Young, 1965, p. 187).

Masturbatory fantasies involving high-heeled shoes, rubber boots and associated masochistic activities had been continual over 25 years for a fetishist successfully treated by aversive conditioning by Marks et al. (1965). It is important to note that this 34 year old man was married so that alternative normal heterosexual activity was available to him. He received electric shocks, according to the method described by McGuire and Vallance (1964), whenever he signalled to the therapist that he had a clear mental image of his favorite boots. This image took progressively longer to establish until finally he was unable to achieve the fantasy at all. The authors cite evidence which they interpret indicates <u>suppression</u> of the fantasy, rather than its extinction - a logical conclusion for a punishment paradigm of therapy. The final stage in aversive conditioning was to apply electric shocks while the client was wearing the boots, the shocks continuing at brief intervals until he removed the boots. He then rested for a minute before the whole process was repeated. He was given booster treatments, to prevent relapse, during follow-up. The three major outcomes of treatment were: (i) a rapid disappearance of his masochism, (ii) he felt neutral towards his previous fetish objects, i.e. high-heeled and rubber boots neither excited nor repelled him, and (iii) sexual intercourse became more pleasurable.

An additional four fetishists were treated by the same method for both fantasy and "practice" of their fetish, the details of the treatment and the assessment of its effectiveness being reported by Marks and Gelder (1967). One significant assessment technique was the use of a penile plethysmograph to measure tumescence as an index of sexual arousal. In terms of degree of erection, latency of fantasied image and direction of attitude change there was a marked reduction in sexual interest towards fetish objects in all clients and all experienced a reduction in perverse fantasies. The only two "side effects" of any consequence were depression (at various times during therapy) and anger which was not uncommon and was discussed with the client when it arose. Clients retained positive feelings towards their therapists.

While the laboratory treatment of these men involved punishment of undesired sexual responses all except one of them had ready access to heterosexual intercourse. Hence, as inhibitions were built up over feeling sexual toward the fetish object, orgasm reinforcement was still available to strengthen the probability of heterosexual arousal. Both laboratory and real-life situations might be necessary to achieve results. Similarly, both fantasy (subjective) and overt behavior (objective) might need to be conditioned in order to reorient the client's sexual preferences. "The use of fantasies instead of overt behavior in aversive conditioning...offers many practical advantages, although it is not yet certain that it is equally effective. In sexual disorders patients' fantasies are a most important part of the chain from internal feelings and imagery to autonomic responses and overt motor acts...Behaviorists have concentrated too much on overt behavior, while dynamic and phenomenological psychiatrists have emphasized patients' internal feelings. Adequate treatment of psychiatric disorder must take joint account of the patient's psychic life, his overt behavior and autonomic responses together whenever possible. Behavioral treatment should pay increased attention to patients' fantasies (which lend themselves to careful study just as overt behavior does). In this way a bridge can be made between the discoveries of dynamic psychiatrists and the new behavioral techniques" (Marks and Gelder, 1967, p. 725).

A therapy outcome study of particular significance is that reported by Evans (1968) who indirectly tested the above mentioned hypothesis of McGuire, Carlisle and Young (1965) in the aversive therapy of two groups of exhibitionists. A direct deduction from the hypothesis is that each time a fantasy of the deviant activity is reinforced by orgasm, the habit strength of the actual deviant behavior is increased. From this it follows that exhibitionists who masturbate with exhibitionistic fantasies should take longer to cure than exhibitionists who masturbate with normal fantasies. Evans used an indentical treatment method for a group of exhibition-fantasy (N=5) and a group of normal-fantasy (N=5) exhibitionists. There was no significant difference between the groups in their frequency of exhibiting. Each client was in an escape situation for aversive conditioning: a slide with an image-provoking phrase was projected and if the phrase concerned a deviant image the client received a shock which he could terminate by pressing a remote-control button to advance the projector to a normal-image phrase. Twenty deviant behavior phrases were interspersed with forty normal behavior phrases and all were viewed at each session. Clients were instructed to imagine the suggested situation as vividly as possible. The progression from one phrase to another was always client-determined.

The assessment of outcome was in terms of number of weeks from the initiation of treatment until the client reported no further exhibiting. The normal fantasy group achieved this state after a median of 4 weeks (range 3-5 weeks) while the deviant fantasy group took a median of 24 weeks (range 4-24 weeks) (sic). While all deviant activity was eliminated in the normal fantasy group within 5 weeks, two of the deviant fantasy group were still exhibiting (at a reduced frequency) at the six month follow-up date. The author concludes that his data "underline the importance of masturbatory fantasy in sexual deviation" (Evans, 1968, p. 19).

While there are many critical questions to be answered concerning Evans' control procedure one can agree with him that therapists should take the nature of masturbatory fantasies into consideration when planning frequency and intensity of aversive stimuli in the conditioning procedure. Evans points out that of a series of 52 clients with sexual aberrations (homosexuals, exhibitionists, pedophiles, voyeurs, transvestites and fetishists) 79% reported the use of deviant fantasy while masturbating (Evans, 1968).

An important contribution to aversive conditioning of sexual behavior is the work with a homosexual series reported by MacCulloch and Feldman (1967). Their aversive technique (Feldman and MacCulloch, 1964, 1965; Feldman, 1968) is probably the most sophisticated to date, utilizing as many principles from

the psychology of conditioning as possible: punishment, escape, anticipatory avoidance, anxiety relief and partial reinforcement. Their procedure also differs from that of studies discussed above, in that they used visual stimuli (color slides of both nude and clothed males and females) instead of relying on the client's fantasies.

A detailed description of the procedures used by Feldman and MacCulloch requires much space and would be tiresome to the reader. Suffice it to say that, on a partial schedule of reinforcement (i.e. a situation in which shock is not administered on every occasion) the client receives shocks paired with projected color slide photographs of males. The client can, in most instances, either escape the shock or avoid it altogether by pressing a remote-control switch to present himself with a non-shocked photograph of a female. The general idea is to associate pain (and/or the anxious anticipation of it) with male stimuli, and to associate relief from anxiety with the introduction of female stimuli.

This procedure was designed specifically to try to minimize relapse rate for, as the authors point out, in the published series of psychoanalytic, psychotherapeutic or behavioral treatments up to 1967 "approximately one-quarter at best of treated homosexual patients make a satisfactory response to treatment in that they display a noticeable change in the direction of their sexual preference and practice towards heterosexuality. Such follow-up data as are available suggest prevention of relapse to be one of the major problems in the treatment of homosexuality" (MacCulloch and Feldman, 1967, p. 594).

MacCulloch and Feldman's (1967) assessment of outcome is also quite detailed, involving twelve tables. Kinsey's seven-point rating scale of homosexuality was one criterion used and on this basis 58% of the 45 clients were judged "significantly improved". If the "significantly improved" clients are regarded as a proportion of the 36 clients who completed treatment the success rate is 69% - an extraordinarily high figure, which remained unchanged over a one year follow-up period.

In their comprehensive and critical review of the electrical aversive therapies for sexual disorders Rachman and Teasdale (1969) find fault with Feldman and MacCulloch's work on two counts: (i) the escape response (button pushing) has only a remote and tenuous relationship to avoidance of sexual objects in real life, and (ii) the use of visual stimuli is a step removed from the client's actual experiences (i.e. private fantasies). On these theoretical grounds, Rachman and Teasdale write, they would have predicted a low success rate: "...we would of course have been entirely wrong had we made such a prediction - for the fact of the matter is that a substantial number of the patients treated by Feldman and MacCulloch did respond to this treatment. None the less, we feel that it might be worthwhile considering substituting some other stimulus representation in the treatment technique. As a possibility we would suggest that more effective results might be obtained by the use of imaginal stimulation in which the patient could be asked to produce fantasies concerning the sexual behavior in which he indulges..." (Rachman and Teasdale, 1969, p. 65).

The major drawback in Rachman and Teasdale's suggestion is that the therapist must accept on faith the client's report as to the presence or absence, intensity or latency of a sexual image or fantasy. External sexual stimuli can be observed by all parties to treatment and simple procedures can be designed to ensure that the client is attending to them. A greater degree of certainty is established in this way concerning exactly what sexual stimulus-response connections are being affected. There is no reason, however, for not utilizing both private and public sexual stimuli, assuming one is more concerned with helping a client than proving a point about treatment technique.

Two further reports are worth considering under the heading of aversive conditioning. Both involve pairing an aversive stimulus with a sexually arousing stimulus as well as using positive reinforcement of responses to female stimuli. They are sufficiently different from the studies discussed above to

warrant a brief examination of them here.

Thorpe et al. (1964-a) tried three different methods to reorient sexual interest from homo to hetero in a self-referred 35 year old man with a history of increasing exhibiting to young boys, spasmodic homosexual contact, frequent masturbation with homosexual fantasies and no heterosexual experience. The first method the therapists tried was to have the client masturbate alone in a darkened room with his eyes closed. On the wall in front of him was a photograph of an attractive, scantily clad young woman. The client was to say "now", open his eyes and look straight ahead when orgasm was imminent. A microphone conveyed this signal to therapists (in a separate room) who threw a switch to illuminate the pin-up picture. Immediately after ejaculation the client said "finished", the illumination was turned off and the client was required to describe the picture (to establish that he had been observing it during orgasm). This procedure was intended to make the pin-up picture a conditioned stimulus for orgasm in the hope that the client would come to utilize it in subsequent masturbation fantasy. Slight evidence that this was occuring to a minor degree did not countervail the use of entirely homosexual fantasy during eleven masturbation trials. It was considered that the situation was probably an attempt at backward conditioning since orgasm was always "triggered" prior to illuminating the picture.

The second method was identical to the first except that the picture was illuminated, for one second only, at random intervals during masturbation. Homosexual fantasy persisted, with the client tending to concentrate on aspects of the illuminated picture that could be incorporated into these fantasies (e.g. the buttocks).

A combination of aversive and positive conditioning was then tried. The positive trials were identical with those in the second method. The aversive trials were similar except that a photograph of a nude male was illuminated forty times per trial, nine of these illuminations being followed from .5 to 1 second later by electric shock. Up to ten trials per day were run, each trial taking about 10 minutes, and the male pin-up was changed daily.

Following the first series of aversive trials, a typical positive conditioning trial resulted in the client's reluctance to utilize homosexual fantasy and a switch to about 60% heterosexual fantasy. By the third positive trial the client reported 100% heterosexual fantasy. After a brief relapse the use of heterosexual fantasy returned. By the end of the treatment 100 aversive sessions and 38 positive sessions had been completed. Follow-up eight months later was equivocal but the client expressed optimism.

Interest in this report centers on the fact that changes in the client's sexual orientation did not occur until aversive treatment was utilized. The authors, nevertheless, express the conviction that while aversive technique can block an undesirable sexual direction and perhaps encourage successful masturbation to female fantasy, the presence or absence of real-life reinforcers will determine the stability of the new heterosexual orientation. "One cannot fail to be left with the suspicion that heterosexual activity at the real rather than at the imaginary level would in fact be more successful in effecting a behavior change" (Thorpe et al., 1964-a, p. 360).

Mees (1966) describes an attempt to reduce sadistic fantasies while strengthening incompatible fantasies in a 19 year old paranoid schizophrenic male who had assaulted a woman two years earlier with the intention of acting out a sadistic fantasy. A typical "model child", but socially withdrawn, he had fantasies about binding and injuring women since the age of 12. Sadistic detective and pulp magazines stimulated his fantasies which were reinforced by masturbation. An intensive group treatment program for sex offenders failed to alter his sexual preferences. He agreed to try aversive conditioning and was trained to collect baseline data about his fantasies, sexual behavior and feelings about them. This data was collected for six months prior to aversive treatment and a cumulative record was initiated for (i) total masturbation, (ii) masturbation with sadistic fantasies, (iii) masturbation with normal

fantasies and (iv) incidence of sexual intercourse.

Aversive treatment consisted of shocks to the finger whenever the client could clearly visualize a selected part of a fantasy. From the eighth week of this treatment until its discontinuance at 14 weeks all therapy sessions were conducted by the client himself. Over 6,000 shocks during 65 sessions in a 14 week period were received by the client. The suppression of sadistic fantasies and substitution of normal fantasies was a slow and gradual process, completed and maintained for some months until his discharge from hospital. There is no follow-up reported.

Two significant events may have operated to aid this client's reorientation. For the first 3½ weeks of aversive conditioning there was no change in the rate of normal or sadistic fantasy masturbation. He was encouraged to develop and write a "normal seduction" fantasy which led to an increase in normal fantasy content. The second significant factor was his friendship with an older, sexually experienced woman with whom sexual intercourse was initiated. The therapist gained no evidence of this effecting the client's fantasies, and writes: "Neither the punishment nor overt heterosexual experiences influenced sadistic fantasies alone. It is not unusual in clinical practice to find that fantasy and overt sexual behavior do not coincide. During the period in which he was having sexual intercourse, the patient never had a fantasy about the woman involved...Sexual offenders often have a repetoire of sexual behavior which includes both 'normal' and deviant sex acts, apparently under the control of different initiating and maintaining stimuli. A pedophile, exhibitionist, or obscene telephone-caller may have a relatively independent sex life with his wife" (Mees, 1966, p. 319).

Some reviews of aversive therapy and its success rate have been published in recent years (Feldman, 1966; Franks, 1967; Fookes, 1969; Rachman and Teasdale, 1969). Feldman (1966) gives two major reasons for applying learning-theory principles to the treatment of sexual deviations. One reason given is that other forms of treatment have low success rates by comparison with behavioral techniques - an argument that is still under debate in the journals. The second reason is the rational attempt to apply laboratory principles to real-life problems. "Sexual behavior may be described as consisting of two components, an intrinsic mediational component and an extrinsic behavioral component. The possibility of directly manipulating the latter and hence of influencing the former is theoretically, at any rate, quite evident" (Feldman, 1966, p. 66). This possibility has been further explored in the experiments in the rest of this paper.

C. AVERSION-RELIEF THERAPY:

Aversion-relief describes a specific technique first described by Thorpe et al. (1964-b). But it is also used here to describe all those aversive conditioning procedures which are so structured that the removal of an "undesirable stimulus-shock" sequence is paired with a "desirable stimulus- no shock" condition.

Thorpe et al. (1964-b) first used the phrase "aversion-relief therapy" for the situation in which the client is presented with a series of stimuli relevant to his deviant sexual interest (e.g. words or phrases concerning a fetish object, slides of males, and so on) and all or some of these are accompanied by an aversive stimulus, usually shock. At the end of the series a stimulus is presented which the client knows is never accompanied by shock. This stimulus produces a "relief-from-anxiety" experience in the client - a relaxation of tension - and because this feeling is always paired with a socially-desirable sexual stimulus (e.g. phrase such as "sexual intercourse", or a slide of a female, and so on) it is expected that such stimuli will tend to elicit relaxation and relief from anxiety in the future. Despite Thorpe et al.'s (1964-b) disclaimer to the contrary, the principle involved is essentially the same as Wolpe's (1954) anxiety-relief technique in which a continuous

shock is terminated when the client says "calm".

Some of the work discussed in the last section (i.e. aversive conditioning) did include a "no shock" condition contingent on a socially-desirable sexual stimulus observation. The studies mentioned below, however, utilized the aversion-relief principle in a more self-conscious and deliberate manner. Solyom and Miller (1965), for example, randomly presented colored slide projections of nude males and females to homosexual clients. Whenever a nude male picture was being observed the client received between 1 to 4 shocks (each picture was projected for 40 to 60 seconds), the final shock ending with the removal of the picture. Prior to the projection of a nude female picture the client received a shock which he could himself terminate, and in doing so he also caused the immediate projection of the nude female picture. This procedure, the authors claim, successfully reduced homosexual interest and ostensibly reduced anxiety aroused by women, although positive sexual interest in women remained to be established. "Therapeutic efforts demonstrate that differential conditioning therapy should form only a part of the total treatment of the homosexual subject. The conditioning procedure may create a temporary sexual vacuum by decreasing anxiety on heterosexual contact and thereby increasing motivation towards heterosexual activity. If it is possible to block the subject's homosexual connections, he may be assisted towards making the first and decisive step towards the establishment of heterosexual connections" (Solyom and Miller, 1965, p. 159).

In their complex program of reinforced and non-reinforced stimulus presentations Feldman and MacCulloch (1965) made introduction of female stimuli contiguous with removal of male stimuli in an attempt to inculcate in their homosexual clients a sense of anxiety-relief associated with female stimuli. "Moreover we allow the patient to request the return of the female slide after it has been removed. (The female slide is always removed by the therapist and not by the patient, so that his habit of avoiding females is not strengthened in the training situation.) When wishing to request the return of the female slide, he is told to do so by clicking a switch and by saying "yes" immediately after the female slide has been removed. The situation is such that the absence of a female slide means that a male slide, by now associated with shock and hence anxiety-provoking, may reappear. Hence the patient gradually becomes motivated to request the return of the female slide" (Feldman and MacCulloch, 1965, p. 171).

Variants of this general aversive conditioning procedure can be used for a variety of sexual deviations, as was domonstrated by Feldman et al. (1968). Slides depicting the "problem" stimulus are associated with shock (or fear of shock) while slides depicting sexually mature females are associated with relief from shock-expectation. In addition, clients are urged to utilize "normal" fantasies in sexual intercourse or masturbation. This form of aversion-relief therapy is more likely to succeed, the authors believe, if clients (i) are relatively young, (ii) are of at least average intelligence, (iii) are relatively well-adjusted in non-sexual functioning, and (iv) have alternative avenues available for conventional sexual behavior.

Larson (1970) describes an adaptation of the Feldman and MacCulloch approach, utilizing a copy of their "Program of Avoidance Training", for use in the therapist's office. Short distance projection and easily assembled equipment are the main modifications introduced.

Mandel (1970) utilized color slides depicting running sores, in place of electric shocks, as the aversive stimuli. Running sores are superimposed on a slide projection of a naked male and when the client signals loss of sexual interest a color slide of an attractive mature female replaces the previous stimulus. The client is then encouraged to relax, to concentrate on the female and to feel erotic.

An interesting extension of this kind of approach is described (unfortunately, in insufficient detail) by Barker and Miller (1968) in the treatment of a variety of aberrant sexual practices. For example, a 22 year old sex

offender of above average intelligence and with a 12 year history of bestiality received shocks while watching a film of himself engaging in sexual intercourse with a sheep. Subsequently he observed transparencies of the same scene while listening to guilt-provoking and positive suggestions. But he was unresponsive to transparencies of women and the therapy was not considered a success. This case is of interest since it ostensibly combines aversion-relief, shaming, self-observation and attempted guilt-induction. However, the man was referred from a prison and his motivation for treatment was poor. Other cases described by Barker and Miller involve the use of tape recordings of the client describing his aberrant and conventional sexual activities and his feelings about them, similar tape recordings of the client's wives, photographs of client engaging in aberrant behavior and so on. Exact details of the procedures used are not provided. However, the general rationale appears to be the induction of guilt, anxiety and inhibition for the socially inappropriate behavior and relief feelings for socially appropriate behavior.

A minor point of technique is worthy of note in concluding these remarks on aversion-relief. As with systematic desensitization the aversion-relief rationale implies a degree of phobic discomfort and/or sense of inadequacy with mature women on the part of many sexually aberrant males. In the use of photographs of mature females as the relief stimuli, then, it is suggested that the sexually aggressive poses, or poses involving sexual hyperagility, scorn, petulent pouting and the like be avoided in favor of photographs emphasizing acceptance, kindness, a degree of passivity - in general, non-threatening depictions of female pulchritude.

D. OTHER ASPECTS OF BEHAVIOR MODIFICATION:

The principles upon which behavior modifiers have based their success in changing so many other aspects of behavior have not yet been fully explored in their application to sexual behavior. The principles have in fact been applied in the treatment of sexual inadequacy by Masters and Johnson (1970) although no explicit recognition, nor rigorous application, of the principles has been acknowledged within what is an essentially intuitive behavioral approach. A few studies have begun to appear, however, in which reinforcement of emitted sexual behavior is at least contemplated if not specifically engineered.

Quinn et al (1970) used Feldman and MacCulloch's anticipatory avoidance conditioning to reduce homosexual interest in a 28 year old client who continued to experience great difficulty in achieving heterosexual interest. It was decided to attempt to condition, or shape up, tumescence as a response to color slide projections of attractive females, using fluid reinforcement. The client was made extremely thirsty, shown a series of slides and reinforced with a drink of iced lime for small tumescent changes (measured by a penile plethysmograph). As is usual in such shaping procedures, a very small initial response was reinforced but the criterion for reinforcement was progressively increased throughout a session of which there were 20 in all. Despite the fact that full erection was not achieved there was a marked increase in rate of tumescence when comparisons were made between the beginning and the end of the experiment over the 20 treatment sessions. This improvment in phallic response was accompanied by subjective reports of greater vividness of heterosexual fantasy and a concomitant reduction in tension.

Gold and Neufeld (1965) decided against electric shock as an aversive stimulus in treating a 16 year old homosexual who was concerned about the social and personal repercussions of being apprehended. The therapists shaped up his verbalized avoidance and/or escape responses to homosexual invitations by using verbal reinforcers such as "well done". When the client was consistently rejecting fantasied homosexual advances he was presented with a discrimination learning situation in fantasy: he had to choose between an attractive young man and an attractive young woman. "In this situation the patient had to consider which choice to make where one was bound up ideationally with prohibitions

and implications of punishment and the other with pleasant aspects...After frequent reinforcements of the correct (heterosexual) choice, the 'cues' for punishing attributes could be reduced and finally, when given completely equivalent choices without any extra 'cues', the patient was able to choose the heterosexual object consistently" (Gold and Neufeld, 1965, p. 203). It is doubtful whether this somewhat naive procedure could be used with much success in cases of more firmly established sexual patterns, although as an adjunctive procedure it may well be of benefit.

Wickramasekera (1968) planned a rather careful behavior modification program for a 23 year old exhibitionist who had a 5 year history of exposing himself to pubescent girls. Starting with a systematic desensitization of the client's anxiety evoked by mature women he was encouraged to read selected literary passages with progressively more heterosexual erotic content. These readings were reinforced verbally by the therapist and represented initial steps in shaping bolder heterosexual approaches to women via directing his cognitive responses into the area of adult female sexual stimuli. The next phase of the program was to gradually shape up his sexual responsiveness to his fiancee. Both client and fiancee cooperated fully and as the client began to feel more comfort and competency in his sexual relationship he also reported a marked reduction in exhibitionistic impulses and ruminations. Six months after terminating treatment the client reported no exposures and successful sexual intercourse with his fiancee about three times per week. The therapist attributes the brevity of the successful treatment to (i) the concurrent use of two responses incompatible with anxiety (relaxation and sexual approach) and (ii) changing the client's motor responses as a prior condition to changing his cognitive and affective responses. "The self evident nature of the patient's changed motor behavior may increase his feelings of 'hope' and reduce his resistance to cognitive manipulations. Hence, treatment may be accelerated by a snowballing 'placebo' effect" (Wickramasekera, 1968, p. 112).

In a similar vein D'Alessio (1968) explored the concomitant use of behavior modification with cognitive psychotherapy. While continuing psychotherapy with a 20 year old male whose anxiety and depression stemmed from homosexual masochistic fantasies the therapist assigned counter-conditioning "homework" for the client. Masturbation, using only heterosexual fantasies and images, was prescribed. "As heterosexual fantasy became more meaningful, the homosexual and masochistic behaviors were weakened. Secondary anxiety was alleviated and the self concept improved" (D'Alessio, 1968, p. 157) This kind of therapeutic use of masturbation, with socially appropriate fantasy reinforced by orgasm, is quite compatible with McGuire, Carlisle and Young's (1965) hypothesis about the cause of sexual deviation. Bentler (1968a) has suggested that the therapist can often set the young homosexual or transvestite on the heterosexual path by socially reinforcing the client's approximations to the traditional heterosexual dating sequence. "It is felt that heterosexual encounters of any kind, such as focusing on sexual features of the other's body, social interactions, touching and petting, would provide fantasy material for masturbation. The orgasm of masturbation would serve to reinforce heterosexual fantasy rather than homosexual or transvestite fantasy. This fantasy was furthermore presumed to provide a cue for further heterosexual behaviors" (Bentler, 1968, p. 126).

A combination of desensitization, verbal shaping, orgasm reinforcement and covert sensitization was used by Davison (1968) to counter-condition sadistic fantasies in a young man. Sadistic fantasies were suppressed by pairing them always with a mental image of preparing to drink "a large bowl of 'soup', composed of steaming urine with reeking fecal boli bobbing around on top". To encourage more conventional heterosexual urges the therapist had to start by desensitizing the client's fear of being psychiatrically "sick". This was done by critically examining the feared psychoanalytic concepts during supportive psychotherapy and by reassuring the client that his maladaptive behavior was a function of known "normal" psychological processes rather than being due to an

insidious disease process. Because of the client's naivete and timidity concerning conventional sexual interactions the therapist shaped up verbal and cognitive responses to female stimuli by engaging in "stud" talk. The client was encouraged to masturbate at home, using sadistic fantasies if necessary to obtain an erection. Once arousal and erection was achieved, however, he was to concentrate on pictures of sexy women (e.g. Playboy pin-ups) in non-sadistic contexts while masturbating to orgasm. The client reported no sadistic fantasies one month after formal treatment terminated. Six months later, however, he intentionally returned to sadistic fantasy "to test the effect of treatment". After nine months of sadistic fantasy he "put himself back on treatment" by masturbating with non-sadistic sexy pin-up pictures and claimed to be back to a normal (non-sadistic) sexual fantasy life within two weeks.

The real-life reinforcement of approaching females was not consciously arranged for Davison's client and this failure to establish real-life heterosexual interactions is a major shortcoming of many behavioral approaches. A therapist-guided client should progress through a carefully planned hierarchy of heterosexual-approach steps, starting with responses which are relatively likely to be reinforced (smiling at, speaking to, females) and gradually initiating behaviors with lower probabilities of reinforcement (romantic and sexual contact). No new step in the hierarchy should be attempted until the last response has been firmly established through reinforcement. The active co-operation of one or a number of women in this process would be advantageous. Feldman (1966) claims that he and his colleagues anticipate months of reinforcement training to establish sexual approach responses to females, particularly for clients who have long histories of heterosexual disinterest. A large part of such training, especially for sex offenders who may not be inhibited about approaching women, should consist of relearning more appropriate social skills and ways of behaving towards women (i.e. ways of relating) that are more acceptable and appealing.

As Franks (1967) points out, in the treatment of sexual difficulties very little use has so far been made of techniques involving "token economies" (i.e. conditioned reinforcers) and procedures derived from social learning models. "Perhaps one solution lies in the development of more elaborate and realistic laboratory devices, involving movies, in vivo sessions and so forth. Or perhaps the solution lies in treating the whole man by diverse behavioral techniques, including every aspect of the patient's personality, and not just his presenting sexual anomaly. It could be that the deviant sexual response, albeit conditioned, is only one link in a complex process and that it is necessary to manipulate the fractional antecedent responses if true success is to be achieved. An alternative means of reducing anxiety and providing satisfactions will have to be built in, and the patient taught specific new ways to behave in social situations" (Franks, 1967, p. 220).

IV. COGNITIVE-VERBAL APPROACHES:

A. SEX EDUCATION-DESENSITIZATION AND SOCIALIZATION:

No clear line demarcates the behavior modification ideas considered in the last section from the thoughts expressed in this section. The difference lies in theoretical emphasis. One can approach re-education from the viewpoint of a behavior modifier who explicitly reinforces some behaviors, ideas, and attitudes, while punishing or extinguishing others. Or one can use a more conventional educational framework to do what is essentially the same thing. The latter is the emphasis in this section.

It is common knowledge among workers in this area that prison populations -- and particularly sex offenders -- tend to be anxious about sexual matters generally. One of Glueck's (1956a) major conclusions after a team of professionals studied Sing Sing's sex offenders for three years was as follows: "The

tremendous amount of confusion, distortion, ignorance and anxiety that was shown by these men, in the areas of sexual development, would indicate that there is a need for a much improved program of sexual education, particularly during childhood. An immediate first step could be the introduction of a sexual education program into the prisons, which would be available to the men on a voluntary basis. Certainly any therapeutic approach to the problems of the sexual offender must have some instruction in sexual matters as an important part of the program" (Glueck, 1956a, p. 88).

To date no reports of sex education programs specifically designed for sex offenders have been located in the literature. This is surprising when one considers that sex offenders are the one group for whom such a program would seem most appropriate. A passing reference to group discussion of a sex manual (Uehling, 1962) is the closest approximation to any mention of sex education of sexual offenders. Perhaps it is a question of "who will educate the sex educators?" since in recent years those responsible for training medical students have been applauding the fact that sex education has begun to appear in medical school curricula (e.g. Riffenburgh and Strassman, 1967; Woods, 1969).

Ideally sex education for sex offenders would not involve a strictly formal or bookish approach. As well as a multi-media presentation of material (films, books, slides, tapes, talks, discussions) it would focus on remedial retraining of each individual's inadequate or inappropriate social, interpersonal and sexual attitudes and performance. Serber (1970b) provides a hint of the possibilities in discussing the step-by-step use of modeling and assertive training in re-educating sex offenders in socially appropriate acts and gestures. The therapist acts as a model, demonstrating the verbal and non-verbal behaviors appropriate to heterosexual courtship, and the clients practice and rehearse these, being selectively reinforced for their successive approximations to the final goal. "The inclusion of females into the modeling program is a necessity. The heterosexual skills demonstrated and practised consisted of those utilized in social situations. It would appear that if the social-sexual skills are well learned, the more intimate contact doesn't pose a serious therapeutic problem" (Serber, 1970-b). A great deal remains to be done in this area for which no controlled studies of a sexually deviant population have yet been reported. Techniques for eliminating undesirable sexual attitudes and behaviors and for establishing those that are desirable -- that is, techniques for the remedial teaching of a socially appropriate sexual life -- are still being incubated.

B. GROUP PSYCHOTHERAPY:

It may be argued that group psychotherapy, at least at the level of verbal interaction, is a re-educative process in which the sex offender may become more aware of his own attitudes and reactions insofar as they parallel or differ from those of other group members. Where the emphasis is on individual differences in behavior, motivation, values and attitudes, rather than with a specific semi-encapsulated behavioral difficulty, traditional forms of psychotherapy may be most appropriate. A clear and detailed understanding of each sex offender should enable the sophisticated therapist to decide the therapeutic emphasis for each individual. If one takes the following view seriously it will be obvious that treatment techniques discussed up to this point will have limited value for some clients: "the following variations exist: all sex offenders are not sexually deviated; all sexual deviations do not become sexual offenses; some non-sexual offenses are motivated by sexual conflict; there are non-sexual conflicts that stimulate sexual deviation or offense; there are a variety of psychiatric conditions and dynamic factors which go into producing any one of the sexual offenses" (Sadoff, 1967, p. 313).

One difficulty here is a need to switch from a behavioral to a medical model in which the client's unconventional behavior is regarded as the surface

symptom of deeper pathological problems in the personality. The result is sometimes a kind of covert judgemental attitude on the part of some therapists. An excellent example is the case of homosexuality. On a behavioral model one can attempt to reorient sexual interest in a heterosexual direction if the client is so motivated. If he prefers his homosexuality and has no difficulty with restricting his behavior to consensual acts, neither society nor the therapist need be concerned one way or the other. The homosexual can be regarded as an otherwise normal human being whose stimulus-response patterns in the sexual area were conditioned to males rather than females. The therapist of dynamic persuasion, on the other hand, will tend to regard homosexuality as a manifestation of neurosis. Up until recently such formulations were generally accepted. They are, however, becoming less acceptable at a time in social history when a strong movement is gathering momentum for the civil rights of homosexuals to live with dignity and honor, free of mental health slurs. As a result psychiatric statements which would have passed unnoticed some years ago now tend to strike the reader as at least being outmoded if not involving questionable values. In a society which is rapidly accepting the "normality" of homosexuality, at least among educated circles, statements such as the following savor of moralism: "Homosexuality is a serious general problem for society. It is biologically (and thus psychologically) abnormal. No amount of smug rationalization or indulgent tolerance can vary that fact. The psychodynamics are complex but not beyond reasonable conceptualization. Among other factors each case involves a defeatist surrender of the male role" (Kozol et al., 1966, p. 83).

The point to be made here is simply that whereas on the behavioral model both the client and the therapist can regard the sexual anomaly as just that -- an anomaly (due to fortuitous circumstances in an otherwise intact personality) -- on the medical or dynamic model the total personality constellation is considered to be disturbed. Treatment based on the former view is a specific correctional procedure which infringes minimally on the individual. Dynamically-oriented treatment aims at uncovering the structural personality weaknesses and attempting to reconstitute them. It is much more difficult in the latter case to conduct therapy while maintaining the client's sense of worth and integrity. This is particularly a problem with the convicted sex offender, as Stürup (1965) explains: "The clinical experience one gets after talks with many hundreds of sexual offenders in ordinary prisons and in specialized institutions to which they have come for special treatment points to the fact that they have experienced exceptional human devaluation in being sentenced and punished...The psychic trauma which is a result of his assumption that family and friends will hereafter view him with a mixture of anxiety and contempt is so serious that a majority of those who are punished for sexual offenses, regardless of the reason they have committed them, have a great need for special psychiatric and psychological treatment. It is true that in a number of cases it is difficult to get them to admit this, although their need for help is apparent" (Stürup, 1965, p. 260).

On this argument, then, it may well be that specific anomalies of sexual behavior should be treated specifically, while psychotherapy should attempt to handle the damage done by the process of apprehension, arrest, prosecution, conviction and disposition. Group psychotherapy should be particularly suited to this task since all members of the group will have had similar experiences in this regard. On the other hand, where a man's sex offense is not a product of a specific sexual problem but is an incidental manifestation of a pervasive and chronic psychiatric disturbance, then psychotherapy may be the appropriate, and perhaps the only available, treatment. In these cases, however, the label "sex offender" is inappropriate from a psychiatric point of view.

A problem in trying to describe group psychotherapy lies in the variety and complexity of concepts and methods used. Attempts to abstract some common features result in such broad generalizations that no meaningful picture of the

process emerges. "Regardless of training, experience, or school of thought, there are probably as many different approaches in group psychotherapy as there are therapists...Although the method of approach may differ in accordance with the personal philosophy of the therapist and the nature of the group under his control, a common goal should be the aim of each. This goal should be one wherein each group member is motivated by a need for change through his recognition of a destructive acting out of an emotional defect inherent in his make-up" (Uehling, 1962, p. 44).

In the Wisconsin prison system group psychotherapy is voluntary. When a prisoner enters a group he is required to explain how he expects psychotherapy to help him. The general understanding within the group is that the goal is not merely a reasonable explanation of each individual's problem but a therapeutic resolution of feeling. Individual group members become the focus of attention for limited periods and other members freely relate their own experiences and difficulties to those of the person in the spotlight. Attempts to elicit explanations of conflicting feelings from the therapist are generally turned back to the group -- a process which tends to raise anxieties and produces insights into each participant's own mixed feelings. The therapist attempts to summarize the group's conclusions and hints at emotional blind spots that have been avoided during the discussion.

Sex offenders in Wisconsin can receive both individual and group psychotherapy ranging from insight approaches (uncovering unconscious material) to supportive or even didactic approaches. If an offender has potential for personality change, treatment is aimed at providing enough self-understanding to help him resolve or control his impulsive sexual motivations. For other offenders strengthening defenses, education, and emotional support are more beneficial. The former approach, called "expressive therapies" by the Wisconsin workers, requires above average verbal intelligence and facility, at least moderate ego strength, motivation for self-understanding and personal growth, as well as social class compatibility with the therapist so that shared social values and attitudes facilitate rather than retard communication. "A sizable number of offenders are not selected for expressive therapy primarily because they either show little motivation or do not have sufficient ego strength to cooperate in this type of treatment. For this group we have been experimenting with a variety of other techniques including supportive educational sessions, environmental manipulations, and even exhortative approaches. Many of these offenders have been unable to tolerate close contact with another person without feeling aroused by all sorts of infantile sexual and aggressive feelings. Few are able to appreciate that a close benevolent relationship with another individual is a possibility. These men are provided therapeutic contacts ranging from 'friendly chats' to specific didactic sessions on sexual problems. Through such techniques many offenders are able to discover a new type of interpersonal relationship and to markedly strengthen their internal controls" (Pacht et al., 1962-a, p. 806).

Group psychotherapy of exhibitionist outpatients is described in detail by Rosen (1964) whose account is psychoanalytically oriented. Among other features, he describes the transference relationship between the individual and the group, the connection between sexual exposure and aggressive behavior as a defense against feminine identification and homosexual impulses, complementation (the way in which the group members interact in a lock-and-key fashion with each other's psychopathology) and the group recognition that some of their inhibited members needed disinhibiting in certain areas while other members needed to gain greater impulse control.

Hadden (1968) also utilizes a psychoanalytic framework in group psychotherapy with homosexuals and describes similar therapy with a group of pedophiles (Peters and Resnick, 1965). The pedophiles were matched with an untreated control group and all pedophiles were followed up two years after release on probation. Prior to treatment the experimental group was judged to

contain more disturbed and antisocial individuals than the control group. The experimental group also had a higher incidence of previous arrests for non-sexual offenses. At follow-up, members of both groups had avoided sex crime arrests, the untreated control group scored three arrests for non-sexual offenses while the treated group remained arrest free. The authors concluded that, provided an appropriate treatment program can be made available, it is undesirable for pedophiles to be incarcerated.

Milieu therapy can be dealt with under the heading of group psychotherapy despite the fact that Stürup's (1965) term, "integrated individualized therapy", is a better indication of its real nature. This approach, used at Herstedvester under Stürup's guidance, makes use of the day-to-day experiences of the offender in the institution to re-educate him for living in the community. He is helped to plan his future realistically, to rebuild his self-respect, to accept the reality of the unpleasant aspects of himself and to change those aspects in such a way that his personal growth is his own doing. Crime is regarded as an interpersonal event. Hence, appropriate therapy is mediated by understanding interpersonal dynamics -- by unraveling and comprehending the interlocking complex of interpersonal perceptions and expectations, "not only as the key to what has happened but what is going to happen" (Vail, 1968, p. 133).

Peters et al (1968) report an outcome study of sex offenders treated by group psychotherapy. The Philadelphia General Hospital engaged 1600 convicted sex offenders in outpatient group psychotherapy between 1955 and 1965. Those referred for treatment tended to be compulsive offenders. Of those completing treatment in group psychotherapy 92 were compared with 75 controls who had received routine probation supervision. Criteria were (i) recidivism rate for both sexual and non-sexual offenses, and (ii) Likert-type scales reflecting adjustment in areas such as sex behavior, marriage and parental role, social relationships, self-esteem and employment. The treatment and the control groups were compared for rank order of improvement as rated by psychiatrists and the offenders themselves. On all measures there were no differences between the groups, not even in the area of sexual adjustment.

C. INDIVIDUAL PSYCHOTHERAPY AND PSYCHOANALYSIS:

Most therapists dealing with aberrant sexuality on an individualized and verbal level can hardly avoid being strongly influenced by psychoanalytic theory. A brief overview of the psychoanalytic orientation will provide a perspective with which to consider individual psychotherapy.

Lorand (1967) pinpoints the first unified theory of sexual perversion as beginning with Freud's Three Essays on the Theory of Sexuality and claims that many current psychoanalysts agree with Freud's basic proposition that "the nucleus of perverse sexuality lies in the Oedipus complex". Despite Lorand's own opinion that no specific etiology or psychodynamics have been established for the wide variety of sexual behaviors which analysts consider "perverse", he goes on to say: "Since perversions are, without exception, a mixture of perverse manifestations and neurotic symptoms, patients who come for treatment because of their perversions do not come solely for that reason. They come because of the various degrees of anxiety, unhappiness, dissatisfaction and depressive moods connected with their perversions. It is true that all these anxieties can generally be considered as fear of castration and that the patient's perverse practices aim at a defense against and a denial of the castration fear" (Lorand, 1967, p. 42). According to this view, whenever the client is faced with heterosexuality the castration fear is activated, the defenses against it cause regression to the libidinally charged partial drives (oral, anal eroticism, etc.) representing the fixated stage of the client's psychosexual development. That is, "the partial sexual drive which has been most highly cathected will be carried over in later phases of develop-

ment and sexual gratification will be achieved through these partial sexual drives" (Lorand, 1967, p. 53). Because these partial sexual drives were experienced in relation to an early love object (e.g. the mother) the same frustrations, guilts, aggressive impulses and anxieties of infancy and childhood are at work in the unconscious, causing a distortion of the yearned-for heterosexual gratification. These distortions, the perverse symptoms, reflect behavior patterns established at various levels of infantile psychosexual development, and psychoanalytic therapy aims to uncover these dynamics, making them conscious to the client's ego and hence to a resolution, or at least a control, of the conflicting emotions. To uncover the dynamic causes, the defenses against recognizing them must be reduced. The core of psychoanalytic therapy, then, is the analysis and elimination of the relevant psychic defenses. This is carried out in the context of the analytic transference situation. As the pathological defenses weaken, the client can experience cathartic insight into the dynamic causes of his condition. As his psychic conflicts become conscious the process of "working through" enables the client to achieve a realistic adjustment in place of the neurotic compromise.

Such a theory tends to lead therapists in the direction of the passage quoted below, about which the present writer has serious reservations: "The combination of a correctional setting, an indeterminate sentence, and the inadequate personality of the sexual deviate tend to produce specific problems in psychotherapy which may not be encountered in other settings. The most outstanding of these is a type of resistance in which the patient eagerly grasps onto a psychological or moralistic formula which provides him a rationalization for his behavior. This serves as a superficial explanation for his difficulties which may also lead him to a conviction that he will not repeat the offense. If an individual states that he is going to stop repeating his aberrant behavior, and holds to his belief on the basis of an alleged change in his morals or an alleged understanding of his difficulties, he sets up a tremendous road-block to treatment. The patient who clings to such a position effectively removes the need for the therapist or any further therapeutic change. The most satisfactory way to avoid this resistance is for the therapist to be constantly aware of any tendencies in himself toward adopting a psychiatric 'party-line' which the inmate can learn and parrot back to him. The inmate must be constantly questioned as to what he actually does understand about himself and both he and the therapist must realize that the areas involved are so complex that they can never be treated with certainty. Optimally, therapy should be conducted in a situation where the offender is moderately anxious and both uncertain and concerned about his propensity to repeat his offense. The inmate who leaves the institution with doubt and apprehension is perhaps a better risk than the one who leaves with an ultimate assurance of being cured" (Pacht et al., 1962-a, p. 806).

Dingman et al. (1968) found that after one year of living back in the community a group of 79 pedophiles rated both their "ideal self" and their "real self" concepts significantly more negatively than they had done at release. The authors expressed concern that this deterioration in self-concept could signal increased potential for sexual recidivism. "This negative trend of evaluations of self and ideal self...may have reflected deep-seated anxiety over the continuation or resurgence of fantasies about children and the desire for bodily contact with a child. This shifting pattern may reflect basic problems and a consequent sloughing off of the earlier facade and socially desirable stereotype" (Dingman et al., 1968, p. 794). Such an evaluation has implications not compatible with the view of Pacht et al. (1962) quoted above. If low self-esteem, and uncertainty over the permanence of the changes wrought through treatment, can lead to repetition of a sexual offense, then high self-esteem, and the maintenance of "hope" for the stability of a non-deviant sexual orientation, should tend to be associated with non-repetition of aberrant behavior. To release a sex offender in a condition of "doubt

and apprehension", constantly questioning his own unconscious motives and uncertain about whether his treatment has been effective, may very well lead to just the relapse that the "doubt and apprehension" is supposed to guard against. It may well be that a sex offender who has been given a rational and convincing explanation for his deviant sexual behavior -- regardless of whether it is the correct explanation or not -- can, by clinging to this explanation, maintain his self-concept, his hope for the future, and hence his non-deviant behavior. Certainly on his release to the community he should feel able to "remove the need for the therapist". The achievement of this last ability is important in men who notoriously "verbalize their lack of responsibility for their behavior and express a desire for somebody to provide direction for them" (Pacht et al., 1962, p. 804).

Brief or infrequent individual psychotherapy of sex offenders is probably of little value. Glueck (1956a)reports that such contacts in Sing Sing may have alleviated some situational anxiety and depression, but was "essentially useless" in creating personality or behavioral changes. Of fifteen men who received intensive individual psychotherapy three shifted their sexual orientation from boys and youths to adult males -- not a surprising shift in the prison situation. Glueck comments that many authors have discussed the obstacles to intensive analytically-oriented therapy in prisons and that the Sing Sing experience confirmed their opinions.

A few journal contributors have begun to describe eclectic treatment programs in which individual psychotherapy and behavior modification techniques are utilized concurrently (Fox and Di Scipio, 1968; D'Alessio, 1968). There is no obvious reason for not using whatever combination of therapeutic strategies will achieve the desired end -- the enhancement of the client's welfare. Where a specific difficulty can be corrected via a medical or behavioral technique considerations of ideological purity should not deter the therapist. In fact, "...a combination of analytic and behavioral techniques may be more emotionally satisfying for a patient than behavior therapy alone. This, in turn, may help to encourage a patient to continue with practical methods until the attainment of the therapeutic goal" (Fox and Di Scipio, 1968, p. 281).

TECHNIQUES OF ASSESSMENT

Probably the single most important reason for the uncertainty that exists about the efficacy of treatment for sexual aberrations is the lack of a halfway satisfactory assessment measure. Perhaps there can never be a fully satisfactory method for judging the degree of treatment success in this area. In the final analysis the success of a treatment depends upon (i) a precise specification of exactly what forms of behavior the client should be exhibiting in the post-treatment period and (ii) a life-long follow-up of each client, with (iii) an accurate account as to how closely his actual behaviors approximate the specified goal behaviors. The following consideration of possible assessment techniques will illustrate that what we are able to do falls considerably short of the ideal.

I. SUBJECTIVE IMPRESSION AND SELF REPORT:

Skilled clinicians draw on clinical experience and sophistication in making judgements as to whether a particular client has changed substantially in the desired direction. The reliance on clinical judgement is sometimes all that can be done. It is, nevertheless, a none-too-satisfactory method. Clinicians vary in the criteria of change they employ, in their perceptions of the person they observe, and of the inferences they draw concerning the inner state of the person and his future probable behavior. There is little consistency among clinicians. Therefore attempts to compare, integrate, and evaluate efficacy of a specified treatment plan necessarily provide uncertain and

tenuous results, particularly in studies which rely solely on clinical judgements.

Kozol et al. (1966) state a set of criteria they utilize in making an assessment of whether a sex offender is ready to return to the community. First of all they want to know whether the client has been conditioned against a repetition of his original offensive behavior. They give no clear indication as to how they determine this. Secondly, they make a judgement of the degree to which the client has experienced insightful dissipation of his neurotic distortions -- again, apparently, purely on the basis of the therapists' subjective, if educated, guess. With somewhat greater precision, no doubt, a determination can be made on the client's psychotic or non-psychotic state. Although they are obliged to make judgements of the client in the context of a prison-type setting, the therapists want to know to what extent the client has matured in attitudes of social responsibility and has developed a passionate concern with the welfare and interests of others. Another criterion is the degree to which the client has rid himself of hostilities and resentments, considers himself a mature adult and recognizes that his sexual behavior involves responsibilities towards others.

It does not take unusual perspicacity to realize that clients become aware of these criteria and, being highly motivated to demonstrate that the required changes have taken place, produce the verbal and behavioral evidence with which to convince the therapist that treatment has, in fact, been successful.

In general, reliance on client report must always be suspect. Behavioral methods no less than cognitive-verbal approaches are subject to inaccurate, as well as false, self-reports from clients. McConaghy (1969), in discussing Freund's early behavior therapy work with homosexuals, points out that a long follow-up period has resulted in Freund being the only behavior therapist "to report that some of his patients at later interviews admitted that they lied about their degree of response at earlier interviews" (McConaghy, 1969, p. 723).

In the case of incarcerated sex offenders the problem of assessment is especially speculative. In most cases the offender's preferred sexual object is absent. There is no way of assessing whether, in real life, he is still sexually attracted to small boys, or has impulses to rape old women, or will go to lengths to indulge a bizarre fetish. Since these stimuli are available to him only in fantasy, and since only he has the power to make his private world public, the client is in an excellent position to manipulate the situation in accordance with what he perceives to be his own best interest. To expect accurate self-reports under such conditions assumes more objectivity and integrity from the client than can reasonably be expected of him.

II. RECIDIVISM RATE:

"One measurement of social rehabilitation is the extent to which sex offenders recidivate although realistically, it is impossible to know how many men committed a new sex offense but were not reported, or were reported but not apprehended, or were arrested but not tried, or were tried but not convicted. Nevertheless, recidivism rates are the best indicators we have of a patient's success or failure according to legal and societal expectations" (Frisbie, 1965, p. 55).

Recidivist figures are of considerable interest to the officers of the law enforcement, legal and corrections systems. No doubt they also carry some weight with politicians. The mental health worker, however, should view them with a skeptical eye. What the figures undoubtably reveal is how many ex-prisoners again fell foul of the law. But that is all. From these figures the psychiatric worker cannot tell very much about the success of therapy. He cannot tell, for example, whether a 10% recidivism rate means that 10% or 100% of treated offenders failed to respond to treatment. That is, he knows

that at least 10% failed to maintain a legal sexual orientation; but the actual percentage of treated offenders who again commit sexual offenses may be much higher -- many of them just do not get caught again.

It is probable that sex offenses involving assault or force will be more accurately represented in recidivist figures than will incest and child molesting of a non-violent kind because, on the face of it, assaults are more likely to be reported to the police. Because of this likelihood it makes sense to consider recidivism rates in terms of separate categories of offenses. In addition, recidivism rates should be based on a constant follow-up period, such as a five year period from time of release.

Frisbie's (1965) follow-up data, based on 1,921 male sex offenders released from Atascadero State Hospital in California, show that one in every five ex-patients recidivated sexually. However, as Frisbie emphasizes, citing a figure in this way is "misleading and erroneous", for the reasons just outlined. When separate types of offenses are analyzed separately it becomes apparent that patterns of re-apprehension and conviction do vary from one type of offender to another. For example, Californian homosexual pedophiles have a higher probability of recidivism in the second year of their release, whereas heterosexual pedophiles maintain almost the same probability of recidivism during their fourth year as during their first year back in the community. When recidivism figures were tallied over a five year follow-up it was found that 18.2% of heterosexual pedophiles recidivated while 34.5% of homosexual pedophiles were reconvicted. It is clear that the index of potential recidivism varies substantially with the type of offense. It is of interest to note, in passing, that 7% of the heterosexual pedophile recidivists, and 10% of the homosexual pedophile recidivists, shifted to offenses with adults. In summary, the Atascadero study revealed that the largest patient group (heterosexual pedophiles) were least recidivistic, incest cases being least frequent within that category. Homosexual recidivism was almost twice as high. The recidivism rate for rapists was even higher.

This rank ordering of recidivism rates is exactly what should be expected if one avoids the error of supposing that the rates are an accurate reflection of the frequency of behavior and instead one merely regards them as a reflection of the extent to which behaviors lead to apprehension and conviction. A man is less likely to be discovered and charged for fondling the genitals of a small girl (and particularly a daughter) than he is if his activities are directed towards small boys. Serious sexual assaults on women are less likely to be overlooked by the victim, her relatives, or the police. One might assume that the incidence of recidivism for rape is not too far below the incidence of rape actually committed by released rapists. Yet even in the case of rape there is good reason to conclude that the actual incidence of rape bears little relation to the number of rape cases heard in court. In the Minority Report of the Commission on Obscenity and Pornography the dissenting Commissioners quote the following comment on rape from the U.S. Department of Justice in their 1970 Unified Crime Reports: "This offense is probably one of the most under reported crimes due primarily to fear and/or embarrassment on the part of the victims" (Commission on Obscenity and Pornography, 1970, p. 473). It is a safe bet that the rate of recidivism for rapists is not a very accurate reflection of the rate of committed rapes on the part of released rapists. The recidivism rate for pedophilia, however, is very probably considerably lower than the actual incidence of pedophilic activity among released pedophiles.

In his analysis of 2,934 Danish cases Stürup (1965) gives a 6.8% recidivism rate for first offenders, but a 24% rate for those who had already recidivated at least once. He also notes different rates for different types of offense. In examining English recidivism figures Stürup makes one very curious observation, namely, that recurrent recidivism was higher in offenders receiving short prison terms or probation than occurred among those who were fined. Social class and/or economic factors might be responsible for such a pattern.

Without further information speculation about it is idle.

The Pennsylvania Probation and Parole Board (1968) collected recidivism data on 4,641 sex offenders during a 20 year period (1947-1967). Only 1.2% were reconvicted for violent sex crimes and these were included in the total of 3.9% who were reconvicted for some type of sex offense. Figures such as these make it obvious that comparisons between studies of recidivism are virtually meaningless in the absence of any standardization of (i) state laws, (ii) administrative policies and practices of law enforcement agencies, (iii) disposition policies of psychiatric and legal officers, and (iv) analysis of raw data into relevant categories.

Mandel et al. (1965) provide a detailed demographic breakdown on 149 male sex offenders sentenced in Minnesota between July 1, 1960 and June 30, 1962. Previous sex offenses had been incurred by 18.8% of these men. Over three quarters of the offenders came from working class employment brackets (as compared with one quarter of the Minnesota male population in this vocational category). This is an interesting statistic and gives rise to the following speculations by the present writer: It is generally recognized that lower socio-economic groups in society are more conservative (i.e. less permissive) in their attitudes towards unconventional sexual behaviors. Upper and middle class groups tend to be less concerned about non-violent sexual aberrations and are also highly motivated to avoid public scandal. It is plausible, at least, that there is an increasing likelihood of complaint and prosecution for sexual offenses as one moves from the higher to the lower socio-economic brackets. Added to this possibility is the likelihood that citizens from lower socio-economic strata, by comparison with middle and upper class citizens, are less able to utilize money and influential connections to avoid police and court actions.

In considering recidivism rates for sex offenders and in planning treatment programs it is wise to keep in mind the predominant sexual attitudes of most offenders and to recognize that these may often be a function of their social milieu. "Research shows that the early social environments of sex offenders may be characterized as sexually repressive and deprived. Sex offenders frequently report family circumstances in which, for example, there is low tolerance for nudity, an absence of sexual conversation, and punitive or indifferent parental responses to children's sexual curiosity and interest. Sex offenders' histories reveal a succession of immature and impersonal socio-sexual relationships, rigid sexual attitudes, and sexually conservative behavior" (Commission on Obscenity and Pornography, 1970, p. 285).

Prosecuted sex offenders represent only the tip of an iceberg. "Police estimate that only 20% of sex offenses which occur come to their attention. Over 30% of the alleged felonious sex offenses brought to the attention of the Minneapolis, Minnesota Police Department from November 1, 1960 to October 31, 1961 were dropped after investigation due to refusal of victims to sign complaints (18%), or for insufficient evidence to prosecute on a sex charge (13%). Once brought to court, the offender was often permitted to enter a plea of guilty to a materially lesser charge in lieu of a trial for the more serious offense" (Mandel et al, 1965, p. 240). In the light of this information it is clear that recidivism rate alone would be a totally inadequate measure of the effectiveness of a treatment program from a psychiatric viewpoint. While the whole process of arrest, conviction, incarceration and treatment may lead to future circumspection and discretion in the offender's exercise of aberrant sexual impulses, there is no satisfactory way of knowing to what extent such behavior actually occurs among released sex offenders. Maybe recidivists are simply those whose sexual orientation was not substantially altered and who failed to develop discretionary skills with which to avoid detection. Many non-recidivists may retain their original sexual preferences but learn to be extremely cautious in pursuing them. The longer the follow-up period, of course, the greater confidence one can place in recidivism rates, because it can be

assumed that a one time sex offender who has not been apprehended in 20 years has either changed his sexual behavior or, at least, is behaving in sexually non-injurious ways.

All the above considerations need to be kept in mind while contemplating the results of the sex offender follow-up study reported by Long et al (1970). Of 86 sex offenders returned to the community in Minnesota between June 1953 and December 1964, 10.5% again offended sexually. In the absence of specialized treatment for sex offenders in Minnesota the major meaningful comparison that could be made with regard to disposition was between (i) offenders placed on probation and (ii) offenders imprisoned and subsequently paroled. Among the former group 12.8% committed further sex offenses, while 7.8% of the latter group did so. Despite the fact that the difference between the groups is not statistically significant, and despite the complicating factor of inequalities in length of follow-up period, the question of learned discretion is unanswered. Could the parolees have learned to be more circumspect in their sexual behavior than the probationers? Or were the probationers placed on probation because their offenses were less injurious and therefore, perhaps, more likely to recur?

Long et al. (1970) also tabulated recidivism figures for 22 sex offenders who received some form of counseling or psychotherapy either as outpatients (N=8) or in hospital (N=7) or in prison (N=7). The outcome tends to favor offenders who were recommended for treatment after initial evaluation. However, the relationship between "recommended for treatment" and "no further sex offense" is a weak one, as well as being based on a very small number of cases.

The major value of studies of recidivism in evaluating treatment programs for sex offenders is in (i) indicating a minimum failure rate, and (ii) providing a baseline against which researchers can evaluate prognostications, based on other assessment techniques, for each recidivist. In this way an attempt can be made to develop and refine better methods for probability predictions of success or failure of treatment programs in the case of each sex offender.

III. PSYCHOLOGICAL TESTS:

The use of clinical judgement in the interpretation of projective psychological tests is prone to the same objections that have been levelled at the subjective impression of the client's state by the clinician. As Meehl (1970) points out, for some years there has been a controversy in social science about the relative merits of predicting behavior via clinical, as opposed to actuarial, methods. The actuarial or statistical approach is more objective, depending minimally on interpretation and judgement based on a clinician's experience of cases he has seen. "It is difficult to come up with so much as one single well-designed research study in which the clinician's predictions are better than the statistical table or formula; in most studies the clinician is significantly worse" (Meehl, 1970, p. 9).

The problem is that very little has been done to develop psychological tests that can be used actuarially in the measurement of sexual variables. Cutter (circa 1960) attempted to develop MMPI scales to differentiate "sexual psychopaths" from non-sexual psychopaths and other groups. His results were complex and at this stage it is not known to what extent subsequent research has clarified the original findings. Among other things, it was found that seven MMPI variables were associated with degree of "sexual psychopathy" (as defined by the State of California). However, a post-therapy comparison of recidivists, maladjusted offenders and well-adjusted offenders (tested just prior to returning to court as "no longer a menace") revealed no significant differences between the groups over all 23 MMPI variables measured. "The failure of the MMPI to discriminate sub-group differences among well adjusted, maladjusted, and recidivistic patients points up the presence of non-psycholo-

gical factors, over and above personality disorders, as etiological agents in continued anti-social acts" (Cutter, circa 1960, p. 15).

The Male Impotence Test (MIT) developed by Ahmed El Senoussi is noted in passing. No research reports have been discovered in the literature so that the test's validity is unknown. It purports to measure four factors: (i) reaction to female rejection, (ii) flight from the male role, (iii) reaction to male inadequacy, and (iv) organic impotence. The MIT could very well have potential value as a screening device in the planning of treatment for certain kinds of sex offenders, specifically those in whom a deviant orientation is associated with avoidance of mature women. It would be interesting, for example, to see whether the MIT would distinguish chronic pedophiles from other groups of sex offenders.

The most promising psychological test in the measurement of sexual variables relevant to sexual adjustment is the Thorne Sex Inventory (Thorne, 1966-a; 1966-b; Allen and Haupt, 1966; Haupt and Allen, 1966; Thorne and Haupt, 1966; Cowden and Pacht, 1969; Cowden and Morse, 1970). This 200 item test was originally constructed for the expressed purpose of screening actual and potential sex offenders. Scores are obtainable on the following ten scales: (i) sex drive and interest, (ii) sexual maladjustment and frustration, (iii) neurotic conflict associated with sex, (iv) sexual fixations and cathexes, (v) repression of sexuality, (vi) loss of sex controls, (vii) homosexuality, (viii) sex role confidence, (ix) promiscuity, and (x) masculinity-femininity. Haupt and Allen (1966) showed that statistically significant differences are obtainable between different groups on 8 of the 10 scales. Thorne and Haupt (1966) reported a pilot study (N=346) and a replication study (N=545) involving college students, counseling clients, drug addicts, convicted homosexuals, convicted rapists, convicted murderers, and property crime felons. "A wide range of liberal vs. conservative sex attitudes was convincingly demonstrated at statistically significant levels in both normal and clinical groups...The aggravated sex cases and homicidal felons both were at the extremely conservative, repressed, unadjusted and conflictual end of the continuum, presenting convincing evidence of inability to express strong impulses in socially acceptable ways. The findings support the validity of objective methods of measuring sex attitudes, illustrate wide variance in sex attitudes, and in general support Kinsey's claims to the feasibility of demonstrating differences between various clinical groups" (Thorne and Haupt, 1966, p. 403).

The usefulness of the Thorne Sex Inventory in work with sex offenders has been convincingly demonstrated by Cowden and Pacht (1969) who tested two construction samples (sexually deviated sex offenders, N=82, and a random sample of non-sex offense prisoners from the same institution, N=103) and cross validated their results on a new sample of deviated sex offenders (N=94) and a sample of non-deviated sex offenders (N=61) from the same prison. The construction samples were differentiated significantly on three scales: (i) sex maladjustment, (ii) loss of sex controls, and (iii) homosexuality. The first two of these scales also provided clearly differentiating cutting scores for the cross-validation samples. "Combining these two scales further enhanced their ability to differentiate clearly between (deviated and non-deviated sex offenders), by reducing the proportions of false positives and false negatives. Hence, the Sex Inventory appeared to be of significant value as a diagnostic and screening instrument for sex offenders at this institution" (Cowden and Pacht, 1969, p. 57).

Some other measurement scales have been constructed to aid the assessment of sexual orientation (Kinsey et al, 1948; Feldman et al., 1966). But they are restricted to relatively narrow areas, such as heterosexual-homosexual orientation. The semantic differential approach has been developed by Marks and Sartorius (1967) and used in the clinical assessment of aversive conditioning treatment of sexual deviations (Marks and Gelder, 1967). Clients rate specified concepts (some of which pertain to their sexual problem) on a seven point

continuum for each of six bipolar scales. Three of the bipolar scales measure a dimension of "general evaluation": pleasant-unpleasant, good-bad and kind-cruel. The second dimension is "sexual evaluation", for which the bipolar scales are: seductive-repulsive, sexy-sexless and erotic-frigid. From these six scales two factor scores are obtained which reflect clinical progress during and after therapy. "Since any concept may be chosen to suit individual patients, the instrument is very flexible. A wide variety of emotional feelings (sic) can be scanned in a few minutes' rating by a patient. Scoring is equally easy. Results can be interpreted quickly by simple criteria but, when necessary, can be subjected to statistical procedures for more sophisticated comparisons. The instrument is adaptable enough for intensive study of an individual patient, but it is also simple enough to be administered to large groups of patients. One potential drawback is that intelligent patients might simulate or dissimulate their attitudes on this instrument as on most other measures. This drawback, of course, applies equally to clinical interviews" (Marks and Sartorius, 1967, p. 150).

It is precisely the last mentioned difficulty -- the bias introduced to test answers and self-rating scales by the demand characteristics of the situation -- that continues to plague methods for assessing changes due to treatment. The effort to overcome this stumbling block provides the raison d'etre for the next section.

IV. PSYCHOPHYSIOLOGICAL AND BEHAVIORAL MEASURES:

It has already been pointed out (p. 12) that extraneous powerful reasons exist which may lead a client to tell his therapist that his sexual preferences have changed in the desired direction. A desire to be a "good client" (and hence to please the therapist), along with a conscious or unconscious desire to avoid prolongation of an uncomfortable treatment procedure are enough, in themselves, to cast suspicion on a client's say-so (whether it be an account of his subjective feelings and current sex life, or his answers to a rating scale or questionnaire). In addition, it is also possible that a client's assessment of his own prevailing sexual orientation is quite inaccurate, or is based as much on "hopeful expectation" as on empirical evidence.

An obvious difficulty in basing assessment of change purely on behavioral evidence lies in the not uncommon discrepancy between observable performance and private experience. For example, MacCulloch and Feldman (1967) point out that of their 43 homosexual clients, all five who were having sexual intercourse with their wives needed to utilize homosexual fantasies, on at least some occasions, in order to maintain an erection. In these men, although the behavioral evidence suggested a normal heterosexual orientation their physiological reaction (erection) was to an aberrant stimulus. MacCulloch and Feldman's reliance on their client's self-report of changed sexual interest leaves a large query in the skeptical reader's mind, particularly in view of the unpleasant nature of the treatment.

Attempts to use other non-sexual operant responses to establish pre-treatment baselines, against which to compare operant rates during and after treatment, are open to similar objections. Marks et al. (1965) had a masochistic fetishist wiggle a lever as a simple operant response measure to gauge the effects of aversive conditioning. In the pre-treatment baseline he tended to make more lever responses in the presence of his fetish. He was then told that he could expect to be shocked, depending on the way he responded with the lever, but he was not told on what response parameter the shocks were contingent. Shocks were administered whenever his lever responses exceeded 70 per minute, and his response rate dropped below that level after two sessions of simultaneous presence of fetish object and shock -- a finding which indicates precisely nothing about the fetishist's private feelings towards the object of his erotic pleasure.

What the therapist requires, then, are indicators of the client's real sexual state established independently of his self-report or skeletal responses and, if possible, they should be indicators over which the client has little or no voluntary control. Such indicators are the business of psychophysiology, in which the client is manipulated psychologically (e.g. by presenting him with stimuli) and the effects of this manipulation are measured in terms of peripheral physiological changes (e.g. by measuring his galvanic skin response). In this way the therapist is closer to circumventing a sole reliance on the honesty or accuracy of the client who may indicate what he believes or feels is more acceptable rather than what he truly feels.

Most cardiovascular measures of sexual arousal are complicated by problems such as muscular movement artifact and arousal due to anxiety. For example, Solyom and Miller (1965) measured finger blood volume change to assess the sexual arousal value of pictures of nude females and males. Finger blood volume did increase to female nudes and failed to change for male nudes. The latter, however, had been paired with electric shocks during treatment and the authors concluded that their readings could not "differentiate between arousal caused by anxiety and arousal due to sexual response" (Solyom and Miller, 1965, p. 158). Nevertheless, finger volume and blood pressure (Wenger et al., 1968) are potentially worthwhile measures of sexual arousal. The improvement in automatic instrumentation reported by Shapiro et al. (1969) should help overcome the difficulties of using blood pressure as a reliable index of sexual excitement.

Electrodermal indices, under carefully controlled conditions, may be valid indicators of erotic feeling. Wenger et al. (1968) found that log palmar conductance and the number of skin resistance responses were both significantly greater when the subjects were viewing erotic stimuli than when viewing neutral stimuli. Marks (1968) reports that continuous recording of palmar skin conductance reveals changes in spontaneous fluctuations while subjects were engaging in fantasy. However, observation of such changes does not warrant the conclusion that the subject is predominantly sexually aroused. Solyom and Beck (1967) and Martin (1964) have suggested that GSR measures may indicate conflict, anxiety or sexual arousal. Martin (1964) observed that subjects viewing erotic stimuli under inhibitory conditions produced greater skin conductance readings than when erotic stimuli were viewed under permissive conditions. Nevertheless, the experimental procedures, erotic stimuli, and subjects' ratings of their erotic feelings during the experiment conducted by Wenger et al. (1968) tend to weigh against the possibility that electrodermal measures are always a function of non-erotic arousal. As the authors point out, both the electrodermal changes and the rise in blood pressure indicate increased sympathetic activity and they suggest that "the physiological changes which occur during initial sexual excitement...seem to be most easily accounted for by postulating heightened activity of both branches of the autonomic nervous system" (Wenger et al., 1968, p. 475). In any case, it is likely that electrodermal measures are valid indices of eroticism when they are accompanied by verbal report of absence of anxiety, embarrassment, guilt or other sex-negative feelings, as well as reports of presence of erotic feelings along with tumescence.

The iritic reflex (or pupil size fluctuations due to contractions and relaxations of the eye's iris) is a dubious index of sexual arousal. It also involves difficult control problems and expensive equipment. More research, similar to that of Collins et al. (1967), is needed to establish the parameters of sexual stimuli which produce pupillary dilations.

Barclay (1970) has investigated the possibility of measuring presence of erotic feelings by analyzing the change in level of acid phosphatase in urine specimens before and after viewing erotic material. Acid phosphatase is an enzyme secretion of the prostate gland, but it is not yet entirely clear whether increased levels are due to general autonomic arousal or only sexual arousal. The most interesting of Barclay's findings (1970) was that there was

a significant increase in acid phosphatase level for subjects who rated the erotic stimuli as sexually arousing, and a significant decrease among subjects who claimed they were not excited by the stimuli. Barclay cautiously suggests further research will be needed to confirm the likelihood that increased acid phosphatase indicates sexual arousal over and above general arousal, and speculates that "the large negative difference scores in the non-aroused picture raters may have been the result of a defensive constriction of sexual arousal. That is, having to look at pictures of nude females may prove distressing for some (subjects), resulting in supression of sexual arousal both subjectively and biochemically" (Barclay, 1970, p. 238).

The most promising psychophysiological index of sexual arousal in the male is the quantifiable measurement of penile tumescence. Two methods have been used: (i) measures of phallic volume change via air displacement in a phallоplethysmograph, and (ii) measures of phallic circumference change via a mechanical strain gauge.

While erections of the penis can occur without libidinal desire (e.g. during sleep), when they do occur in the waking state and the subject reports erotic sensations in the presence of sexual stimuli, it can be assumed that penile tumescence is an almost infallible index of sexual arousal.

Freund and his co-workers (Freund, 1963, 1965, 1967-a, 1967-b; Freund et al., 1965, 1970) have made the most extensive use of the phallоplethysmograph in measuring penile volume change in response to sexual stimuli. In a study of the validity and reliability of penile volume change as a measure of sexual interest Freund (1963) found that, of 77 subjects who gave clear records of volume change, only one showed a discrepancy with the case history as far as homo- or hetero-erotic interest was concerned. That is, in an extremely high proportion of cases, it was possible, using measures of penile volume change while subjects viewed projected slides of males and females, to discriminate homo- or hetero-erotic interest correctly. Freund claims that attempts to simulate tumescence were easily detectable because they produce "crude artifacts" in the record. To test this conviction he conducted an experiment in simulation, finding that of 42 heterosexuals, 5 simulated homosexual interest successfully, while 6 out of 24 homosexual subjects successfully simulated heterosexual interest. Nevertheless, all these subjects had been instructed to try to simulate inappropriate responses and had been instructed on how they might best do this (through fantasy inappropriate to the stimuli being presented). Under these conditions the proportion of subjects unable to produce convincing "false" volume changes is impressive.

In a later report (Freund, 1965) an attempt was made to diagnose heterosexual pedophiles in terms of penile volume changes to pictures of men, women and children. While it was concluded that the technique was effective diagnostically, he expressed the opinion that the method was still too crude, adding that "an important improvement might be achieved by the analysis of the rapidity changes of volume increases and decrements" (Freund, 1965, p. 234). Subsequently, Freund and Costell (1970) reported that both the acceleration score and the combined acceleration/volume score proved to be better indices than the volume difference score alone, while the latency of response was of dubious value.

Karacan (1969) and Barlow et al. (1970-b) describe mechanical strain gauges which provide a measure of penile circumference change. These have an advantage over the phallоplethysmographic apparatus in that the strain gauge can be worn under clothing and is generally less cumbersome.

Measures of phallic tumescence and detumescence have been used by behavior therapists for two purposes: (i) as a diagnostic index of erotic preference, and (ii) as an index of the effects of therapy. McConaghy (1967) showed a color travelogue movie to 11 heterosexual and 22 homosexual males. At intervals throughout the movie there were 10 second shots of naked, moving males or females intended to be erotically stimulating. All heterosexual subjects

recorded heterosexual orientation, the difference in scores for male and female stimuli being statistically significant in all but one subject. Of the 18 homosexual subjects for whom completed records were obtained, 14 gave homosexual scores (all but 4 being statistically significant). Of the 4 homosexual subjects who gave heterosexual responses, two were heterosexually active (in their marriages) and one claimed to be more attracted to women than to men.

In a technical report Bancroft et al. (1966) outlined the use of a penile strain-gauge in following the effects of over 2,000 trials of aversion therapy. Marks and Gelder (1967) supplemented other measures of the effects of treatment with scores of phallic circumference changes and found that the direction of change was consistent for all measures. McConaghy (1969) compared pre-treatment and post-treatment penile volume changes to the same erotic stimuli. He did this with two groups: an experimental group of 20 treated homosexuals and a control group of homosexuals tested at the same times but without aversive treatment intervening. Significant changes in the heterosexual direction were found for the treated group. Barlow et al. (1970a)also used penile circumference changes in response to colored slides of nude males and females as a measure of therapeutic effectiveness in their work on covert sensitization.

Laws and Rubin (1969) argue that there is evidence to suggest that tumescence and detumescence may be at least partly under voluntary control. They showed an erotic movie to four normal adult males and employed a signal detection/subject response procedure to ensure that their subjects were observing the films at all times. When instructed to produce an erection in response to the film all subjects could do so. Likewise all could attain a substantial inhibition of tumescence when instructed to do so. That this was not a function of fatigue was attested to by the fact that even after nine viewings of the same film during the one experimental session subjects could still obtain full erections when asked to produce them. When viewing an erotic film they had never seen before these same subjects were able, on instruction, to inhibit full erection. "Development of erection without the aid of an erotic film was apparently accomplished by the subjects' thinking about sexually exciting things or events ('fantasizing'). They all indicated that they attempted to relax in the chair as much as possible and concentrate on sexual thoughts. All were able to develop partial erections using this procedure. There was, however, a distinct difference between these 'fantasy' erections and the film-elicited erections. The latter were characterized by short latencies to the maximum level (full erection) and a generally smooth and regular response recording. The 'fantasy' erections, on the other hand, had long latencies, low peak levels (partial erection), and showed some variability throughout the period when the instructions were in effect" (Laws and Rubin, 1969, p. 98).

It would appear, then, that while tumescence is almost certainly a sign of either desired or involuntary sexual arousal, the absence of tumescence may indicate sexual indifference or voluntary inhibition of tumescence. Accordingly, as an index of sexual interest, measures of tumescence should be more reliable than measures of detumescence. Penile tumescence appears to be the least ambiguous measure of sexual arousal and interest in the male. Its major disadvantage is that it depends upon subject cooperation.

From the foregoing considerations a number of conclusions suggest themselves. When psychophysiological techniques are used to assess the nature of a client's sexual interests, the measures of arousal should be consistent with the client's reported behavior, feelings and interests, as well as being consistent with other measures and with the therapist's clinical judgement. Procedures should be developed to distinguish sexual arousal to erotic stimuli from general arousal, arousal due to anxiety and from orienting responses. Some of the artifacts may be minimized via habituation procedures <u>in situ</u> -- and by desensitizing those attitudes, feelings, tensions and so on which inhibit free experience of sexual arousal. As a result of treatment, of

course, the aim would be to aid the client to experience sexual arousal to the appropriate stimuli (mature women) under the appropriate circumstances (when a woman is receptive), but to inhibit arousal when the stimuli and circumstances are inappropriate. For the psychophysiological measurement of sexual interest in the laboratory, however, encouragement and training in the achievement of erotic feelings and erections enables the therapist to trace the changes in erotic preference as a result of the course of treatment. Such changes should primarily be indicated by quantifiable variations in penile tumescence when the client is exposed to various erotic stimuli. Concomitant reports of erotic feelings should be obtained on a self-rating scale. Introspective reports of the absence of sex-negative feelings (e.g. guilt, disgust, anxiety and indifference) are desirable. External stimuli (photos, movies, tape recordings) are to be preferred to fantasy, but only if the external stimuli are of a sufficiently robust nature (i.e. are generally considered to have high arousal value). So far as is possible the stimuli for each subject should be tailor-made to his erotic preferences. In the case of treatment situations these stimuli could then be gradually changed until arousal to relatively "normal" stimuli was obtained.

SOME THOUGHTS ON OPTIMUM THERAPEUTIC TREATMENT FOR SEX OFFENDERS

A psychotic male who commits a rape is appropriately classified and treated as a psychotic rather than as a rapist; a severely retarded person who has been apprehended in sexual activity with a child will be diagnosed primarily as oligrophrenic rather than as pedophilic. Where inappropriate sexual behavior is secondary to a serious psychiatric condition it may well be that treatment of the sexual aberration -- if it is a habitual sexual symptom of his primary illness -- can be modified. The main focus of treatment, however, should be on the primary abnormal condition.

The strategy with the greatest pay-off is likely to be a "total push" program with offenders whose sexual behavior is their primary problem. This could be most effectively carried out in a specialized treatment facility in which milieu therapy could embrace almost any and all of the treatment techniques described in this paper. As Abroms (1969) has expressed it: "... milieu therapy refers to the organizational machinery for providing all of the therapeutic modalities discussed heretofore in a synergistic, consistent manner, i.e., it is a mode of organizing the therapeutic means towards the preferred ends. Thus milieu therapy is the fullest embodiment of the eclecticism of techniques...The population appropriate to milieu therapy, it would seem, are those who most require a multiple impact approach:...the socially deviant, and those most deficient in social skills" (Abroms, 1969, p. 518).

An independent facility specifically designed for the treatment of sex offenders would provide the maximum flexibility in the therapeutic approach to each individual case. Such a facility should encompass out-patients, in-patients not requiring confinement, and in-patients whose confinement is dictated by law or by prudence. There should be a strong research emphasis in the various treatment programs used. But, in general, one might anticipate a five-step strategy, in which the steps outlined below might overlap or intertwine to some degree:

1. A thorough and extensive pre-treatment assessment should be made of each client's sexual history and behavioral patterns, his sexual preferences and interests, his general personality and social adjustment, and his social skills (particularly in relation to normal heterosexual interaction) together with an examination of the social situation from which he has come and to which he is likely to return.

2. A sexual education program of largely personalized nature is desirable thereby facilitating amelioration of the client's inadequacies or distortions of knowledge, understanding and sensitivity. This period would provide a

deeper understanding of the client on the part of the clinical therapists, as well as establishing the client's motivation, rapport and cooperation which is essential for treatment. Group and/or individual psychotherapy would continue concomitantly with all stages of treatment.

3. Individualized, specific treatment based on a carefully considered assessment of everything that is known about the client can then begin. A flexible, eclectic approach by a highly skilled multi-disciplinary treatment team would tailor the treatment procedures to the individual needs and problems of the client. (i) Essentially, the immediate tactic would probably be to extinguish, suppress or otherwise block, inhibit or eliminate the client's deviant desires, impulses, interests and behaviors. This might be done in a variety of ways, from the chemical manipulation of libido, through one or another of the aversive conditioning techniques, to group therapy. (ii) Concurrently, attempts would be made to dissolve pathological blocks to establishing a normal, or socially acceptable, pattern of sexual behavior. Aversion-relief, systematic desensitization, positive reinforcement for sexually normal responses and orgasm reinforcement would provide a natural progression into the next stage of treatment.

4. Direct sexual therapy and resocialization should be thoroughly integrated. Once a breakthrough has been achieved in redirecting the client's aberrant sexual interests, the most crucial aspect of the treatment program would involve learning to form mature interpersonal relationships with women, establishing and consolidating confident skills in initiating and maintaining sexually healthy relationships, and learning to value and desire mature heterosexual relations with receptive women. Highly trained professional partner surrogates would be essential for the successful treatment of many clients. In the case of married men, or men with established heterosexual relationships, the wife or girlfriend should probably be involved. "Partner surrogate... (indicates) the partner provided...for an unmarried man referred for treatment who has no one to provide psychological and physiological support during the acute phase of the therapy...Statistically there is no longer any question about the advantage of educating and treating men and women together when attacking the clinical concerns of male or female sexual inadequacy" (Masters and Johnson, 1970, pp. 147-148).

The core of the program at this stage would involve (i) learning and practicing social skills designed to facilitate confidence and to promote the client's attractiveness in his interpersonal relations with women; (ii) specific education in appropriate courting, wooing and sexual interactions; (iii) facilitating "good" heterosexual experiences for the client, i.e. sensitive, successful and satisfactory heterosexual behavior with a sexual partner (either wife, girlfriend, or partner surrogate) which would be reinforced both by its own success and by social and therapist approval within the treatment program.

Social, interpersonal and sexual education would continue throughout this phase of the program and would probably extend into post-treatment follow-up "booster" programs. The same would probably be true of supportive, expressive or interpretive psychotherapy if the client seemed able to benefit from it.

5. Post-treatment assessment would be essential. Some form of assessment would, no doubt, be used at points throughout the treatment program as an aid in directing therapeutic emphasis. A major assessment would be necessary towards the end of each client's program for two reasons: (i) to determine the prognostic outlook for the client who would be followed-up and perhaps provided with out-patient "booster" therapy, but who would no longer be in an intensive treatment program; and (ii) for research purposes, to determine what pre-treatment to post-treatment changes have occurred.

The assessment procedures would probably include indices of sexual interest and arousal (e.g. acid phosphatase levels, penile tumescence and other psychophysiological techniques), various pencil-and-paper tests (e.g. Sex Inventory, Semantic Differential, and so on), clinical appraisal of reoriented

sexual activities, and rated judgements concerning, interpersonal, social, sexual and personality adjustment.

Such a treatment program for selected sex offenders would benefit the community in several ways. First, with appropriate changes in the law the community would be relieved of the economic burden of prolonged incarceration of the offender in a prison or security hospital. The treatment program, designed to be intensive, would be of limited duration (say, six months for any particular offender). Return to the community would be made contingent on the offender's motivation to change and cooperate, and upon the evidence of sexual reorientation achieved. Thus the community benefits doubly: it avoids the cost of prolonged custodial care, and it profits from the return to work of those productive individuals whose aberrant sexual behavior has temporarily prevented their usual work contribution. Provision might be made for temporary incarceration of those cases whose co-operation or response to treatment was insufficient to warrant a return to the community. At regular periods (say, every twelve months) the offender would be given the opportunity to return to the treatment program, on the understanding that return to the community was contingent on sufficient evidence of change at each post-treatment assessment review.

Secondly, the community would be reassured that offenders who were released had received vigorous treatment and had been rigorously assessed. A strong post-treatment supportive and rehabilitation back-up in the community would be an essential adjunct to the intensive treatment program.

Perhaps the most important social advantage of such a program would be its preventive potential. Released offenders, offenders on probation or parole, non-offending deviates fearful of arrest because of their sexual activities, and citizens concerned over a deviant drift in their sexual impulses all could be encouraged to consult with the treatment team and to receive either remedial or prophylactic treatment when deemed advisable. Individuals experiencing sexual difficulties would have access to an existing, effective treatment program which could alleviate their distress and prevent a relatively mild sexual maladjustment from developing to the acute stage at which an offense might occur.

The envisaged program, involving a treatment center independent of and separate from existing facilities, with an autonomous staff, would involve a considerable initial investment and substantial operating costs. As with any worthwhile and serious solution to a problem of this type, half-hearted efforts in the interests of short-term economies would ensure an early demise to what could otherwise be a leading center for research and treatment of aberrant sexual behaviors.

REFERENCES

Abroms, G. M. The new eclecticism. Archives of General Psychiatry, 1969, 20 (5), 514-523.

Allen, R. M. & Haupt, T. D. The Sex Inventory: Test-retest reliabilities of scale scores and items. Journal of Clinical Psychology, 1966, 22, 375-378.

Ball, J. R. & Armstrong, J. J. The use of L.S.D.25 (D-Lysergic acid diethylamide) in treatment of the sexual perversions. Canadian Psychiatric Association Journal, Aug. 1961, 6, 231-235.

Bancroft, J. H. J., Jones, H. Gwynne, & Pullan, B. R. A simple transducer for measuring penile erection, with comments on its use in the treatment of sexual disorders. Behavior Research and Therapy, 1966, 4(3), 239-241.

Bancroft, J. H. J., & Marks, I. M. Electric aversion therapy of sexual deviations. Proceedings of the Royal Society of Medicine, 1968, 61, 796-799.

Barclay, A. M. Urinary acid phosphatase secretion in sexually aroused males. Journal of Experimental Research in Personality, 1970, 4, 233-238.

Barker, J. C. Behavior therapy for transvestism: a comparison of pharmacological and electric aversion techniques. British Journal of Psychiatry, 1965, 111, 268-276.

Barker, J. C., & Miller, M. E. Some clinical applications of aversion therapy. In H. Freeman (Ed.), Progress in Behavior Therapy. Bristol: John Wright, 1968. Pp. 73-87.

Barlow, D. H., Agras, W. S., & Leitenberg, H. A preliminary report on the contribution of therapeutic instructions to covert sensitization. Paper presented at the meeting of the Association for Advancement of Behavior Therapy, Miami Beach, September 1970-a.

Barlow, D. H., Becker, R., Leitenberg, H., & Agras, W. S. A mechanical strain gauge for recording penile circumference change. Journal of Applied Behavior Analysis, 1970-b, 3(1), 73-76.

Barlow, D. H., Leitenberg, H., & Agras, W. S. Experimental control of sexual deviation through manipulation of the noxious scene in covert sensitization. Journal of Abnormal Psychology, 1969, 74(5), 596-601.

Bentler, P. M. A note on the treatment of adolescent sex problems. Journal of Child Psychology and Psychiatry and Allied Disciplines, 1968-a, 9(2), 125-129.

Bierer, J., & van Someren, G. A. Stilboestrol in out-patient treatment of sexual offenders: A case report. British Medical Journal, 1950, 1, 935-936.

Blackshear, P. J., Dorman, F. D., Blackshear, P. L., Jr., Varco, R. L., & Buchwald, H. A permanently implantable self-recycling low flow constant rate multipurpose infusion pump of simple design. Surgical Forum, 1970, 21, 136-137.

Bremer, J. Asexualization: A follow-up study of 244 cases. New York: Macmillan, 1959.

Cohen, M., Seghorn, T., & Calmas, W. Sociometric study of the sex offender. Journal of Abnormal Psychology, 1969, 74(2), 249-255.

Collins, B. E., Ellsworth, P. E., & Helmreich, R. L. Correlations between pupil size and the semantic differential: Stimulus and sex differences. Psychonomic Science, 1967, 9(12), 627-628.

Commission on Obscenity and Pornography. The Report of the Commission on Obscenity and Pornography. Vol. 1. New York: Bantam, 1970.

Cowden, J. E., & Morse, E. L. The relationship of defensiveness to responses on the Sex Inventory. Journal of Clinical Psychology, 1970, 26(4), 505-509.

Cowden, J. E., & Pacht, A. R. The Sex Inventory as a classification instrument for sex offenders. Journal of Clinical Psychology, 1969, 25(1), 53-57.

Cutter, F. Sexual psychopathy: An MMPI survey. Mimeograph copy, circa 1960.

D'Alessio, G. R. The concurrent use of behavior modification and psychotherapy. Psychotherapy: Theory, Research and Practise, 1968, 5(3), 154-159.

Davison, G. C. Elimination of a sadistic fantasy by a client-controlled counter-conditioning technique: A case study. Journal of Abnormal Psychology, 1968, 73(1), 84-90.

Dengrove, E. Behavior therapy of the sexual disorders. The Journal of Sex Research, 1967, 3(1), 49-61.

Dingman, H. F., Frisbie, L., & Vanasek, F. J. Erosion of morale in resocialization of pedophiles. Psychological Reports, 1968, 23(3, Pt. 1), 792-794.

Evans, D. R. Masturbatory fantasy and sexual deviation. Behavior Research and Therapy, 1968, 6(1), 17-19.

Eysenck, H. J. Introverts, extraverts and sex. Psychology Today, 1971, 4(8), pp. 49f.

Feldman, M. P. Aversion therapy for sexual deviations: a critical review. Psychological Bulletin, Feb. 1966, 65(2), 65-79.

Feldman, M. P. The treatment of homosexuality by aversion therapy. In H. Freeman (Ed.), Progress in Behavior Therapy. Bristol: John Wright, 1968. Pp. 59-72.

Feldman, M. P., & MacCulloch, M. J. A systematic approach to the treatment of homosexuality by conditioned aversion: Preliminary report. American Journal of Psychiatry, 1964, 121(2), 167-171.

Feldman, M. P., & MacCulloch, M. J. The application of anticipatory avoidance learning to the treatment of homosexuality. I. Theory, technique and preliminary results. Behavior Research and Therapy, 1965, 2(3), 165-183.

Feldman, M. P., MacCulloch, M. J., & MacCulloch, M. L. The aversion therapy treatment of a heterogeneous group of five cases of sexual deviation. Acta Psychiatrica Scandinavica, 1968, 44(2), 113-123.

Feldman, M. P., MacCulloch, M. J., Mellor, V., & Pinschof, J. M. The application of anticipatory avoidance learning to the treatment of homosexuality. III. The Sexual Orientation Method. Behavior Research and Therapy, 1966, 4(4), 289-299.

Fookes, B. H. Some experiences in the use of aversion therapy in male homosexuality, exhibitionism, and fetishism-transvestism. British Journal of Psychiatry, 1969, 115(520), 339-341.

Fox, B., & DiScipio, W. J. An exploratory study in the treatment of homosexuality in combining principles from psychoanalytic theory and conditioning: Theoretical and methodological considerations. British Journal of Medical Psychology, 1968, 41(3), 273-282.

Franks, C. M. Reflections upon the treatment of sexual disorders by the behavioral clinician: An historical comparison with the treatment of the alcoholic. The Journal of Sex Research, 1967, 3(3), 212-222.

Freeman, H. Progress In Behavior Therapy: Proceedings of a symposium held at the Postgraduate Medical Institute, University of Salford, on October 21, 1967. Bristol: John Wright, 1968.

Freund, K. A laboratory method for diagnosing predominance of homo- or heteroerotic interest in the male. Behavior Research and Therapy, 1963, 1(1), 85-93.

Freund, K. Diagnosing heterosexual pedophilia by means of a test for sexual interest. Behavior Research and Therapy, 1965, 3(4), 229-234.

Freund, K. Diagnosing homo- or hetero-sexuality and erotic age-preference by means of a psycho-physiological test. Behavior Research and Therapy, 1967-a, 5(3), 209-228.

Freund, K. Erotic preference in pedophilia. Behavior Research and Therapy, 1967-b, 5(4), 339-348.

Freund, K., & Costell, R. The structure of erotic preference in the nondeviant male. Behavior Research and Therapy, 1970, 8(1), 15-20.

Freund, K., Sedlacek, F., & Knob, K. A simple transducer for mechanical plethysmography of the male genital. Journal of the Experimental Analysis of Behavior, 1965, 8, 169-179.

Frisbie, L. V. Treated sex offenders who reverted to sexually deviant behavior. Federal Probation, 1965, 29, 52-57.

Gebhard, P. H., Gagnon, J. H., Pomeroy, W. B. and Christenson, C. V. Sex Offenders; An analysis of types. New York, Harper and Row, 1965.

Glueck, B. C. Final Report: Research Project for the Study and Treatment of Persons Convicted of Crimes Involving Sexual Aberrations. June 1952 to June 1955. State of New York, 1956-a.

Glueck, B. C. Psychodynamic patterns in the homosexual sex offender. American Journal of Psychiatry, 1956-b, 112, 584-589.

Gold, S., & Neufeld, I. L. A learning approach to the treatment of homosexuality. Behavior Research and Therapy, 1965, 2(3), 201-204.

Golla, F. L., & Sessions Hodge, H. R. Hormone treatment of the sexual offender. Lancet, June 1949, 256, 1006-1007.

Hadden, S. B. Group psychotherapy for sexual maladjustments. American Journal of Psychiatry, 1968, 125(3), 327-332.

Haupt, T. D., & Allen, R. M. A multivariate analysis of variance of scale scores on the Sex Inventory, Male Form. Journal of Clinical Psychology, 1966, 22, 387-395.

Horn, J. H., Luthe, R., & Schneider-Jonietz, B. The social and medical indications for treatment with anti-androgens. Collegian Internationale Neuro-Psychopharmacologicum, VII Congress, Abstracts, 1970, Vol. II, p. 484.

Huff, F. W. The desensitization of a homosexual. Behavior Research and Therapy, 1970, 8(1), 99-102.

Jacobson, E. Progressive Relaxation. Chicago: Chicago Univ. Press, 1938.

Karacan, I. A simple and inexpensive transducer for quantitative measurement of penile erection during sleep. Behavior Research Methods and Instrumentation, 1969, 1(7), 251-252.

Kellam, A. M. P. Shop lifting treated by aversion to a film. Behavior Research and Therapy, 1969, 7(1), 125-127.

Kinsey, A. C., Pomeroy, W. B., & Martin, C. E. Sexual Behavior in the Human Male. Philadelphia: Saunders, 1948.

Kozol, H. L., Cohen, M. I., & Garofalo, R. F. The criminally dangerous sex offender. New England Journal of Medicine, 1966, 275, 79-84.

Kraft, T. Behavior therapy and the treatment of sexual perversions. Psychotherapy and Psychosomatics, 1967, 15(5), 351-357.

Kushner, M., & Sandler, J. Aversion therapy and the concept of punishment. Behavior Research and Therapy, 1966, 4, 179-186.

Larson, D. E. An adaptation of the Feldman and MacCulloch approach to treatment of homosexuality by the application of anticipatory avoidance learning. Behavior Research and Therapy, 1970, 8(2), 209-210.

Laschet, U., & Laschet, L. Psychopharmacotherapy of sex offenders with cyproterone acetate. Collegian Internationale Neuro-Psychopharmacologicum, VII Congress, Abstracts, 1970, Vol. II, p. 269.

Laws, D. R., & Rubin, H. B. Instructional control of an autonomic sexual response. Journal of Applied Behavior Analysis, 1969, 2(2), 93-99.

Levin, S. M., Hirsch, I. S., Shugar, S., & Kapche, R. Treatment of homosexuality and heterosexual anxiety with avoidance conditioning and systematic desensitization: Data and case report. Psychotherapy: Theory, Research and Practice, 1968, 5(3), 160-168.

Long, R. F., Grimes, B. P., Kreykes, G., & Swenson, W. M. Characteristics, Disposition and Follow-up of Sex Offenders Admitted to a State Mental Hospital for Presentence Social, Physical and Mental Examination.

(Minnesota's first eleven years of experience with its sex offender law). June 1953 through December 1964. February 1970.

Lorand, S. The therapy of perversions. In H. M. Ruitenbeek (Ed.) The Psychotherapy of Perversions. New York: Citadel Press, 1967. Pp. 41-55.

MacCulloch, M. J., & Feldman, M. P. The management of 43 homosexuals using aversion therapy. British Medical Journal, 1967, 2, 594-597.

Mandel, K. H. Preliminary report on a new aversion therapy for male homosexuals. Behavior Research and Therapy, 1970, 8(1), 93-95.

Mandel, N. G., Bittner, M. L., Webb, R. L., Collins, B. S., & Jarcho, P. The sex offender in Minnesota. The Journal of Sex Research, 1965, 1(3), 239-248.

Marks, I. M. Aversion therapy. British Journal of Medical Psychology, 1968, 41, 47-52.

Marks, I. M., & Gelder, M. G. Transvestism and fetishism: clinical and psychological changes during faradic aversion. British Journal of Psychiatry, 1967, 113, 711-729.

Marks, I. M., Rachman, S., & Gelder, M. G. Methods for assessment of aversion treatment in fetishism with masochism. Behavior Research and Therapy, 1965, 3(4), 253-258.

Marks, I. M., & Sartorius, N. H. A contribution to the measurement of sexual attitude: the semantic differential as a measure of sexual attitude in sexual deviations. The Journal of Nervous and Mental Disease, 1967, 145 (6), 441-451.

Martin, B. Expression and inhibition of sex motive arousal in college males. Journal of Abnormal and Social Psychology, 1964, 68(3), 307-312.

Masters, W. H., & Johnson, V. E. Human Sexual Inadequacy. Boston: Little Brown, 1970.

McConaghy, N. Penile volume change to moving pictures of male and female nudes in heterosexual and homosexual males. Behavior Research and Therapy, 1967, 5(1), 43-48.

McConaghy, N. Subjective and penile plethysmograph responses following aversion relief and apomorphine aversion therapy for homosexual impulses. British Journal of Psychiatry, 1969, 115, 723-730.

McGuire, R. J., Carlisle, J. M., & Young, B. G. Sexual deviations as conditioned behavior: A hypothesis. Behavior Research and Therapy, 1965, 2(3), 185-190.

McGuire, R. J., & Vallance, M. Aversion therapy by electric shock: A simple technique. British Medical Journal, 1964, 1, 151-153.

Meehl, P. E. Psychology and the criminal law. University of Richmond Law Review, 1970, 5(1), 1-30.

Mees, H. L. Sadistic fantasies modified by aversive conditioning and substitution: a case study. Behavior Research and Therapy, 1966, 4(4), 317-320.

Pacht, A. R., Halleck, S. L., & Ehrmann, J. C. Diagnosis and treatment of the sexual offender: A nine-year study. The American Journal of Psychiatry, 1962-a, 118(9), 802-808.

Pennsylvania: Probation and Parole Board. Sex offenders released on parole, 20 year study. Harrisburg, 1968. (Abstracted in Crime and Delinquency Abstracts, 1969, Vol. 6, p. 562).

Peters, J. & Resnick, H. Probationed paedophiles: Treatment results with outpatient group psychotherapy. Paper presented at the 4th World Congress of Psychiatry, Madrid, Spain, September 1966. (Abstracted in Exerpta Medica, Int. Congress Ser. no. 117, September 1965, p. 345).

Peters, J. J., Pedigo, J. M., Steg, J. & McKenna, J. J. Group psychotherapy of the sex offender. Federal Probation, 1968, 32(3), 41-45.

Quinn, J. T., Harbison, J. J. M., & McAllister, H. An attempt to shape human penile responses. Behavior Research and Therapy, 1970, 8(2), 213-216.

Rachman, S. and Teasdale, J. Aversion Therapy and Behavior Disorders: An Analysis. Coral Gables, Florida: Univ. of Miami Press, 1969.

Ramsay, R. W., & van Velzen, V. Behaviour therapy for sexual perversions. Behavior Research and Therapy, 1968, 6(2), 233.

Reich, W. The Function of the Orgasm. (2nd ed.) New York: Noonday Press, 1948.

Riffenburgh, R. S., & Strassman, H. D. A curriculum in sex education for medical students. Journal of Medical Education, 1967, 42(11), 1031-1036.

Robertiello, R. C. Encouraging the patient to live out sexual fantasies. Psychotherapy: Theory, Research and Practice, 1969, 6(3), 183-187.

Rosen, I. Exhibitionism, scopophilia and voyeurism. In I. Rosen (Ed.) The Pathology and Treatment of Sexual Deviation: A Methodological Approach. London: Oxford University Press, 1964, pp. 293-350.

Sadoff, R. L. Sexually deviated offenders. Temple Law Quarterly, 1967, 40 (3-4), 305-315.

Scott, P. D. Definition, classification, prognosis and treatment. In I. Rosen (Ed.) The Pathology and Treatment of Sexual Deviation: A Methodological Approach. London: Oxford University Press, 1964, pp. 87-119.

Serber, M. Shame aversion therapy. Behavior Therapy and Experimental Psychiatry, 1970-a, 1, 219-221.

Serber, M. Shame aversion therapy for sexual deviants. In press, 1970-b.

Servais, J. A clinical study of some cases of psychosexual disorders in man, treated by a libido inhibitor: methyloestrenolone. (English summary) Acta Neurologica et Psychiatrica Belgica, 1968, 68(6), 416-428.

Shapiro, D., Tursky, B., Gershon, E., & Stern, M. Effects of feedback and reinforcement on the control of human systolic blood pressure. Science, 1969, 163:3867, 588-590.

Smith, C. E. Correction treatment of the sexual deviate. American Journal of Psychiatry, 1968, 125(5), 615-621.

Solyom, L. & Beck, P. R. GSR assessment of aberrant sexual behavior. International Journal of Neuropsychiatry, 1967, 3, 52-59.

Solyom, L., & Miller, S. A differential conditioning procedure as the initial phase of the behavior therapy of homosexuality. Behavior Research and Therapy, 1965, 3(3), 147-160.

Stürup, G. K. Correctional treatment and the criminal sex offender. Canadian Journal of Corrections, 1965, 3, 250-265.

Stürup, G. K. Treatment of sexual offenders in Herstedvester Denmark: The rapists. Acta Psychiatrica Scandinavica, 1968, 44 (Suppl. 204), 1-62.

Strzyzewsky, J., & Zierhoffer, M. Aversion therapy in a case of fetishism with transvestistic component. The Journal of Sex Research, 1967, 3(2), 163-167.

Swanson, D. W. Adult sexual abuse of children: the man and the circumstances. Diseases of the Nervous System, October 1968, 29(10), 677-683.

Thorne, F. C. The Sex Inventory. Journal of Clinical Psychology, 1966-a, 22, 367-374.

Thorne, F. C. A factorial study of sexuality in adult males. Journal of Clinical Psychology, 1966-b, 22, 378-386.

Thorne, F. C., & Haupt, T. D. The objective measurement of sex attitudes and behavior in adult males. Journal of Clinical Psychology, 1966, 22, 395-403.

Thorpe, J. G., Schmidt, E., Brown, P. T., & Castell, D. Aversion-relief therapy: A new method for general application. Behavior Research and Therapy, 1964-b, 2(1), 71-82.

Thorpe, J. G., Schmidt, E., & Castell, D. A comparison of positive and negative (aversive) conditioning in the treatment of homosexuality. Behavior Research and Therapy, 1964-a, 1(4), 357-362.

Uehling, H. F. Group therapy turns repression into expression for prison inmates. Federal Probation, 1962, 26(1), 43-49.

Vail, D. J. Mental Health Systems in Scandinavia. Springfield, Illinois, Thomas, 1968.

Wenger, M. A., Averill, J. A., & Smith, D. D. B. Autonomic activity during sexual arousal. Psychophysiology, 1968, 4(4), 468-478.

Wickramasekera, I. The application of learning theory to the treatment of a case of sexual exhibitionism. Psychotherapy: Theory, Research and Practice, 1968, 5(2), 108-112.

Willis, S. E. A philosophy of helping the sexual deviate. In C. W. Wahl (Ed.) Sexual Problems: Diagnosis and Treatment in Medical Practice. New York: Free Press, 1967. Pp. 205-220.

Wolpe, J. Reciprocal inhibition as the main basis of psychotherapeutic effects. AMA Archives of Neurology and Psychiatry, 1954, 72, 205-226.

Wolpe, J. Psychotherapy by Reciprocal Inhibition. Stanford: Stanford Univ. Press, 1958.

Woods, S. M. A course for medical students in the psychology of sex: Training in sociocultural sensitivity. American Journal Psychiatry, 1969, 125(11), 1508-1519.