

(5) The fact that physiologists have not yet succeeded in isolating the hormones or chalone of certain of the ductless glands, and therefore cannot *prove*, by experiments on animals, whether these hormones or chalone are or are not absorbed unaltered from the digestive tract, is no justification for our denying to our patients the benefits clinically proved to accrue from the oral administration of extracts of these endocrine organs.

(1) *Journ. Ment. Sci.*, lxxii, October, 1926, p. 482.—(2) F. S. Hammett, *Amer. Journ. Anat.*, xxxii, July 15, 1923.—(3) Hoskins, *Endocrinology and Metabolism*, i, p. 8.—(4) T. Brailsford Robertson, *The Chemical Basis of Growth and Senescence*.—(5) Beaumont and Dodds, *Recent Advances in Medicine*, p. 50.—(6) *Brit. Med. Journ.*, July 24, 1926, p. 151.—(7) *Ibid.*, July 21, 1923, p. 95.—(8) F. L. Golla, "Early Mental Disease," *Lancet*, extra numbers, No. 2, p. 156.—(9) *Brit. Med. Journ.*, July 24, 1926, p. 151.

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*Observations on the Prison Psychoses.\** By H. T. P. YOUNG,  
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FROM time to time in convict prisons examples are seen of certain morbid mental states which are described as distinct disease forms under the name of "prison psychoses." These states may be defined as special types of mental reactions developing upon conflicts which arise as the result of imprisonment, and possibly from the shock attending the criminal act, trial and conviction. They have been the subject of much inquiry, but, on account of the variation in the material which was available and in the conditions under which the studies were pursued, some confusion of thought appears to exist as to what may or may not be regarded as belonging to this class of disorder, and whether, in fact, the classification is not redundant. The sole justification for the use of the term "true prison psychosis" lies in the ability to establish the disorder as a separate entity, lest the name should be applied to conditions which are adequately described under other titles, as has been the case with shell-shock and "barbed-wire" disease.

The problem is one of much interest on account of the relation borne by the condition to the psychoses on the one hand and the psycho-neuroses on the other, and in order that the existence of a separate and distinct disease may be demonstrated, it is essential that all those cases in which the chief external cause cannot be attributed to the effect of prison surroundings should be eliminated.

\* A paper presented at the Annual Meeting held in London on July 16, 1926, and published with the sanction of the Directors of Convict Prisons, although it does not necessarily represent their views.

Thus mental states upon which imprisonment has imposed merely an unusual complexion clearly do not merit a special description. The objection applies more particularly to the cases of persons suffering from the milder and uncertifiable forms of mental abnormality, in whom evanescent mental disturbances are not uncommonly seen. These cases are characterized by vague and transitory delusions of poisoning or other kinds of persecution, impetuous attempts to commit suicide, and the smashing of cell furniture, founded upon a real or imagined grievance, which is sometimes attributable to the result of a conflict with prison regulations. In such persons it cannot be said that similar exacerbations do not occur when outside prison, for it is this class which is answerable for many acts of stack-firing and malicious damage. These states rarely lead to certification in prison and they show little variation in form, but it is clear that if there is to be any differentiation between mental disturbances which arise as a result of prison conditions and those which are met with elsewhere, cases of this kind cannot be accepted as instances of the former type, for their counterparts are to be found in many situations, and are by no means peculiar to prison, although the character of the symptoms may be fairly attributed to environmental influences. For this reason only those persons should be considered strictly eligible for inclusion in the group of whom no history of mental or nervous disease is known apart from their prison records. Subject to this reservation it was thought that persons who failed to maintain their equilibrium in prison were legitimate candidates for a prison psychosis. It must be admitted, nevertheless, that where a mentally unstable person has not developed more serious symptoms when at liberty, some connection may be traced to the effect of imprisonment should he become insane while undergoing a sentence, although this by no means implies that the resulting state is a true prison psychosis. There can, however, be no way of ascertaining without life-long observation how far the disorder may be attributed to imprisonment, or how far a similar development might have occurred elsewhere, given suitable provocation, and on account of this difficulty it was found advisable to allow greater latitude in the selection of cases.

The material from which these observations were made consists of male convicts serving terms of penal servitude of three years and upwards, and of habitual criminals undergoing sentences of preventive detention. They belong to many races and to all grades of society, and they vary in intelligence and in educational attainments.

All the more serious forms of crime are represented. These are  
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grouped for convenience under four headings, and their present distribution at this prison (excluding cases of preventive detention), is shown in the following table :

TABLE I.

	Percentage.
1. Crimes of violence . . . . .	21
2. Sexual crimes { Natural . . . . .	6
{ Unnatural . . . . .	2
3. Crimes of acquisitiveness—	
Embezzlement, forgery, blackmail, counterfeiting . . . . .	19
Stealing, breaking and entering . . . . .	47
4. Other crimes* . . . . .	5

Apart from those prisoners in whom no psychopathic taint is known to exist, there is a small group of men, forming about 5%† of the population at this prison, who, because of some distinct but uncertifiable mental abnormality observed either before or shortly after trial, or for other reasons, have been brought together from all convict stations for special mental observation and treatment. In addition to this group there are concentrated at this prison all convicts whose mental state, at any time subsequent to arrest, has given rise to doubt as to their fitness for ordinary convict conditions. Thus in considering the figures quoted, it should be clearly understood that they refer to a population which is, in part, specially selected, and that they do not represent the conditions at other convict establishments.

During the 5 years immediately preceding the war and 5 years subsequent to it, the average length of the sentences of persons becoming insane from any cause while serving a term of penal servitude at this prison was about 7 years (pre-war period 6·46, post-war period 7·58 years), while the average time spent in prison before symptoms of insanity leading to certification of these persons were observed amounted to about 2 years.‡

Table II shows the average *per cent.* of cases per annum during the same periods which were certified insane in each class of crime, and the average time spent in prison before the onset of symptoms.

In examining previous writings, it is necessary to appreciate the fact that changes have taken place both in the general conditions of penal establishments and in the type of prisoner with which they have to deal. Some differences may also be attributed to the circumstances under which the various authors observed their cases.

\* See footnote 2, page 83.

† During the period 1904 to 1908 inclusive the corresponding figure was 8·9%.

‡ The period from which the above data were obtained was from 1909 to 1913 inclusive and from 1920 to 1924 inclusive.

TABLE II.

	Percentage certified.	Time before onset of symptoms.
1. Murder . . . . .	2·5	2·9 years.
2. Other forms of violence to the person, including robbery with violence* . . . . .	5·6	3·7 „
3. Sexual crime . . . . .	1·6	1·6 „
4. Acquisitive crime . . . . .	17·1	1·4 „
5. Other crimes† . . . . .	1·0	0·7 „

The daily average population was 720.

Thus Delbrück (1), who was, perhaps, the earliest investigator in this field, was in charge of a prison containing a large proportion of convicts who had been sent there from other institutions because they were not amenable to discipline—a fact which is suggestive of mental abnormality of some standing. Reasons have already been given why it did not seem desirable to include such cases in the present series.

All Gutsch's (2) patients developed disease when undergoing solitary confinement. Sommer (3) investigated the cases of men who had been transferred from prison to a criminal lunatic asylum, and Kirn's (4) material consisted of short term petty offenders who had been in solitary confinement. Reich (5), Moeli (6), Ganser (7) and others reported on insanity chiefly among those awaiting trial, while Rüdín (8), Birnbaum (8a) and Bonhoffer (9) relied on observations which they made after the cases had been received into a clinic. Further inquiry shows that few writers, not excepting Siefert (10), had access to cases of long-sentence prisoners in their own peculiar surroundings and when the disease was in its early stages.

Again there is little doubt that punishment, more particularly as inflicted to-day, lacks the severity with which the older continental observers were familiar, and in consequence the comparison of cases of mental disease to be seen in prison at the present time with those previously recorded must be guarded.

It should be mentioned, however, in this connection that whereas harsh treatment and mismanagement in prisoner-of-war camps, where mass imprisonment obtained, was not found to increase the frequency of the anxiety neuroses which arose there, it was not possible to prevent them by just and considerate government (11).

Modern prison discipline, it is thought, is not provocative where it can be maintained in a way appropriate to each of the two chief classes of convicts, the recidivist and the star, and their complete separation is probably beneficial to both in this respect.

\* Where there was more than one charge on the indictment the most serious one was taken as the cause of conviction.

† The heading "Other crimes" includes arson, malicious damage, maiming of animals, illegal operations, bigamy, treason.

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A reference to the annual reports of the Commissioners of Prisons reveals the significant fact that the number of offences and breaches of discipline, particularly those of a violent or resistive nature, in one of the English convict prisons, and the corresponding number of punishments, has been halved in recent years, while the daily average number of prisoners among whom they occurred remains almost unaltered.

Failure to take into account the changes in prison conditions and in the severity of the sentences formerly inflicted would have led to difficulty in arriving at a reason for the greater intensity of the psychoses previously recorded. This added intensity may be partly explained by the fact that coercion gave rise to equivalent resistances, and with its disappearance there has been a corresponding diminution in the vigour of the symptoms.

In becoming more abstract, punishment has a greater effect upon the first offender, and it diminishes in potency in all respects as the convict's experience of imprisonment grows. The present tendency is for order and discipline in the prisons to be maintained more and more through enlisting the goodwill of the prisoners themselves. The classification of convicts according to the presence or absence of a criminal history, the privilege of earning remission by industry and good conduct and recently the organization of "honour" parties are examples of this. These measures result in the formation of a body of opinion among the less experienced convicts which is found to be a satisfactory means of checking irregularities of conduct and breaches of discipline, besides acting as a form of insurance against a subsequent relapse into crime.

But certain psychopathic individuals (*e.g.*, those of the *præcox* type) might develop greater seclusiveness, and with it a liability to further deterioration on account of this unless provision were made to guard against it. For persons who happen to be temperamentally asocial find on admission to a convict prison that they must become units of a community from which some form of mental dissociation provides the easiest means of escape. Thus it is characteristic of a certain type of psychopath, when he is admitted to a hospital ward, to request a transfer to a cell in order to avoid being in association with other prisoners. Such a contingency would be more apt to arise in the case of first offenders were it not for the separate treatment of these prisoners who, as a class, show a tendency to avoid contact with recidivists.

The maintenance of some such barrier was perhaps the surest way in the hands of prison officials of preventing recidivism among adult prisoners up to the time when complete separation of stars from recidivists became effective. It is probable that the loss of

support afforded by organized discipline and *esprit de corps* ("the stabilizing force of the group mind"—Mott) was an important factor in the production of anxiety states in prisoners of war, and that the segregation of star convicts (consisting of first offenders only) in separate prisons has the effect of counteracting this feeling of isolation, while the risk of contamination is reduced to a minimum. The few points in penal methods thus touched upon give an indication of some of the administrative reforms which have been carried into effect in recent times, and they will make clear the fact that association does not provide the only solution of many of the problems which arose as a result of solitary confinement, since experience has shown that those persons who are liable to develop mental disorder when in prison are the ones who prefer to isolate themselves from the rest of the community. Indiscriminate association, like indiscriminate discipline, has therefore been discarded, and better relations between convicts and prison personnel have been established.

Among other matters in which the modern system differs from the old, the question of occupation is probably the most important. It is recorded that anxiety states were common in prisoner-of-war camps where no work was available, and that in those where agricultural or other forms of manual labour were to be had the disorder was distinctly less prevalent (12).

Whereas in the prisons labour was formerly regarded as a method of inducing fatigue, it is now looked upon as a productive physical and mental exercise, and the extension of work hours has been attended with beneficial results to the prisoners.

Recently the question of occupation in the treatment of abnormal mental conditions has been receiving attention, particularly in America, where occupation therapy (13) has been practised on an extensive scale in the hospitals and asylums. Conditions in general and mental hospitals, however, cannot be compared with those prevailing in a convict prison. The satisfactory results which have been obtained in places where cure of mental disease is the object are no assurance of the success of similar methods in prisons, where it is desired to inculcate regular habits of work as a means of discouraging recidivism, incidentally checking the development of morbid mental states thereby. An examination of the tasks in which the conditions most closely resemble those of a contented industry reveals the fact that there is a decided preference among prisoners for employment calling for the exercise of their creative abilities. Examples of the most sought for tasks are those of fitting, carpentry and brick-laying with their associated trades. Agricultural work appeals to few but those who are farm labourers by trade.

Prison labour is, of course, deprived of one of the chief sources of interest, and is therefore more liable to become monotonous, in that it lacks the incentive of a weekly wage. In factories where repetitive work is inevitable schemes have been devised, of which Taylorism (14) is an example, to act as a counterpoise for the industrial unrest which is to some extent dependent upon monotony, and the stimulation of interest which they have brought about has led to a delay in the onset of fatigue and a reduction in the minor sickness rate (15). Opportunities in prisoners for aimless or active pernicious thinking after labour hours have become fewer as a result of the encouragement given to voluntary self-education, evening classes, the use of library books and other measures designed to preserve a healthy outlook, with the result that "smashing up" and other forms of abreaction are extremely rare except in persons of known mental abnormality.

Among other factors having a possible bearing upon the development of mental disorder in convicts the question of sexual deprivation was considered. It was found that the ages of 67% of the prisoners who came under the writer's observation were between 21 and 45 years. The majority of men were, therefore, at the time of life when sexual demands are most strongly felt. In this connection it may be mentioned that certain authors have attributed much of the responsibility for prison camp neuroses to sexual causes, more particularly during the earlier stages of imprisonment (16). Urges of this nature might be expected to exert an influence on healthy and vigorous men whose state of nutrition and general physical condition reached the standard required for the fighting zone. As a fundamental cause for the neuroses, however, this explanation could not be accepted, and in the writer's opinion it is equally inapplicable to the morbid states at present under consideration. Moreover the position with regard to the physical state of convicts, in spite of some similarity in age, does not bear close comparison with that of prisoners of war, for, with the exception of men convicted of frauds of a technical kind, and to a lesser extent those convicted of violence to the person, criminals, when compared with their equivalents in the general community, are relatively inferior in physique (17). This finding does not imply that sexual demands depend solely upon the physical development of the individual, for they bear a close relationship to his psychological and biochemical constitution.

Nervous disorders which arise on a sexual basis are probably as closely connected with psychical as they are with physiological reactions, and, on the assumption that a psychoneurosis is often the result of a conflict between individual tendencies and a respect

for social usages, there are some grounds for believing that recidivists as a class are less liable to develop this form of disorder upon repressions of this kind.

It is doubtful if the abrupt cessation of sexual life can be held responsible for those temperamental changes which may occur during the first few months after conviction, for hetero-sexual interest among normal prisoners appears to diminish after a short period of imprisonment, and morbid mental phenomena are occasionally observed in other types almost immediately after their arrest, when the sexual complexes could scarcely be expected to be otherwise than in abeyance. The most important of these is the Ganser state, to which a brief reference may be made at this point.

The Ganser syndrome and allied stuporose states, with which are associated the names of Moeli, Ganser, Raecke and others, are hysteroid conditions which would seem to be more directly attributable to the mental dislocation following a crime and arrest than to the effect of prison environment, for while they are occasionally seen in prisoners awaiting trial, no case of the Ganser state came under the writer's observation in either a convict or a local prison.

This state, although it cannot be included among the prison psychoses, as already defined, is an example of an almost immediate reaction to stress which is not often seen even in prison (although it can occur in free life), but is undoubtedly aggravated by prison surroundings. The symptoms rarely persist after conviction, but at the end of a short period of imprisonment others of a different type may make their appearance in prisoners convicted of serious crimes, who had shown no indication of the syndrome while awaiting trial. These symptoms, like those of the Ganser state, are more apt to occur in first offenders, and the emotional disturbance following the criminal act, arrest, and trial again appears to be the starting-point. Detention in prison therefore cannot be regarded as their immediate cause. In those cases, however, where this new disorder does not subside, the question arises as to how far the environment is responsible for its continuation, and, although the resulting condition does not strictly comply with the definition of prison psychoses, it would appear to be one of the few consequences for which prison surroundings can be held liable. These states are rare in persons who have pleaded guilty at their trial, and this repudiation of guilt is regarded as an important factor in the disorder. It is thought that suggestions of innocence or even of extenuating circumstances conveyed by counsel during the course of the trial are liable to initiate a feeling of wrongful conviction in neuropathic persons, and that this forms the basis of a system of rationalization brought about in the prisoner's effort to relieve



himself of the conscious responsibility for his crime. The process is perhaps best exemplified in cases of murder, although the mechanism is the same for all classes of crime.

*Murder and Crimes of Violence.*

Delbrück (18) and others have laid stress on the shock undergone during trial and conviction and the remorse following the act as being important factors in the causation of prison psychoses in first offenders convicted of serious crimes of violence. The same writer also noted the frequency of the projection of guilt in these cases. Although there are grounds for attributing some of the symptoms to the shock which is associated with a criminal trial, the effect of the reprieve in cases of murder should not be underestimated. Where mental instability exists, the act of reprieve may finally determine a train of doubts and rationalizations leading through the mechanisms of repression and projection to delusions of innocence, improper conviction and persecution. But in spite of the comparative frequency of this type of reaction in respited cases, the condition cannot be accepted as a true prison psychosis when all the facts are taken into account. An examination of the previous histories of these prisoners, apart from those who have been respited on the ground of youth or severe provocation, reveals the fact that the majority of cases are of men whose mental state prior to the act, while not falling within the limits of certifiability, gave rise to doubt as to the extent of their responsibility for the crime. It is therefore clear that these persons cannot be regarded indiscriminately as possible sufferers from prison psychoses, since, in many instances, some tangible form of mental abnormality had been recognized before the commission of the act, and, moreover, there is no means of showing that similar states do not occur in murderers who have evaded arrest. Their state of mind forms a fertile soil for the implantation of false perceptions and beliefs relating to the environment, but in the event of a psychosis developing, imprisonment, although exerting a definite influence upon its content, cannot be held directly responsible for its causation.

One would be ill-advised, therefore, to regard any disorder apparently depending upon external factors as a prison psychosis, and it is thought that respited murderers, although they not infrequently exhibit symptoms of a distinctly environmental type, are unsatisfactory subjects for investigation in that the real effect of the environment upon the mind is subordinate to that of other factors. It is, in fact, not so much the State act of imprisonment as the prisoner's anxiety to repress his sense of guilt upon which the

delusional system is based. It is therefore conceivable that in murder cases similarly selected, a conviction, followed by punishment not involving confinement, would result in an analogous disorder. The similarity of this attitude to that of the paranoid litigant is unmistakable.

#### *Sexual Crimes.*

These form a compact group in which the expression of the primary instinct is perhaps less circuitous than in any other criminal offence. The act itself is not complicated by the shock which is inevitable in cases of murder or attempted murder, and the accused man does not have to pass through an ordeal of trial and conviction in any way comparable to that experienced by persons who are brought before the Court on the capital charge. Remorse may be felt, but, in the writer's experience, so altruistic a sentiment is never the cause of a prison type of psychosis. Sexual offenders are particularly liable to deny their guilt and the justice of their conviction and sentence. They form about 8% of the population at this prison, and their crimes are all of a grave nature. At the present time roughly one-quarter of all persons serving sentences at this prison for these acts were convicted of homosexual offences. One-third of the total number of sexual offenders who were certified insane were persons convicted of this class of crime. The fact that drunkenness is frequently given as an excuse for sexual crimes of all kinds should not be allowed to lead the observer to believe that drink is a frequent accessory, in spite of finding that whereas the average number of sexual offenders who were sent to this prison per annum before the war, when the consumption of liquor was less restricted, was 21.6%, since the war it has fallen to 19.6%. The frequency of these crimes, however, is not accurately represented by the number of persons undergoing sentences in convict prisons for the statistics at remand prisons show a much more noticeable reduction after the war.

The aphrodisiac action of alcohol, however, cannot be ignored (19). In the cases available for study a history of alcoholism of either the habitual or the intermittent variety was present in 41%.

This figure was obtained from the reports of the police, of employers and of other persons well acquainted with the prisoner's habits, and cannot be regarded merely as an excuse put forward by the prisoner in mitigation of his offence. It has been observed (20) that convivial drinking may lead to petty thefts, rape and indecent assaults on adults, while the habitual form of drinking is liable to result in more serious crimes, such as incest, sexual assaults on children, or acts of violence. Susceptibility to the

effect of alcohol has been held to imply susceptibility to the effect of environment (21).

Sexual acts of whatever kind are frequently associated with a tendency to phantasy construction, and it is in this connection that these offenders are of particular interest in the study of prison psychoses. In a recently published paper on " exhibitionism " (22) it was shown that the visionaries, that is to say those persons who augment the sexual gratification of imaginary intercourse by indecent exposure, amounted to about 40% of all exhibitionists having psychopathic tendencies, or 27% of all persons charged with indecent exposure. Normal sexual intercourse, either of choice or necessity, was not sought by them, and persons whose imagination is so necessary to their sexual gratification when free are even more bound to rely on it when deprived by imprisonment of opportunities for augmenting their phantasies.

*Acquisitive Crime.*

Crimes coming under this head are varied and diverse in character. They include offences such as counterfeit coining, blackmailing, false pretences, burglary and robbery from the person. The great majority of recidivists and habitual criminals are therefore to be found among these men. Prisoners of this class form about 75% of the convict population. There is little to divide the mental state obtaining in some of the cases of this group from one of a still more paranoidal type, and this again is but a short step from one of true paranoia. Certain points of difference, however, are observed, and these are sufficiently definite, in the writer's opinion, to make a diagnosis of paranoia inadvisable. Although systematization is present, the delusional field is much more contracted in the prison type than is usually the case in the other. The delusions are more dependent upon external factors, and have not the same inner origin which is so characteristic of the paranoia. The condition, moreover, would seem to be less obvious when the subject regains his liberty, for his conduct does not appear often to call for an inquiry into his state of mind when free in spite of the fact that the symptoms reappear on subsequent arrest. It is possible, in view of its non-appearance except in the presence of special external circumstances, that this state coincides with Kraepelin's mild form of paranoia (23) of psychogenic origin.

This type of disorder is most commonly seen in recidivists whose recurring convictions give them a familiarity with police and penal methods.

The delusions are of a combined grandiose and persecutory type based as a rule upon a belief in their own innocence and wrongful

conviction, and are directed towards police and prison officials. They lack, however, the permanency and unchangeableness of those seen in true paranoia, and little attempt is made towards the orderly elaboration of a system. Hallucinations are occasionally found. In prison it is characteristic of these cases to make frequent applications for privileges and to write numerous petitions dealing with fancied grievances, some of which may have occurred long before, or in previous sentences, and may have no bearing upon the circumstances of the moment. The granting or denial of their requests is used to bolster up either their grandiose or their persecutory ideas. They are egotistical, hypochondriacal, and of a rather solitary disposition, and are intolerant of discipline. Fluctuations in mood are common. Cases of this description are suggestive of a narcissistic origin, and support recent work on the connection between narcissism and paranoia (24), but were this assumption correct the rarity of the cases would oppose any theory which seeks to place the onus of recidivism in general upon one of the forms of sexual regression.

#### CONCLUSIONS.

Among approximately 300 convicts who have been placed under mental observation at this prison recently, there were 19 cases in which disordered states of a prison type were observed. This number does not include others whose symptoms bore the stamp of their environment, but in which the disorders themselves varied little from those to be seen in other situations.

Of the 19 cases, none can be said to have conformed in all respects with the conditions it seemed necessary to adopt in defining a true "prison psychosis." Five of them were certified insane, the remainder being discharged from the prison hospital after periods of observation varying from a few weeks to several months. On the material thus collected any attempt to indicate the frequency of this psychosis would be valueless, on account of the limited number of cases which were seen and the transitory character of many of them, circumstances made it impossible to obtain a reliable history of the mental states prevailing both before arrest and after discharge from prison. The condition which has been described appears to form a connecting link between the anxiety neuroses of a traumatic origin (25) on the one hand and systematized delusional insanity on the other, bordering on the former more especially in first offenders who have temporarily lost their capacity to realize the full responsibility for their crimes, and on the latter in recidivists whose anti-social feelings are more strongly developed, and whose facility in projecting their guilt appears to be more pronounced.

The recovery from the disorder on discharge from prison resembles in some cases the solution of a conflict in persons who have suffered from nervous symptoms as a result of an accident, when their claim for damages is settled by monetary compensation. In the more long-standing ones, however, the querulant habit may be too firmly established to permit of this solution.

The development of the symptoms is not rapid as a rule, a period of 6 to 18 months being usually required. The majority of the cases were in either the third or fourth decade.

From a reference to the insanity and age statistics it would appear that the age at which the greatest number of insane were found at this prison is between the 25th and 35th years, with the peak at the 30th year, rapidly rising to and falling from this point. Sentences of penal servitude, except in those instances where the death sentence has been commuted, are not given to persons of less than 20 years of age, the greatest number being between 21 and 35 years.

Proof of the existence of a specific action of prison environment on the mental condition of long-term prisoners would suggest that there should be some relation between the liability to mental disorder and the increasing length of imprisonment, and, in consequence, that the prevalence of prison psychoses would be greater in aged recidivists. This does not appear to be the case, however, for an analysis of the mental condition of 50 aged convicts does not reveal the presence of any disorder apart from the mental changes which may accompany old age in ordinary circumstances. The ages of these prisoners vary between 60 and 83 years, and none of them have served less than 15 years in penal servitude. Twelve have served over 30 years in convict prisons alone, and others over 40 years, in addition to many shorter terms at local prisons. 58% of them began their criminal careers before the age of 35. Each has received on an average five sentences of penal servitude, and acquisitive crimes account for 95% of them. Special mental observation is rarely required, and admission to hospital, except for ordinary physical complaints, is infrequent. The present mental condition of these men is a fact which cannot be ignored, since many years of imprisonment have left no pathological sign by which the latter period could be recognized.

It must be admitted, however, that no final conclusion can be drawn from the present state of a group composed of only 50 men. Circumstances may have been unusually favourable to the maintenance of their mental equilibrium, or the capacity to adapt themselves to prison conditions may be an indication of their inherent mental stability. That they have attained their present

age is evidence of a foundation of sound physical health—a factor which is of great importance in inhibiting tendencies to regress.

Attention has recently been drawn to the fact that certain chronic infections may be responsible for, or coincident with, the development of mental changes (26). Sepsis arising from oral, nasal and intestinal sources is an example of these. Foci of this kind were rarely absent in persons who developed morbid mental states while in prison. In no case was a positive Wassermann blood reaction found. The absence of the prison type of disorder among men of the tubercular group was also noticeable. (This group is composed of prisoners who are drawn from all convict stations and are located at this prison for the treatment of their disease. Their daily average population is about 25.)

An impaired state of health resulting from septic infections is not infrequently seen, and it would appear to exert a definite influence on the minds of certain persons, leading to the production of those phantastic conceptions through which a failure of adaptation may be diverted away from reality.

The prevalence of phantasy formation among persons working at monotonous occupations outside prison drew attention to the question of prison labour, and there is reason to suppose that this form of reaction was more frequent before the character of prison labour was altered. It is probable that the change which has been brought about in labour conditions has taken a part in modifying the intensity of the psychoses. There remains a group of prisoners, however, who are unable to derive the full benefit of the altered conditions. Convicts who are compelled, by reason of some physical defect, to work at the less productive or interesting tasks are, on the whole, more liable to develop morbid states of mind than are those whose tasks more closely approximate to the work to which their class is accustomed outside prison.

To what extent either the physical defect or the labour conditions is responsible for this increased liability it is difficult to say, except in so far as monotonous work outside prison is known to have this effect on persons who do not necessarily suffer from physical disease. It is thought, therefore, that prisoners employed at repetitive or less interesting tasks would derive considerable benefit from some scheme of payment (27), in addition to the incentive provided by stage privileges and the system of remission.

Masturbation is somewhat closely allied to monotony in its tendency to promote introspection and phantasy formation, although it is regarded less as a cause of mental disorder than as a symptom of the psychopath. Although it is not possible to quote any figures in support of the view, it is the writer's opinion that the

habit is proportionately more common among adult males in prison than in those outside it. It is, moreover, very prevalent among men who develop the prison type of psychosis. Monotony and masturbation may therefore have some influence in finally determining whether the neurosis arising from a failure to admit responsibility and to adapt themselves to the consequences of their acts is to flow into phantastic channels, or whether contact with reality is to be maintained. The absence of any of the grosser sequelæ of encephalitis lethargica such as the cranial, and in particular the ocular nerve lesions, Parkinsonianism, and displacement of the sleep rhythm, made the position of this disease as a contributory factor negligible according to present knowledge,\* but it is a disease which may well assume greater importance when more is known of the after-effects. No case of acute encephalitis lethargica came under observation, nor was any connection found in the cases examined between febrile conditions of short duration, such as influenza, and the onset of mental changes.

The question of endocrine imbalance as a possible factor was considered, but although no bio-chemical tests were carried out, the routine physical examination revealed no gross changes in the thyroid gland. Instances of mild hypothyroidism were seen in some of the cases in which chronic infections occurred.

Finally an inquiry into the presence or absence of a history of alcoholism was made in each case. Excessive drinking in one or both parents was not uncommonly found—a fact which could only be regarded as a possible cause of any psychopathic tendencies in the subject.

Although there was no evidence to show that alcoholism was more prevalent in the prisoners examined than in others who exhibited no abnormal symptoms, it was realized that the individual estimate of what constitutes intemperance is unsatisfactory, and that it seriously vitiates the result of any inquiry on this point. For this reason the use of a history of alcoholic addiction as an indicator of a defective power of adaptation, and so of a special susceptibility to the environment, was considered unreliable. Furthermore, the interval elapsing between the onset of morbid symptoms and of any opportunity for indulgence in drink renders very remote the probability of alcohol being a contributory factor.

*References.*—(1) Nitsche and Wilmanns, *The History of the Prison Psychoses*, p. 1.—(2) *Ibid.*, p. 5.—(3) *Ibid.*, p. 12.—(4) *Ibid.*, p. 18.—(5) *Ibid.*, p. 30.—(6) *Ibid.*, p. 33.—(7) *Ibid.*, p. 33.—(8) *Ibid.*, p. 36.—(8a) *Ibid.*, p. 59.—(9) *Ibid.*, p. 50.

\* Criminal conduct is not uncommonly associated with post-encephalitic disorders, and the above remark applies only to long-sentence prisoners in whom no previous attack of encephalitis lethargica has been recognized.

—(10) *Ibid.*, p. 44.—(11) Vischer, *Barbed Wire Disease*, p. 57.—(12) *Ibid.*, p. 56.—(13) Slagle, "Development of Occupational Therapy in New York State Hospitals," *State Hosp. Quart.*, August, 1923.—(14) Taylor, *The Principles of Scientific Management*.—(15) *Final Report Industrial Health and Efficiency*, Health of Munition Workers Committee, 1918, pp. 17 to 20 and 121.—(16) Vischer, *Barbed Wire Disease*, p. 39.—(17) Goring, *The English Convict*, p. 197.—(18) *The History of the Prison Psychoses*, p. 3.—(19) East, "Observations on Exhibitionism," *Lancet*, August, 1924.—(20) Sullivan, "Alcoholism in Relation to Insanity," *Brit. Med. Journ.*, March, 1924.—(21) Sullivan, *Crime and Insanity*, p. 4.—(22) East, "Observations on Exhibitionism," *Lancet*, August, 1924.—(23) Kraepelin, *Manic-Depressive Insanity and Paranoia*, p. 267.—(24) Wälder, *Internat. Journ. of Psy.-Anal.*, July, 1925.—(25) Buzzard, "Traumatic Neurasthenia," *Lancet*, December, 1923.—(26) Watson Williams, "Nasal, Aural and Other Focal Sepsis as a Cause of Neurasthenia and Insanity," *Brit. Med. Journ.*, July, 1925, also *Sup. 11th Ann. Rep. of the Bd. of Contr.*—(27) *Industrial Health and Efficiency*, Final Report, p. 51.

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*Child Murder and Insanity.* By J. STANLEY HOPWOOD, M.B., B.S.  
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CHILDBIRTH and lactation entail a severe stress on the female sex, and, under certain circumstances, are liable to cause insanity, during the course of which attempts at infanticide and suicide are common. For this reason the insanities connected with child-bearing and lactation have a definite medico-legal aspect. In the past very little has been written on this subject, though infanticide is by no means uncommon, and cases of child murder account for a large percentage of the population of the female division of the State Criminal Lunatic Asylum at Broadmoor. Possibly a study of some of these cases may not be lacking in interest.

Child murder may be divided into two classes: (1) Those cases occurring before the end of the lactation period, and (2) those cases occurring after that period.

This paper will only attempt to deal with the first of these classes, and will be confined to—

(a) Cases where a mother has killed her own child and (b) where the murdered child was not over one year of age, except in instances where lactation had been prolonged beyond that period, and (c) cases in which a mother, recently confined or nursing an infant, has murdered, not that child, but an older one, and again (d) cases where a mother has murdered more than one child, the youngest murdered being under one year of age.

An examination has been made of the Broadmoor records for a period of 25 years from January 1, 1900, to December 31, 1924, and during that period, out of a total number of 388 female receptions,