among British Forces in the Middle East in the second world war. So far 91.6% of the men have been contacted.

The mortality rate of the acute attack was 0.28%, while the recurrence rate over the succeeding six years was 8.3%.

The clinical features of the acute attack are briefly discussed and an account is given of the symptoms which complicated recovery.

In only 3.2% of cases did subsequent ill-health last as long as seven years.

No examples of subacute necrosis leading to cirrhosis occurred in this series, and to date no cases of later developing cirrhosis have been discovered.

A follow-up of this size was made possible only by the co-operation of many people. In particular, we wish to mention successive Directors-General of the Army Medical Services and the consultant physicians to the Army, the Statistical Branch of the Army Medical Department, many Army records offices, the Ministry of Pensions, the Registrar-General for England and Wales, the Registrar-General for Scotland, the National Health Service Central Register Headquarters and Local Executive Councils, a large number of general practitioners, and the patients who wrote to us. We thank these and many others for their generous help. The secretarial expenses of the first part of the inquiry in 1949 were paid for by the Medical Research Council. One of us (R. C. K.) held the Cooper and Coventson Research Scholarship, St. Bartholomew's Hospital. We also thank Mrs. Bartholomew, Miss Benson, Miss Knottenbelt, and Miss McClelland for their valuable secretarial help.

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A FACTUAL STUDY OF MALE HOMOSEXUALITY

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In 1948 the Home Office granted us permission to study some of the problems of homosexuality in prisoners at the open prison at Leyhill and at Horfield Prison, Bristol. The prisoners consented and were promised complete anonymity. Since some were serving long sentences we decided not to publish any results until some time after after all were released.

Homosexual tendencies are widespread in the ordinary population, but for many reasons it is impossible to ascertain their frequency and intensity or the many circumstances involved. Homosexuality can be defined only in a general way, and is often, and erroneously, regarded as identical with homosexual behaviour punishable by law. Since the latter results from strong homosexual tendencies it is among habitual homosexual offenders that the most pronounced forms of homosexuality are often to be found.

Leyhill, an open prison without bars, receives prisoners serving from three years upwards whose behaviour is good. Among them are some selected persistent homosexual offenders. Most are of good intelligence whose only connexion with the world of crime has been through homosexual practices. These subjects were ideal for study, as they were free from serious psychopathy yet unable to resist homosexual urges. Our case material was 64 men (56 at Leyhill and 8 at Horfield) aged from 20 to 61, average 40.5 years: 43 had no previous convictions; 8 had one conviction for homosexual offences, 1 had two, and 1 had several; 9 had convictions for minor stealing and 2 for attempted suicide. Only 10 had served a prison sentence before.

We set out to investigate the somatic, endocrine, and psychological state and to see whether any of these modes of existence could be correlated with the sexual abnormality. We looked for elements common to the group by which homosexuality could be identified apart from active sexual behaviour and for the milestones in the development of the urge and in its establishment as a strong or even inevitable determinant in their social behaviour. The objects were explained to each prisoner. A few showed a natural reluctance to divulge information that might be disadvantageous to them, but confidence was soon gained, and we wish to record our appreciation of their frankness and desire to co-operate, although some had no more wish to be relieved of sexual drive than heterosexuals. A case history, according to a standard plan, was taken.

The meaning and significance of sexual feelings, intensity, constancy, and variability of the urge, the enduring or love attachments, the choice of age of partner, and the attitude to the opposite sex were fully discussed. Physical examination was made and deviations of body build and male secondary sex characteristics, effeminacy, and signs of endocrinopathy were looked for. Many were photographed for record, originally with the idea of somatotyping. This was later abandoned as of little value.

Hormone analysis on 48-hour urines was carried out in each case, but for technical reasons the results were regarded as reliable in only 49. Seventeen prisoners, known to be not homosexual, of corresponding age and length of sentence, whose prison life resembled that of the subjects studied, agreed to act as controls. Their average age was 35 years, in the range 24 to 48. For a variety of reasons complete data were either not available or were regarded as unreliable in some of the 64, so that the totals are not the same for all investigations.

Marital Status

Forty of the men were single, 20 married, 3 divorced, and 1 was widowed. Kinsey *et al.* (1948) have emphasized the continuity of the gradations between exclusively heterosexual and exclusively homosexual behaviour. He evolved a seven-point scale for the estimation of degrees of homosexuality, the individual's place on the scale being determined by assessing the amount of overt homosexual experience and psychic reaction to sex factors. He made it clear that it is impossible to divide people into two categories, homosexual or heterosexual, since people show changes in their ratings on the heterosexual-homosexual scale or even change from exclusively heterosexual to exclusively homosexual patterns, or vice versa. Kinsey ratings are: 0=exclusively heterosexual, no homosexual experience; 1=predominantly

heterosexual, only incidentally homosexual; 2=predominantly heterosexual, but more than incidentally homosexual; and so on up to 6=exclusively homosexual.

When the marital status of our cases is correlated with the appropriate Kinsey rating we find that there is a distinct shift to the heterosexual end of the scale for the "married" group as compared with the "single" group (Table I). The groups have been condensed for statistical evaluation (Table II). The distribution among

TABLE I

(Het. S.)	Kinsey Rating						
	0	1	2	3	4	5	6 (Hom. S.)
Single	—	1	6	5	4	16	8
Married, divorced, and widowed	—	5	4	5	4	5	1
Total in each group	—	6	10	10	8	21	9

TABLE II

	Kinsey Rating		
	0+1+2	3+4	5+6
Single	7	9	24
Married, divorced, or widowed	9	9	6

the three groups is contingent upon the marital status of the subjects, and on the Chi-squared test is statistically significant ($P < 0.05$)—that is, the probability of this difference between the two groups, married and single, occurring by chance is less than one in twenty.

Health Record

More than half the cases gave a history of good health, and only three a history of much illness. There was a history of head injury with concussion in 10 cases, and in five it had antedated the first admitted homosexual behaviour. This figure of 8% does not support the proposition of Silverman and Rosanoff (1945), who reported evidence of an inherited or early acquired organic abnormality of the central nervous system in a significant proportion of 55 homosexuals in a penal psychopathic unit and thought it of causative importance.

There was a history of syphilis in two cases, of gonorrhoea in two, and of syphilis and gonorrhoea in one, contracted in the Services.

In 10 out of the 64 cases (15.8%) there was a history of psychiatric illness: anxiety states, 4; depression, 2; psychopathic personality with depression, 2; chronic alcoholism with depression, 1; chronic alcoholism, 1. Of these 10 cases, three had had recent treatment in mental hospitals. It has been calculated that 8% of the population will have a nervous breakdown and that 3% will at some time have a nervous illness necessitating admission to a psychiatric hospital (Henderson, 1955). It is of interest that the occurrence of nervous illness (15.8%) and of hospitalization (4.5%) are both higher than the normal expectation. Only two had attempted suicide.

Physical Development

Physique.—It has often been stated that typical homosexuals are either of feminine body build—that is to say, with broad hips, rounded contours, and relatively narrow shoulders—or thin and weedy, of the physique corresponding to Sheldon's (1940) ectomorph. In the former there is a feminine distribution of fat—deposited on the hips, thighs, and clavicular regions. In 56 cases a simplified classification of physique on the lines of Sheldon was carried out: 33 were mesomorphs, 10 ectomorphs, 4 endomorphs, and 9 intermediate types. Almost two-thirds of the 56 were of

good physique (the mesomorphs) and only 10 of thin linear physique (ectomorphs). No case showed a typical feminine distribution of fat, and therefore, from the point of view of physique, the group was normal.

Secondary Sex Characteristics.—In two cases there were significant departures from normal sex development—very small testes in one and a solitary normal-sized testis in another. In approximately one-third there was a heavy growth of hair on limbs and trunk and in only four the female distribution of hair—that is, no extension of hair upwards from a horizontal line just above the pubis. Of these four, a definite endocrine abnormality was found in one case only (No. 101). The characteristics of the four were:

Case 23.—No hair on trunk and limbs, apart from pubis and axillae; small genitals; normal breasts and fat distribution. Kinsey rating 5.

Case 44.—Extremely little hair; genitals of average size; breasts and fat distribution normal. Kinsey rating 5.

Case 62.—Hair as Case 23; large genitals; breast and fat distribution normal; Kinsey rating 6.

Case 101.—Extremely little hair; penis normal; testes vestigial (about $\frac{1}{4}$ in.—0.6 cm. diameter); breasts enlarged, tender, and rounded like a girl's. He was tall and thin, and had very little fat. Kinsey rating 6.

Of the 50 cases in which the physical development was recorded, 48 had normal masculine-type breasts. Of the remaining two cases, one (Case 14) had breasts "well padded" for a male. The other (Case 101) is described above.

Investigation of the physique of the group did not demonstrate a relation between effeminacy and homosexuality. There was no clinical evidence of endocrine abnormality, with the possible exception of Case 101. The development of secondary sexual characteristics had followed the usual pattern in age and appearance. The average age for puberty was 14.37 years.

Occupations

The occupations and social class of the 64 cases are shown in Table III.

TABLE III

	Social Class	No. of Cases
Labouring	V	21
Teachers	II	8
Clerks and warehousemen	III	6
Driving jobs	III	4
Gardeners	IV	3
Builders and plumbers	III	3
Cooks and bakers	III	2
Butlers and domestic servants	IV	2
Clergyman	I	1
Various	—	14

The "various" included a wood machinist, tailor, social worker, poster writer, barber, florist, spiritualist medium, mental nurse, cinema manager, printer's reader, cinema projectionist, quarry manager, accountant, and one unknown. According to the Registrar-General's Classification of Occupations the 64 cases are: class I, 2 cases; class II, 12; class III, 23; class IV, 5; class V, 21; unknown, 1 case.

Intelligence and Personality

If an I.Q. of 90–110 is taken as average, the intelligence of the group was: average in 38 cases, below average in 16, and above average in 10. The belief that homosexuals are above average intelligence and social class is not confirmed in our series. Kinsey reports that pre-adolescent sex play is carried over into adult life in 42%, the incidence being higher in the lower educational levels, and that there is less homosexual activity the higher up the social level. Our findings are in agreement, and the peak incidences are in social classes III and V.

The personality of the 64 cases has been classified as: (1) Extrovert (28 cases); persons who are sociable, with external interests. (2) Neurotic (25 cases); persons who are anxiety prone or unstable, concerned with health, shy, and nervous. (3) Introvert or schizoid (11 cases); reserved persons who tend to isolate themselves, may be suspicious,

have few friends, and few or no outside interests. Mild psychopathic traits occurred in two of the cases. It is of interest that 56%—36 out of 64—were of neurotic or schizoid personality, which seems much higher than one would expect in an average population. It is said that some cases of homosexuality are due to inherent or acquired timidity, inadequacy, or personality traits which restrict social contacts to males and hence sex life to males. These personality assessments support this to some extent. It is also relevant how far this type of personality is a product of a disturbed parent/child relationship, especially rejection by the parent of the opposite sex and over-attention or domination by the parent of either sex. In many of our cases there was an unusually deep dependent relationship with the mothers. Case 28 described it as "mutual adoration." That homosexuality may be a symptom of psychopathic disorder has been suggested by Slater (1955) in discussing its genetic aspects. Forel and Kraft-Ebbing years ago, and more recently Noyes (1948), thought that many homosexuals were psychopaths or neurotics. Kinsey takes the view that homosexuality in itself does not provide evidence of psychopathic personality and that a high proportion of homosexuals would not be considered as psychopaths on the basis of anything else in their histories. Our experience of convicted and other homosexuals agrees with this.

Interests

It is commonly believed that homosexuals incline to intellectual and artistic interests and enjoy feminine occupations. The case material has been analysed according to: (1) Intellectual interests (10 cases)—for example, literature (fiction and non-fiction), philosophy, interest in national and world affairs, serious politics, science; (2) sport (37 cases)—for example, both participation and supporting interest in sports; (3) music and art (34 cases)—for example, active or passive indulgence in music, painting, sculpture, and the theatre; (4) feminine interests (7 cases): these were noted only if there was a pronounced interest in such subjects as housecrafts, feminine fashions and garments, care of young children, etc.; one man had brought his brothers up, nursed them, bathed them, changed their nappies and, when a boy, preferred to stay at home in the evenings to do housework. Eleven cases had no interest in any of these activities. None had an interest in all four.

It is most unlikely that 55% of the normal population would have artistic interests, so this analysis supports the view that homosexuals on the whole incline to cultural tastes. Also, 11% interested in specifically feminine activities seems much more than normal, but 16% favouring intellectual subjects is probably no higher than normal and disagrees with the view that homosexuals are unusually intellectual.

Nine of the 64 (14%) were scoutmasters or assistant scoutmasters, and, with the possible exception of one, all had had homosexual relations with scouts under their care. This suggests either that scouting strongly activates latent homosexuality or that homosexuals deliberately or unconsciously may join the scouting movement because of the attractiveness of boys or of the opportunities.

Alcohol

Alcohol was not important. Only five had been heavy drinkers, with two probable chronic alcoholics. One man preferred women when sober, but was homosexual when he had taken drink; and another said that his homosexual drive was increased by drinking. Norwood East (1947) states that "lessened control of the higher mental faculties resulting from alcoholic indulgence may disclose for the first time the latent homosexuality."

There was a high incidence of excessive drinking or chronic alcoholism in the fathers of our group, which is of interest. In 16 of the 64 it was severe enough to disrupt home life. Although there is often a connexion between alcoholism and homosexuality, since public-houses offer

opportunities for associations between men, there is no record of homosexuality in any of the fathers. This pronounced incidence of alcoholism may possibly be an indicator of latent homosexuality in the father, and a genetic factor may therefore be involved.

Attitude to Offspring, Other Children, and Siblings

Of the total of 24 married men (including divorced and widowed), 15 had a total of 43 children, of whom 21 were boys. There were nine childless marriages. Of these 24 men, 17 expressed affection for children. The remainder were lukewarm, but no one actively disliked children, 11 preferred boys, three girls, and 10 had no preference.

Many homosexuals wish to have children in marriage, but without desiring coitus. One man (Case 43) stated that he would have married to have children, but objected to sexual intercourse.

The 24 married men had an average attitude to siblings, affection in 17, friendly relationship in 3, equivocal in 2, and antagonism in 2. Ten preferred sisters. Only one preferred a brother. The remainder were indifferent. There were a number of instances of homosexuality in childhood and youth with brothers, but sex play with sisters seems rarely to have occurred.

Other Known Homosexuals in the Family, and Genetic Aspects

Other homosexuals in the family were discovered in only five cases. These were two older brothers, two maternal uncles, and a maternal male cousin. The question of familial incidence in connexion with the circumstances of the "earliest awareness of homosexual drive" raises the issue of genetic factors which the present study cannot clarify. Silverman and Rosanoff (1945), studying 55 homosexuals in an American prison hospital, report that in only two cases was a definite history of homosexuality in the family obtained.

Neustatter (1955) quotes Norwood East that many homosexuals have their first homosexual fantasies at a very early age—for example, 4 years old—before seduction is likely.

Kallmann's (1952) study of homosexuality in 85 twins is very relevant. Forty-five of the 85 had a binovular twin brother, and 42.3% of these displayed overt sexual behaviour. This approximates to Kinsey's estimate of 37% of American males who had had at least one homosexual experience to the point of orgasm. The other 40 were uniovular, and all the twin brothers showed overt homosexuality, including those who had been brought up away from the twin brother. They all denied mutual homosexuality and apparently kept their sex life secret from their twins. Kallmann concludes cautiously that, from a genetic point of view, there are multiple factors operating and that male homosexuality is an "alternative minus variant in the integrative process of psychosexual maturation comparable with left-handedness in a predominantly right-handed world."

Heterosexual Experiences of the Group

The preference for the company of men or women was expressed as follows: 33 preferred men, 18 preferred women, and 13 were indifferent. There was no correlation between the preference and the Kinsey rating, but social reasons may have decided the choice. One man (Case 23), Kinsey rating 5, preferred women's company "because he was lonely and wanted someone to go around with." Another (Case 32), Kinsey rating 5, preferred women and would have liked to have a wife and children to look after. He was impotent with women. Some homosexuals marry to secure a home and comforts.

Of the 64 cases, 45 (70.3%) had had heterosexual experiences, and most of them on many occasions. This agrees with the Kinsey ratings, which show a scatter from grades 1 to 6, with the peak at 5. Of these 45, 22 were heterosexually promiscuous and had had intercourse with at least three

different women. Obviously there was no grade 0 (completely heterosexual) but there were only nine grade 6 (completely homosexual). This shows that it is impossible to divide men precisely into two groups—homosexual and heterosexual. Table I shows that the highest incidence is in grade 5.

First Awareness of Sex and Development of Homosexuality

The limits of first awareness of sex were from 5 to 17, the mean 12.3 years. Of 61 cases with reliable data, the first observed sex drive was heterosexual in 37 (60.6%), the homosexual in 24 (39.4%). Examples of the former are:

Case 7.—He became aware of penile erections with fantasies of females.

Case 8.—When in hospital for scarlet fever at age 12, he was bathed by a nurse and had an erection.

Examples of early homosexuals are:

Case 2.—He has never at any time found females sexually attractive or had any heterosexual experiences. The first sexual awakening was at the age of 6 when he was introduced to mutual masturbation by another lad and thereafter practised it.

Case 3.—At age 15, in a weight-lifting class with other boys dressed in shorts, he had an erection and emission; the sight of other boys semi-stripped excited him sexually.

It is clear that, apart from seduction, in about 40% and chiefly those with rating 5 or 6, the sex drive was homosexual from the beginning. Although this does not necessarily rule out a psychogenic explanation it does demonstrate that it is not necessarily a manifestation of vice, but has some of the characteristics of instinctive behaviour with which the individual has to contend (or accept) whether he likes it or approves of it, or not.

The first awareness of homosexual urge was later than the sex drive in general. The first awareness of homosexuality in 56 cases ranged from age 5 to 46, the mean 16.6 years. This was 4.3 years later than the mean first awareness of the sex drive in general—that is, 12.3 years. This is accounted for by the fact that in many cases the sex drive was initially heterosexual but later became bisexual or homosexual. For example, one man (Case 5) declared that heterosexual attraction was stronger than homosexual until he was 21, when it swung over to homosexual. It is unusual, however, for a change from heterosexual to homosexual to occur after the early twenties. In this series only five were first aware of homosexual drive after 22. Case 40 is of interest. This man was a married Welsh coal-miner aged 50, of low intelligence. A year before the offence his wife had discontinued sexual intercourse. This frustrated him. He was convicted of sodomy with two boys, aged 8 and 9, on a mountain. He said that something compelled him to the acts which he could not have prevented. They were probably substitutive owing to deprivation of a normal sexual outlet.

Nature of the Earliest Homosexual Experience

Mutual masturbation with an individual of the same age was the usual first homosexual experience, and occurred in 42 cases (68.8%). Sodomy was next with 12; then came handling of another's genitals in five, the subject's genitals were handled in one, and in one there was an act of fellatio. A history of seduction by an older male was elicited in 14 cases, the seducer being a relative in only four—in two an older brother, and in two a maternal uncle. Thus seduction by a male may really be important as Stoller (1946) and many others have suggested, as it was reported by 20% of our group.

Importance of Schools.—Only eight cases out of 61 (13%) claimed to have been initiated at school, and the number of public-school boys, if any, must have been small. The mean age of first awareness was 16.6 years, which is beyond usual school age, and organizations such as scouts, boys' brigades, joint clubs, and choirs are more important areas of possible initiation.

Military Service.—Very few of the men were initiated to homosexuality in the Forces. One man (Case 15) stated that "the other soldiers were doing it, and it aroused similar feelings in me." No further information was available, and we did not have the opinion that, unlike scouting, the opportunities or contacts of national service were provocative. Tradition and censure may be deterrents.

Type of Homosexual Activity

The most common forms of homosexual activity are sodomy and mutual masturbation. Much less common are fellatio and intercrural and interbuttock intercourse. Any, or all, may be indulged in by the same person, and relatively few restricted themselves to the one mode. 45 (70%) indulged habitually in sodomy; 25 habitually active, 15 both active and passive, and 5 passive only. 39 of the 45 also indulged in mutual masturbation, of which 28 also practised sodomy—13 active, 12 using either or both, and 3 in a passive role only. Fellatio with five cases was rare, and in none was it the major form. According to some of the cases, prostitutes suggest this to certain of their clients to stimulate libido.

It is said that homosexuality implies passivity and that the "true" homosexual prefers the passive role. This is contradicted by this series, since only 5 out of 45 cases practising sodomy were exclusively passive. They rate high in the Kinsey scale—one in grade 4, one in grade 5, and three in grade 6. If one uses the term "passive" in regard to personality there were no striking correlations. The majority of the men sought their varying objectives with as much energy and initiative as the non-homosexual prisoners. A very few adopted a rather feminine appearance and carriage, but this could not be equated with passivity, although women are usually regarded as more passive than men.

There was no history of sadism or aggression in any case.

Perversions and Oddities.—Contrary to the view that the sex life of homosexuals shows many abnormalities, in only three cases were deviations other than homosexuality found. Case 26 was attracted by boys' noses; they were sexual objects, and if he grasped a boy's nose he had an orgasm. Case 101 was stimulated by the sight and touch of breasts, male or female, even his own. This is abnormal only in so far as it is pathologically intense. Case 82 desired to be a woman in every possible way. He even kept house for them and indulged in sex play with them to the point of orgasm, but "only as a fellow lesbian." He eagerly wanted to be a man's mistress or wife, to bear children, breast-feed them, and rear them.

Object Choice: Boy or Adult, or Both?—The object choice may be a boy or an adult or both, but there are no representative studies of the relative preference, and authors do not agree. Since long sentences are much more usual where boys are involved and ours is to some extent a selected group, it is doubtful if the findings are representative, although the study covers persons from many walks of life and a wide spread of ages. The distribution of object choices for 60 cases is: boys, including teenagers, in 39, both boys and adults in 15, and adults only in 6.

Stanley-Jones (1947) states that sexual seduction of young persons by the "natural invert" is rare, and these people choose an adult as their object. This is probably not true; and, in contrast, Taylor (1947a) reported that of 96 men admitted to Brixton Prison in 1946 charged with homosexual offences, 57 involved boys.

Constancy and Number of Partners Involved, and Nature of Attraction

Of 60 cases with valid data 83% were promiscuous. The remaining 17% had a succession of partners, rarely sticking to one for long. A few would have preferred a stable association, but were in fact promiscuous. The two reasons given for desiring a single partner were (a) affection and

(b) greater safety from detection by the police and from venereal disease.

The homosexual attraction was considered as physical, intellectual and cultural, and social. The term "physical" implies that it is bodily physical attraction that excites, irrespective of other qualities. 61 cases contributed. The attraction was purely physical in 26 (42.6%) and in 22 (36%) physical plus "intellectual" or "social." It was just something they could not explain. Often the social and intellectual level of the partner was of no consequence, and probably the attraction was physical. Two men said that nothing mattered, except that the boy should be interested in homosexual activity. So strong was the physical attraction that one man, a poster-writer, "fell madly in love" with a defective boy while in prison. Intellectual, cultural, or social qualities did not act alone as a powerful source of attraction in a single case. When in a few cases a strong emotional relationship develops it is usually stimulated by frequent sexual activity. The majority of homosexuals appear to seek only a sexual outlet. What constitutes physical attraction varies, examples being "a smooth-faced skin," "good-looking youths," "fair-haired smooth-skinned people," "athletic type with handsome features." Where the relationship was monogamous the affairs never lasted more than four years, and after parting another affair was soon organized. Although lasting and deep relationships are possible between adult homosexuals, in our material there were only six (10%) whose choice was exclusively adult, and only two of these restricted themselves to one partner.

Homosexual Drive: Its Strength and Variability

The homosexual drive does not seem to be more powerful than the heterosexual. This implies that the problems of its control are similar. It sometimes seems that the control of homosexuality is much more difficult than of heterosexuality; but this is not necessarily so, and even in the 15 cases where it was very strong it did not appear to be uncontrollable. In 42 of 61 cases (68.8%) its intensity was regarded as average, but in only four cases as weak. It is of interest that in these the Kinsey ratings were 1, 2, 2, and 5 respectively, and the 15 cases were chiefly at the opposite, homosexual, end.

The ability to control drive varied, and it was assessed as good in 26, fair in 19, and poor in 16 cases. To some extent the degree of control is related to the strength of the drive, and 11 of the 16 with poor control had very strong drive. Many cases, however, appear to have made very little attempt at control. For example, one man (Case 82), Kinsey rating 6, declared that "man should follow his nature" and that he would indulge as far as he physically could and his partner would allow.

The strength of the drive seems to vary with circumstances, particularly with the temptations. Homosexuality is provoked if opportunities are offered and the impulse is strong and difficult to resist, but if there are no opportunities it tends to diminish. It was claimed that deprivation of heterosexual possibilities sometimes produces an increase in strength of the homosexual urge; for example, when a wife became inaccessible or averse or lost interest. Two men said they lost interest in women and became homosexual after a broken love affair; and several did so for fear of making a woman pregnant.

The homosexual drive seemed to be "steady" in intensity in only 23 cases, and phasic and irregular in the remainder. One man thought it was more intense in the summer because of the better opportunities. In three it was strongest when they were worried.

It was not possible to estimate the frequency of indulgence, for the governing factor was usually opportunity.

Effect of Segregation in Prison and Attitude to Social Sanctions

In 17 out of 58 cases (29.3%) there was no change in the intensity of the homosexual urge during imprisonment; in

one case the intensity increased, in 28 (48.3%) it was definitely reduced, and in 12 (20.7%) it disappeared or became dormant. Two of the last group thought they had become heterosexual instead.

Twelve expressed feelings of shame or guilt. The majority of the remainder were indifferent to the social and legal sanctions but were anxious to avoid being caught again or punished.

Sex Dreams and Homosexuality

Kinsey *et al.* (1948) state: "The parallel between the content of the nocturnal dream and overt daytime experience has been recognized by all people, primitive and civilized, since the dawn of history." He found that the dream situations were usually heterosexual when the sex life was heterosexual and homosexual when it was homosexual, and when there were both heterosexual and homosexual experiences the dream situation showed both. According to Taylor (1947a) 11 of 13 "true inverts" had homosexual dreams.

Our findings are in agreement. Of 60 cases, 19 (31.6%) had homosexual dreams (15 of these had an average Kinsey rating of 4.8), 7 had mixed homosexual and heterosexual dreams (average Kinsey rating, 3.1), 12 claimed to have only heterosexual dreams (average Kinsey rating was 3.0), and 22 had no sex dreams.

Endocrine

There have been a number of attempts to discover an endocrine cause in homosexuality. Wright (1935), Glass and McKennon (1937), Neustadt and Myerson (1940), and others thought that there was a reversal of sex dominance from male to female. They claimed to find a reduction in androgens measured as 17-ketosteroids and an increase in urinary oestrogens, so that the normal ratio of androgens/oestrogens was significantly reduced. These results have been criticized on the grounds of technical inaccuracy, and Myerson and Neustadt (1946) were unable to substantiate their earlier work. Allowance for age does not seem to have been made. According to Hamburger (1948), 17-ketosteroid excretion is maximum at 25 years and decreases thereafter. His average for 137 males was 15.4 mg., the upper and lower limits being about 50% above and below the average respectively.

In our study estimations of urinary ketosteroids were carried out by Callow's modification of the Zimmerman reaction for ketosteroids, and oestrogens were expressed in rat units per 24 hours. The results are shown in Table IV.

TABLE IV

	Age Group (Years)	No. of Cases	Keto-steroids	Oestrogens	A/O Ratio
Homosexuals	20-29	8	10-5	10-5	2-3
	30-39	14	19-5	5-0	3-84
	40-49	14	13-0	7-5	2-54
	50 and over	13	11-4	5-64	2-35
Controls (normal males)	20-29	3	17-9	—	—
	30-39	10	16-1	12-8 (9 cases)	2-5 (9 cases)
	40-49	3	14-2	12-6	1-9

These findings make it almost certain that there is no significant difference between the ketosteroid output of homosexuals and normal males, and there is little difference between the androgen/oestrogen ratio of the homosexuals and the control group. There is surprisingly little factual literature dealing with homosexuality, and only one paper (Garst and Stobin, 1955) on endocrine investigations on homosexuals in prison. Unfortunately their material was a mixed group of 49 homosexual and heterosexual sex offenders. Nevertheless there was no significant difference between the 17-ketosteroids of the 49 sex offenders and the 20 controls. There is in fact no evidence that castration leads to alteration in the direction of the sex drive, although it reduces its intensity. Stürup (1948), discussing the results of castration in 161 cases in Herstedvester Institution in

Denmark, said that four sexual recidivists were all homosexual. More recently the *British Medical Journal* (1955), quoting from the *International Review of Criminal Policy*, No. 4, 1953, refers to 134 sex offenders, including 49 homosexuals, treated by castration in Denmark. Of these, the five who relapsed were all homosexuals who associated with boys. None of the castrated heterosexuals relapsed.

The available evidence is that the direction of libido is influenced by psychological and environmental conditions and possibly a genetic factor, and not by sex hormones, which appear only to modify the intensity of sex activity. This view is shared by Allen (1947), Beach (1948), Kinsey *et al.* (1948), and Swyer (1954). Our investigations accord with these views and are completely against the hypothesis that homosexuality is an endocrine disorder in any sense.

Cases with High and Low Ketosteroid Excretion.—There were seven cases with ketosteroid excretion 50% above the average level—that is, approximately 24 mg. a day. They were 29.6, 30.6, 27.8, 35.5, 26.2, 40.1, and 43.5 mg. a day respectively. There were no special features in the case histories of any of these subjects. The only point of note was that the Kinsey rating of the group was mainly at the homosexual end of the scale—rating 6, 5, 5, 5, 5, 1, and 3. The average age of these men was 32.7. There were no subjects with feminine characteristics or physique, and the constitution varied from spare to muscular. The forms of homosexual activity varied. Four subjects, aged 50, 61, 51, and 44 (average 51.5), had low excretion values—7.4, 7.8, 7.3, and 4.7. Their Kinsey ratings were 5, 5, 1, and 1. None showed any abnormalities of physique or were feminized. There were no special features.

Treatment

Six cases had had recent psychotherapeutic treatment, either in Wormwood Scrubs and Wakefield Centres or outside prison as well. Their Kinsey rating was 6, 5, 6, 5, 5, and 2. While there had been no alteration in the direction of sex drive, there had been an increase in well-being with a reduction in anxiety.

Several men refused treatment because it meant leaving an "open" prison for a "closed" prison. One claimed that he had seen four failed results in prison. Others said they would only like to have their sex drive reduced to avoid reconviction but did not want any alteration. Five cases had received oestrogen therapy in prison because of difficulty in controlling sex drive and of the associated feelings of anxiety. They all reported a reduction or abolition of libido, with corresponding freedom from the need to seek relief in masturbation or to indulge in erotic fantasies. Two of the patients claimed an improvement in general health. Their Kinsey ratings were 5, 6, 1, 1, and 5. No case reported any change from homosexual to the heterosexual direction.

There was an excellent review on treatment by Taylor (1947a), who studied the year's intake of persons charged with homosexual offences admitted to Brixton Prison in 1946. There were 96 such prisoners, compared with 198 charged with heterosexual offences. Of the 96 cases, 57 involved offences against boys. Taylor classified the 96 cases into four groups: (1) pseudo-homosexuals, (2) bisexuals, (3) prostitute group, and (4) true invert, the last consisting of only 13 cases. Few of group 1, none of group 2, none of group 3, and few of group 4 were suitable for treatment. Of the 13 true invert, seven had had intensive psychotherapy by well-known psychiatrists prior to conviction. Of the remaining six, three refused treatment and three were unsuitable for various reasons.

Discussion

This investigation of 64 homosexuals undergoing long prison sentences has demonstrated only minor differences between homosexuals and normals. In this, our study agrees with our wider experience in clinical practice and hospital, and that of one of us (A. L.) previously as a prison

medical officer. These conclusions have all the greater force if one considers that the case material was selected for the intensity of homosexuality, as it is in men with a long history of persistent homosexual activity, mainly against boys, that one would expect to find other aspects of homosexuality or special differences most marked. There is no evidence of endocrine disorder as such, or any evidence that a particular kind of constitution or body build is associated with homosexuality.

Homosexuality appears to us to manifest itself as though it were a constitutional condition, although psychologically determined, with possibly a genetic factor. This is not to say that homosexual behaviour is inevitable or uncontrollable. It appears that latent homosexuality can be activated by a combination of circumstances, and in some cases heterosexual feelings and activity may weaken and disappear, being replaced by homosexuality. Bisexuals and homosexuals may get married and associate with women. The effeminate manner and curious preciousness of attitude and behaviour so much mimicked and ridiculed is a real part of the psychological pattern of a small proportion of homosexuals. It appears to us the outcome of the continuous conflict between the masculine role in society and feminine urges. In this, it appears to be an overdramatization, an unconscious theatrical urge to attract attention to the role the individual desires to play. It is not intended to be an enticement for homosexual purposes, and is an end in itself.

This conception of homosexuality agrees with the general characteristics of the contributions that homosexuals have made to the arts. By and large, they have not been responsible for profound creations in music, literature, or even in painting. They often excel in design, decoration, theatre, dancing, plastic display, interior decorating, and dress designing, which require an innate taste and sense of colour or form. History agrees with our small series that prolonged, faithful, and deep homosexual relations are greatly the exception, and the legendary examples from the classics usually end in sorrow and death.

It seems to us that there should be more clear thinking about treatment. We have yet to find any evidence, in our experience or in literature, that the direction of intensely homosexual drives can be successfully altered.

Lack of opportunity and relief from anxiety and loneliness can do much to limit homosexual activity. We feel that confirmed homosexuals who seek provocative hobbies or occupations like teaching and scouting should be judged both on their homosexual behaviour and on the decisions that they took in order to get the opportunities. There is no doubt that psychotherapy in selected cases can do much to establish a better social adjustment and the ability to control homosexual urges.

Hormone treatment undoubtedly succeeds in diminishing libido, and it relieves patients from anxiety by giving them the feeling that they can control their urges.

Summary and Conclusions

Sixty-four homosexuals in prison were studied.

There was no evidence of endocrine abnormality or marked effeminacy, and the urinary excretion of 17-ketosteroids and the androgen/oestrogen ratios were of no diagnostic value.

Neurotic and schizoid types and a history of psychiatric illness were rather high. Psychopathy and alcoholism were insignificant. High incidence of alcoholism in parents seems to be important, and some of the cases were products of broken homes.

The group was not more intelligent than average, but was more interested in art and culture.

The peak incidences for social class were III and V of the Registrar-General's Classification of Occupations.

Twenty-four were married and had produced 43 children.

Only half preferred men for company, and social reasons were said to be responsible for the homosexual behaviour in about 40%. The homosexual impulse was first experienced at an average of 16.6 years. In some cases homosexuality replaced heterosexuality, but rarely after the early twenties.

In 65.6% initiation was by persons of the same age. Seduction by an older male occurred in 14, but in only 4 by a relative. Military service was not responsible, but group boy and youth activities were suspect. School life was not implicated.

Of the cases, 90% indulged with boys alone or boys and adults.

Dream life of the cases reflected their basic homosexuality.

Other homosexuals in the family were reported by only five—two brothers, two maternal uncles, and a cousin.

The direction of the libido was not influenced by hormones or psychotherapy, but its force was reduced by treatment with oestrogens. Few patients desired treatment, and most of these only to reduce the urge so as to avoid reconviction.

Assessment of these cases and the problem of homosexuality were greatly clarified by using the Kinsey homosexual-heterosexual rating scale.

We wish to express appreciation to the Prison Commissioners for affording us every facility to carry out this work and to publish it (although it does not necessarily represent their views); to the hospital officers of H.M. Prisons, Leyhill and Bristol, for their whole-hearted co-operation; and to the many prisoners who willingly submitted to examination and study in the hope that society might benefit.

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THE CURE OF HOMOSEXUALITY

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In the Wolfenden report the statement is made (p. 66), "We were struck by the fact that none of our medical witnesses were able, when we saw them, to provide any reference in medical literature to a complete change of this kind"—namely, a change in the direction of the sexual propensity from his own sex to that of the opposite sex.

The implication of this statement should not remain unchallenged; for it encourages the view that homosexuality is incurable. There must be many medical psychologists who could point to cures of this radical kind.

It is indeed commonly held that homosexuality is constitutional; that is to say, inherent in the physiological make-up of the individual; that as one person is naturally and constitutionally heterosexual, so, it is said, another is naturally homosexual. This carries with it the verdict: "Once a homosexual, always a homosexual."

Whether there are such constitutional cases cannot be dogmatically stated. There appears to be no direct evidence of this. Havelock Ellis maintained that homosexuality was of a constitutional type, but he admitted to me in person that he made this statement only because he wanted to emphasize that the individual could not help being what he was. But that would be equally so if the condition was due to psychological experiences in early childhood, for which the person is equally not responsible.

Indeed, the case of homosexuality differs little from other perversions such as fetishism in which the sexual impulse is transferred to an inanimate object like corsets or the hood of a perambulator, which can hardly be a constitutional propensity; and which can be cured by discovery of their infantile origin. If the sex instinct can be transferred to such objects as corsets, or patent-leather shoes, there seems no *a priori* reason why it should not be transferred or perverted to those of the same sex.

It is, however, not the purpose of this article to deal with such theoretical considerations, but to deal with the clinical aspects of treatment and cure.

What is Cure?

By "cure" I do not mean the normal transition from the homosexual to the heterosexual phase in adolescence (the "sight of a pretty girl" can do this); nor do I mean that the homosexual is merely able to *control* his propensity, whether on moral grounds or from fear of punishment, important as that is from the sociological point of view. Nor even do I mean, as it is claimed, that by religious conversion a person may lose his homosexual *desires*, unless he becomes heterosexual. Indeed, it is obviously not necessarily a sign of cure that the patient is rendered capable of having sex relations and bearing children; for, as the report states, he might do this by the help of homosexual fantasies. By "cure" I mean that he loses his propensity to his own sex and has his sexual interests directed towards those of the opposite sex, so that he becomes in all respects a sexually normal person.

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