DEMENTIA PRAECOX.

And

A protest against the use of the "Irnm-

Being a Thesis for the Degree of M.D. of
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by

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In discussing a paper read by Dr Conolly Norman before the Psychological section at the meeting of the British Medical Association at Oxford in 1904 Dr Andriezen made the assertion that "Dementia Praecox" was in the early days of Psychiatry (Pinel & Esquirol) unrecognised as such, being included along with Idiocy under the term "Idiotism" by French Authors, and that the term was "first made use of by Morel in 1858 as denoting a premature form of Dementia affecting adolescents". Dr Norman answering the above statements said that "no mention was made of the term "Dementia Praecox" in Morel's Book published in 1858".

In Virchow's Archives for 1863 Kahlbaum described a form of Mental disease rapidly terminating in Dementia not appearing till Puberty, and under the influence of the changes coincident with this state. This he called "Hebephrenia". Little notice was taken of this until 1871 when Hecher, one/
one of his pupils, in the journal for that year attempted to construct a clinical picture, and states that "Hebephrenia is a mental affection which makes its appearance at the age of Puberty, manifesting itself by alternate or successive fits of Mania or Melancholia and progressing rapidly towards Dementia". In 1874 Kahlbaum also described the condition known as "Katatonia" or the "Insanity of Rigidity".

These terms do not appear to have "caught on" till 1891 when Pick under the heading of "Dementia Praecox" described cases (including Hebephrenia) characterised by maniacal symptoms followed by Melancholia, and rapid deterioration. This term has now been appropriated and extended by Kraepelin to include the "Hebephrenia" and "Katatonia" or Kahlbaum, together with certain forms of Paranoia which undergo early deterioration.

As Kraepelin has done most towards bringing this term before the notice of Psychiatrists perhaps a short description of his views, as gathered from the translations of two of his books, may not be out of place.

Kraepelin insists on "The peculiar and fundamental want of any strong feeling of the impressions of/
of life, with unimpaired ability to understand and to remember", as being really the diagnostic symptom of the disease", which comprises from 14 - 20% of all cases admitted into asylums.

**CAUSE.**

As regards the Cause of the disease, he obtained a defective hereditary history of various neuroses in 70%, and 60% of the cases appear before 25 years of age. He advances the theory that auto-intoxication, acting on a subject with a bad family history during an acute disease or during the various stages of Reproduction, is the chief cause.

**SYMPTOMS.**

The essential symptoms of the disease are that voluntary attention and activity are much impaired although the patients are as a rule well oriented. Judgment becomes progressively defective and there is marked dulling of the emotional field; the memory for past events is good, but bad for recent occurrences. They perform impulsive purposeless acts and show no capacity for employment. Negativism, Stereotypy and Muscular Rigidity may be present, ultimately leading to one of eight different forms of mental breakdown which extend from chattering confusion to mere stupid
apathy, and that such cases are very common in all large asylums.

He divides the disease into three subdivisions:

(1) Hebephrenic
(2) Katatonic
(3) Paranoid.

(1) The "Hebephrenic" cases are mildly maniacal with frequent fits of depression tinged with sexual feelings. Hallucinations and delusions are present, but are not essential, combined with emotional dulness, childish idleness, and senseless laughter, leading in most cases to mental enfeeblement. Within two years 75% reach profound deterioration, and only 8% recover.

(2) Katatonic Cases generally show a subacute onset with mental depression, and hallucinations and delusions of a religious or persecutory nature are usually present. During this early stage the actions are seen to be constrained, later there is muscular tension, and they may take up peculiar attitudes symbolical of their thoughts. Following this period of depression you get the more characteristic symptoms of "Katatonic stupor" and "Katatonic excitement". The most important symptoms during "stupor" are "Negativism", muscular
tension, "Catalepsy", "Echolalia", and "Echopraxia". Katatonic excitement may interrupt, follow, or even precede the stupor, and is characterised by impulsive purposeless actions, stereotyped movements and "Verbigeration", the latter being especially marked in their letters. Mannerisms of speech and facial expression are common, and sexual excitement may be present. When asked to shake hands they either refuse to do so, or comply in a jerky spasmodic way. The temperature of these cases during the acute stage may be 100° to 102°. Only in this form are remissions common, and these may last in some cases from 5 to 15 years. In 96% of the cases mental deterioration takes place, and only 13% recover, and even these show some peculiarities. The continuance of the stupor does not constitute deterioration, but when the consciousness becomes clearer no improvement in the emotional attitude takes place, and the periods of excitement and peculiar mannerisms persist, then deterioration has set in. Deaths from Phthisis are common in this subdivision.

(3) The "Paranoid" form is characterised by the great prominence and persistence of delusions and hallucinations for several years, in spite of progressive mental deterioration. In the two last groups delusions and hallucinations were not pro-
minent and gradually disappeared.

There are two subdivisions of this group:
(A) Many incoherent and everchanging delusions of persecution and grandeur are present together with hallucinations of hearing, a light grade of motor excitement, with retention of clear consciousness for a considerable time, and rapid appearance of mental deterioration.  
(B) Characterised by hallucinations (especially of hearing) and fantastic delusions of persecution and grandeur which are mostly coherent and adhered to for a number of years, when they disappear, leaving the patient in a state of moderate deterioration. The course in both cases is similar, the development of depressive delusions to be followed by those of grandeur, the latter pointing to the onset of deterioration which is indicated by a lack of judgment and absence of mental energy. This disease is differentiated from Paranoia in that it develops rapidly and a whole host of fantastic delusions which are not based on fact and prominent hallucinations make their appearance, and the emotional attitude is much changed. Paranoia develops slowly, hallucinations are few, the delusions are based on some actual fact misconstrued by the morbid mind, and the emotional attitude is almost normal. No cases
recover from this subdivision of the disease.

Now having considered Kraepelin's views I propose to consider the statements of other authors on this subject.

First as regards the **Frequency** of this mental affection. As stated before Kraepelin says it comprises 14 - 20% of all admissions, and 15% of the total number resident. Wilmanns¹ states that out of 120 tramps who reached his Asylum out of the workhouse he placed 66 or 55% under this heading; he admits that many others would class a large number of such cases as imbeciles, but points out that the latter is not a progressive condition, must regard such cases as imbecility on which Hebephrenia and Katatonia has been grafted.

Dr Christian⁵ states that 5% of the total number resident suffer from this disease, that its occurrence is relatively frequent, and that in 19 years amongst male patients he collected 104 cases; he quotes Hecker as finding 2.3%, and Krafft-Ebing .25% of the total admissions. Sprague⁹ states the disease comprises 12% of total admissions equally divided between the two sexes. The English Commissioners in Lunacy in their 1904 report make no mention of this disease.

**ETIOLOGY.**

*Adolescence is the great factor* - Kraepelin
out of 296 cases found that 60% began before the age of 25. Masselon\(^6\) says that the age at onset varies from 17-25 in males and females, but married women may be attacked between 26-30 years of age.

Professor Serbski\(^7\) limits the disease to adolescence, and takes Kraepelin to task for extending it beyond that age. Christian\(^5\) states that out of his 104 patients, 56 were attacked before 20, twelve between 15 and 16, and 48 after 20. Clouston\(^8\) limits adolescent insanity from 18 - 25 years of age, the majority of cases occur between 21 - 25 (157 out of 230 cases). Macpherson\(^10\) states that the disease is developmental and occurs between the ages of 16 and 22. Sprague that 50% of the cases occur under 30 years of age, and 15% over 40 years. Kraepelin in his clinical book on mental diseases quotes the case of a woman in whom the disease commenced in her 38th year, and Norman stated in his lecture at Oxford that the former quotes with approval a case of Schroeders which commenced at 56 years of age.

**HEREDITY.**

Masselon states that the cause is obscure, but that a neurotic or Insane hereditary history is marked. Pickett\(^11\) that from a study of 284 male
patients between the ages of 15 - 30, excluding Epileptics, Imbeciles and general Paralytics, he obtained a degenerate history in \( \frac{3}{4} \) of the cases, and that anatomical marks of degeneracy were common.

Clouston obtained a hereditary history of 65% amongst his cases of adolescent Insanity.

Christian found a hereditary history in 35 out of his 104 cases, and states that 60% enjoy good mental health before the onset of the disease.

Scholz states that a heredity is often absent, and is only one of the few who says that this does not play the principal role as an etiological factor.

The early mental history of such cases appears to be good, Christian remarks that "Childhood generally presents no peculiarity worthy of remark, 25% were remarkable for their exceptional aptitude for languages, music, painting, etc.". Sprague also considers that subjects of this disease are obtained from the ranks of those who have more than the average amount of intelligence, and found that he got a hereditary history in 30% of the cases admitted, in 35% the taint was denied, and in 35% no information could be obtained on the subject.

MASTURBATION.

Hill\(^1\) assigns the above as a frequent cause; Clouston got a history of Masturbation in 50% of
his cases of adolescent Insanity, but Christian states that the effect of Masturbation is exaggerated as the practice is so common, if it had a marked effect on the disease cases of Dementia Praecox would be much commoner than is the case at present.

Sex.

Kraepelin states that the disease is three times as common in the male as in the female sex, with this statement Christian agrees, but Sprague finds that it is equally divided between the two sexes.

As regards other causes menstrual disorders are quoted, but this is denied by Christian who says that it is often the effect not the cause of the disease: Auto-intoxication and the puerperal state are quoted by Kraepelin as being important causal factors, also alcoholism in parents (Morel), imprisonment, overpressure, debility, overwork, cranial injury, typhoid and the Exanthemata.

Macpherson in his textbook states that "Large numbers of beggars and tramps, drunkards, prostitutes and criminals in one stratum of Society, and of eccentrics and borderland cases in other social strata, are the victims of Dementia Praecox".
SYMPTOMS.

Kraepelin views have already been given in a condensed form, he states that sexual excitement is present in all the cases, but Sprague only obtained it in 3%. MasseIon in his Thesis divides the disease into four forms:

(1) **Simple** - without delusions.

(2) **Delusional Form** - (Hebephrenia) - Excitement intermingled with depressive hallucinations, terror, confusion of ideas, the symptoms being most fugitive from moment to moment.

(3) **The Katatonic Form** - as described by Kahlbaum and marked by stupor, cataleptic postures, incapacity for attention to surroundings, and either speechlessness or verbigeration.

(4) **The Paranoid Form** - Sensory disturbances and delusions rapidly develop, and progressive mental enfeeblement appears.

That the common physical signs were dilated and sluggish pupils, and exaggerated knee jerks.

Seglas remarks that Katatonia may be present in many diseases as a transitory condition, but it is only in certain forms of this disease that it is marked and persists, and that the principal phenomena of Katatonia are quite compatible with Abulia. Serieux's definition of the disease is that it is
"a special and progressive psychical enfeeblement supervening generally during adolescence, and ending in the abolition of all evidence of mental activity without compromising life".

Christian states that the one and most constant feature of this disease is the tendency to sudden impulses. This is a dominating symptom and persists even to the period of terminal dementia, but may disappear after years. This tendency was not described by Kahlbaum or Hecker but has been noted by Sterz, Finch and Krafft-Ebing. The same author describes two forms of the disease (1) **Hebephrenia gravis** and subdivides this into (a) The simple - where there is no muscular rigidity and (b) The katatonic - where the muscular system is disturbed in its functions. The most degraded results are produced from this form, it brings about a condition analogous to Idiocy. (2) **Hebephrenia Levis** which is analogous to Imbecility. That there is in Dementia Praecox the whole scale of mental deterioration, and that the results may be analogous to Imbecility or Idiocy. That in the Pathogenesis of the disease there are three periods, (1) Seen at the beginning of Puberty and called the period of incubation. (2) Period of Delirium when they may be maniacal, melancholic, deluded etc. (3) Period of
terminal dementia - When the attack commences with stupor the passage into Dementia is more gradual, and is apt to be more complete, than if it commenced with Mania or Melancholia.

Gleyston in his textbook describes Katatonia under the heading of Mental Alternation, "an alternating Insanity with epileptiform symptoms or those resembling Catalepsy". Hallucinations of sight and hearing, unconsciousness, and trophic symptoms (oedema of feet - weak pulse) are present. The motor and trophic centres are especially involved.

DIAGNOSIS.

Professor Serbski says we can not differentiate between this and secondary Dementia occurring in adolescence. Signs indicated by Kraepelin are not constant as increased reflexes, unequal pupils (these only show the gravity of the condition), automatism, negativism, stereotypias etc.

Kaiser points out the differential diagnosis between Katatonia and Hysteria. Many authorities, unlike him, now regard Katatonia not as distinct disease, but as occurring chiefly in Dementia Praecox. In Katatonia there is childish mental weakness, depression with few ideas passing into dementia. In Hysteria there is selfish caprice, cunning, and persistence of purpose.
Professor Bleuler\textsuperscript{16} delimits the disease in much the same manner as Kraepelin, and thinks the symptomatology sufficiently marked to make an unerring diagnosis as of Typhoid or Pneumonia. Shaw in the Medical Annual for 1904 says the disease must be distinguished from Hysteria, Neurasthenia, degeneracy, and in its final stage from Imbecility, presenile dementia, epilepsy, general paralysis, and special adolescent Psychoses.

Macpherson makes the assertion that without knowing the history it is often impossible to distinguish such cases when demented from Congenital Imbecility or secondary Dementia.

Christian - that it is hard to distinguish between the last stages of Dementia Praecox and an Idiot or an Imbecile, but physical stigmata of degeneration are more common and marked in the latter than in the former condition. The only sure diagnostic point lies in the history. There may be remaining glimmers of his intellectual past with more or less clear recollection which is never present in the Idiot. Diagnosis may be difficult in cases beginning with mental stupor (katatonic form) simple or melancholic stupor can be cured, thus a correct diagnosis is important: stupor, properly so called, begins abruptly following a sudden mental
perturbation, Dementia Praecox establishes itself gradually. It is difficult to give an opinion at the onset, can decide in a short time: Christian also states that it is almost probable that juvenile general paralysis is an aggravated form of Hebephrenic dementia.

In Defendorf's adaptation of Kraepelin the differential diagnosis between Dementia Praecox and the following diseases is given:

(1) **Acquired Neurasthenia** as distinguished from the Hebephrenic type. In the former condition hypochondriacal ideas are not silly, judgment is retained, no evidence of deterioration, and the patients are not stupid, and improve with treatment. Presence of hallucinations is a positive sign of Dementia Praecox.

(2) **From Dementia Paralytic** - By early age of onset (15 - 30). By less rapid development of deterioration especially as regards memory, less loss of judgment, and the retention of apprehension as contrasted to the great stupidity and indifference of the Paretic. Mannerisms, mutism, negativism and stereotypy may appear in Dementia Paralytica but are unstable and transitory, and the obstinacy in such cases is not generally accompanied by refusal of food and mutism. The excitement in
Dementia Paralytica, accompanied by stereotyped movements, impulsive actions, etc., is distinguished from Atatonic excitement by the great disturbance of apprehension, attention and thought; finally the physical signs are present in general paralysis.

(3) From Amentia (acute confusional insanity). By the absence of the characteristic exciting cause, nervous exhaustion. By the gradual onset; the uniform emotional attitude, as contrasted with the rapidly changing emotional state in Amentia, and by the less marked clouding of consciousness; the patients are at least partially oriented, while in Amentia there is complete dis-orientation. In Amentia the patients do maintain attention to the surroundings, while in Dementia Praecox they are sluggish or indifferent in apprehending. In Amentia the patients are at all times quite unable to carry on a conversation, and talk incoherently of their past experiences. In Dementia Praecox, while at times they are monosyllabic and entirely incoherent and silly, they occasionally surprise one by the recitation of knowledge of their earlier days.

(4) The Depressive form of Manic-depressive Insanity (Folie Circulaire) from the period of depression which one meets at the onset of the Hebe-
phrenic and the Katatonic Forms. This is very difficult. The early appearance of many hallucinations speaks for Dementia Praecox, as well as an emotional attitude which does not correspond to the depressive character of the delusions.

Patients are quite indifferent during a visit or at the death of a relative, while in Manic-depressive depression the feelings are apt to be intensified. The apparently similar conditions of negativism of the Katatonic and of retardation of the manic-depressive are at times distinguished only with difficulty. In the former there is uniform, rigid and stubborn resistance to every passive movement, and if pain is produced by pricking, there is simple withdrawal without effort at defence; while in retardation the passive movements are permitted and painful contacts are resisted. Voluntary movements in Katatonic Stupor are rare, but when executed are carried out without delay, and at times even rapidly, except when these movements are made by request when there is always delay. In retardation all voluntary movements are carried out very slowly. There is sometimes a certain resistance due to apprehension and fear, but this is active.

(5) Katatonic excitement from the excitement of the maniacal forms of manic depressive insanity.
In the Katatonic there is greater disturbance of conduct, the content of speech and emotional attitude, while in the maniac there is greater disturbance of apprehension, orientation and thought. In the Katatonic excitement the patients are partially oriented, while in the latter case there is complete orientation. On the other hand the speech of the Katatonic with mild motor excitement is more senseless and difficult to follow than that of the maniac suffering from extreme motor excitement. The katatonic speech abounds in Verbigerations, stereotyped expressions, and is free of comments upon the surroundings, while the speech of the maniac presents the characteristic flight of ideas, and is centred upon or drawn largely from the immediate surroundings, and the attention is readily distracted by the surroundings, while the attention of the katatonic can not be. The attitude of the Katatonic is silly, childish, exalted or irritable, his movements are purposeless, and often repeated, in contrast to the pressure of activity of the maniac in whom the movements relate to the surroundings, are purposeful, dependent on ideas, impressions, and emotions, and always appearing in new forms. The increased activity of the Katatonic is more apt to be limited to one corner of the room, while that
of the maniac is limited only by his confines.

(6) Katatonic excitement with epileptiform or hysteroid attacks from Hysterical States. The latter are sly, and there is method in their contrariness, and purpose in their actions, while the Katatonic is senseless, there is lack of purpose in his movements, and emotionally he is more stupid. Hallucinations and delusions are more prominent and exaggerated in the Katatonic.

(7) The Paranoid forms of Dementia Praecox from pure Paranoia. This has already been considered.

(8) Imbecility when no history can be obtained may be confused with the end stages of Dementia Praecox. The differentiation then depends on transitory periods of excitement with impulsiveness, and evidences of earlier school knowledge.

(9) The dreamy states of Epileptic Insanity from Katatonic Stupor. In the former the actions are prompted by feelings, while in the latter they are purposeless and stereotyped.

PROGNOSIS.

As regards Prognosis Kraepelin says the vast majority of cases end in mental deterioration. 13% of the Katatonics, 8% of the Hebephrenics, and none of the Paranoid cases recover, and even these cases
may again suffer from an attack later in life which leads to deterioration.

Hill\textsuperscript{18} states that out of 112 cases only one was discharged cured, and this case relapsed within four months after discharge.

Christian says the prognosis is bad mentally but good as regards life. Dementia is established in a few weeks or months.

Shaw\textsuperscript{19} agrees with the first statement of Christian's and states that the disease may last from 10 to 40 years. Remissions may be observed in the second stage, and especially with Katatonic excitement; they generally come on during the first few months, but occasionally not till after three years or more.

Messelon's cases showed a recovery rate as 8\% in Hebephrenia, and 13\% in Katatonia.

Dr Lewis Bruce\textsuperscript{20} divides Katatonia into two stages, (1) the stage of acute onset, (2) the stage of stupor, terminating in recovery or complete or partial dementia, and states that some indication can be obtained as to prognosis in such cases by examining the blood. In the stage of acute onset which never lasted longer than four weeks a moderate but persistent Leucocytosis was present, the increase being chiefly in the polymorphonuclear and large mononuclear elements. During the second or
stuporose stage leucocytes fell to below 8,000 per c. mm., soon rose again to between 12,000 and 16,000 per c. mm., the percentage of polymorphonuclear cells fell to about 60, leucocytes increased, and a transient Eosinophilia occurred in every case. Three of the twelve cases have recovered, and in these it was noted that the polymorphonuclear cells never fell below 60%. Three cases have become demented and a fourth is passing into this state, and these cases present the following peculiarities. Early in the stuporose state leucocytes fell frequently to 8,000 and 10,000 per c. mm., and the percentage of the polymorphonuclear cells was below 50, in one of the cases the polymorphonuclear percentage fell sometimes below 30.

Clouston\(^2\) states that anergic stupor in young people is very curable, in the melancholic form the prognosis is not so good, only 50% recover. As regards adolescent insanity 66% recover, the rest become demented and live long, the health is often good. Relapses in after life are common. The mortality is small only 1.8% die.

**PATHOLOGY.**

Christian states that on post mortem examination nothing special to Dementia Praecox could be found.

Defendorf (Kraepelin) states that there is no
special Pathological basis for Dementia Praecox, but quotes Alzheimer as having described cases running the fatal course of an acute Delirium which he believed belonged to Katatonia. In these he found profound changes in the Cortical neurons of the deeper layers. The Nucleus was much swollen, its membrane wrinkled, and the cell body shrunken with a tendency to disappear. The glia cells were increased, and were fastened about the cells in a peculiar manner. Also that Nissl, later on in the disease process, has demonstrated extensive changes in the Cortical Neurons which he designates as granular degeneration. Even in the cases where there appeared to be no atrophy in the Cortex, he found a number of cells which had undergone degeneration. In the deeper layers of the Cortex very large glia cells were found which under normal conditions appear only in the outer layer. Elsewhere the Cortex contained glia cells which were in close approximation to the degenerated nerve cells, and not only at the base of the cell body, like the satellite cells, but also around it.

Dr. William R. Dunton, Jun. points out that Kiernau in 1877 called attention to the fact that a great many cases of Katatonia died of Phthisis, and that tubercular meningitis was an important etiological factor. He describes the microscopio
changes in the brain of a patient who died of Phthisis aged 28 four years after admission. The following is a summary; skull thick - dura mater non adherent to skull - moderate amount of subpial oedema - Pia arachnoid not thickened, clouded or adherent, ventricles dry.

A summary of the microscopical findings of the brain is as follows; "There is but slight cell change and this is distributed over the whole brain, not being restricted to any one area. The greatest amount of cell change is found in the first frontal convolution. The cells show central chromolysis; and occasional slight degree of pale yellow pigmentation; slight cell atrophy; atrophy, dislocation, and swelling of the nucleus; folding of the nuclear membrane; and an endonucleolus. As a rule the deeper layers are most affected. The motor cells show very slight changes similar to the above. There is a slight increase of neuroglia nuclei. Phagocytosis is well marked and there is considerable cell disintegration. There is no change in the medullated fibres, and no marked vascular changes.

In reference to the patient's death having occurred from tuberculosis and its possible influence upon the nerve cells, it is to be noted that the cell shrinkage which has been found to occur in
tuberculosis was not present. On the other hand the findings of this case are very similar to those of Alzheimer, quoted by Kraepelin, who studied the brains of a number of cases who had presented the clinical picture of katatonia and who collapsed in what appeared to be acute delirium. In these cases Alzheimer noted swollen nuclei, wrinkling of the nuclear membrane, a shrunken cell body showing evidence of degeneration and a peculiar arrangement of the glia about the cell. This last was found in but one instance in the present case. Alzheimer's cases apparently ran a more acute course than did the case here reported, which may perhaps account for certain differences observed.

It is interesting to compare the microscopical findings of the present case with those of Kiernan's published twenty-five years ago. He says; "There is a marked increase of the nuclei of the neuroglia. The ganglion cells, both pyramidal and fusiform, were normally contoured, processes well developed; protoplasm healthy, in some cases diffusely pigmented, and nucleus round and clear. Free lymphoid bodies were accumulated in the pericellular spaces".

In the case here reported there was an undoubted increase of the glia nuclei and this increase was most marked about the nerve cells. Weber has noted in a patient who died after a severe attack
of epilepsy that there was an increase of cells which seemed to be new glia nuclei, about the vessel and nerve cells.

While I do not think that any inferences can be drawn from these findings at the present time, I am of the opinion that they are suggestive and may prove of value in later work."

**TREATMENT.**

Defendorf (Kraepelin) states that Asylum treatment is necessary in nearly all cases, and that during the subacute and acute stages of the disease patients should be confined to bed. Insomnia at the onset is to be treated by lukewarm baths, the administration of Sulphonal and Trional in XV. grain doses. Excitement is to be treated by prolonged hot baths and in extreme cases by "cold packs", Hyoscine Hydrobrom may also be exhibited in doses ranging from 1/200th - 1/50th of a grain. During the stage of depression remove the patient from all sources of irritation, and provide a change of environment and simple employment. The condition of the general nutrition and the digestive organs need attention especially in the stuporose state when mechanical feeding may be necessary, eggs and hypophosphites or alcohol should be added to each feed. After the subsidence of the acute symptoms the patient may be
sent home. Partially demented cases should have simple outdoor employment, this may prevent further deterioration.

Dr Lewis Bruce in speaking of the treatment of Katatonia states that an Anti-serum obtained from a goat has given no beneficial results, that active immunisation of patients in the stuporose state produced no curative effect, and that active immunisation in the acute onset of the disease, tried so far in one case only, produced undoubted benefit, but how this beneficial effect is brought about cannot be explained by any theory at present held with regard to the production of immunity.

Christian says the overworked adolescent should have a holiday, mental and bodily rest. Cases that have a bad family history and are predisposed to this disease should be brought up carefully both physically and intellectually.

Bourneville records the case of a young girl of neurotic and insane heredity with mystical delusions and attacks of depression and maniacal excitement who recovered under the exhibition of baths, douches, chloral, bromides, general exercise and occupation.

Prague says thyroid treatment should be tried in all cases.

Serbski states that organotherapy and serum-therapy will probably play an important part in the
treatment of cases of Dementia Praecox but for the present advocates improvement of the general regime, mechanical and other employment, and open-air life in the country.

Serieux holds that organotherapy has produced no good results. The re-education of suitable cases may be indicated.

Carlisle advocates a graduated and systematised plan of outdoor exercise, including games and useful occupations. This produced great benefit after the physical health had been improved by judicious dietery containing the greatest possible amount of Tissue building material and the least possible amount of waste substances.

Having now fully discussed the views of Kraepelin and other authorities on this subject in my own mind I remain most dissatisfied, and do not feel prepared to admit that there is such a disease as Dementia Praecox! There is no gainsaying that the clinical pictures drawn by Kraepelin are very good, but are we prepared to admit that this disease furnishes a distinct group of mental disease which gives an admission rate of from 14 - 20%, and the diagnostic feature of which is "The peculiar and fundamental want of any strong feeling of th
impressions of life, with unimpaired ability to understand and remember"? I remain unconvinced.

Perhaps I may again quote from Dr Norman's paper read at Oxford in 1904 - "Now the existence, either as a distinct entity or as a practically useful homogeneous clinical group of any condition which can be called by the name Dementia Praecox does not, in my opinion, admit of proof, and is, therefore here disputed. I would lay before the meeting the following grounds for my contention. The collective grouping of Hebephrenia, Katatonia and Paranoid forms makes so vast a congeries that it is impossible to perceive any connecting link between the items of the mass save in their origin at the age of adolescence and in their supposed unfavourable termination. So much is endeavoured to be put within one loose definition that the continent bursts and the contents escape from our grasp". And again "All diseases that won't fit elsewhere are put into this class, it is growing to be a name for incurable insanity. But in serious classification it is not allowable to include incurability in our definition unless we can point to definite destructive changes in the nervous tissue as the cause of the disease. For so far these are purely hypothetical". And quotes Clouston's axiom that "Mental disease is a tendency
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to dementia". Again, "Dementia is a very faulty term to use here. The qualifying adjective "pre- cocious" is also to be deprecated as it implies a too early arrival at an inevitable end. It is wrong to dub such cases incurable as it may encourage neglect". In dealing with the history of this disease he states "It is singular how entirely Dr Clouston's "Hereditary Insanity of Adolescence" seems to have been forgotten. In his edition of Skae's Moresonian Lectures on Insanity, delivered in 1873, and published in the two following years in the Journal of Mental Science, Dr Clouston describes under this name cases occurring in families where there is a profound neurotic taint, which breaks out without any immediate exciting cause between the ages of 13 and 25, and runs an unfavourable course". Then he quotes short passages from the original account; "In very many cases the patients have been most promising and healthy up to the time of their attack ........... Such persons come to maturity sooner than usual ........ In cases of this sort, almost more than in any others, are the bright hopes and fond anticipations of parents blasted and crushed: for the majority of such cases never recover at all, and those who do are very apt to have relapses.
After a short attack of excitement the mania passes away, leaving the mental powers dulled and weakened, and after a few irregular spurts of excitement or transitory brightenings up, the patient sinks into hopeless dementia. Such cases form a considerable part of the Dements that fill our Asylum wards. They only inherited brain power enough to carry them up to adolescence. It is a sort of premature dotage of the brain between 18 and 25. "This last phrase is very nearly an anticipation of the term "Dementia Praecox". Kraepelin in the seventh edition of his Text Book published in 1904 says "Indeed these patients, since they do not rapidly die off and often spend their whole life in the institution, actually constitute the bulk of the insane who need care" and he also states how early hopes of a brilliant career are often shattered. As far as there is a particular type of adolescent Insanity, Clouston's description is as good as anything which has since appeared, and deserves the praise of priority. The foregoing statements quoted from Dr Norman's lecture voice the general feeling of British Alienists against the term "Dementia Praecox", and fully justifies the following vigorous protest made by Dr Clouston in the last edition of his text book on mental diseases. "Kraepelin has taken the term "Dementia Praecox" and applied it to
practically my whole group of adolescent cases as described by me in 1873, making it cover the curable and incurable; I object strenuously to the word "Dementia" as applied to any recent and curable varieties of mental disease as being confusing and unscientific."

Adolescence is admittedly the chief causal factor in this disease, combined in the large majority of cases with a hereditary history of Insanity. In Defendorf's translation of Kraepelin no mention is made of any form of adolescent Insanity except "Dementia Praecox", in Johnson's translation Dementia Praecox is bracketed adolescent insanity, although the translator informs me he is responsible for the addition of "Adolescent Insanity" yet the German text must convey the impression that that is the disease to which Kraepelin draws attention. In describing the disease Kraepelin states that 60% of the cases are attacked before the age of 25, but describes the case of a woman who was first affected in her 38th year; he also quotes a case of Schröder's with approval which commenced at 56. I think most authorities are agreed that adolescence is attained at the 25th year, and in any case should not be extended beyond the 30th year.
I quite agree with Clouston in that it is unscientific and somewhat stultifying to label a case as suffering from Dementia, and then to have to record a recovery as is often undoubtedly the case, consequently the old term of "Adolescent Insanity" would appear to be the best term to apply to a group of mental affections which can be separated clinically from each other.

Adopting an age limit of 30 I have made a careful examination of the male and female case books taking a period when the entrees were especially well made. The female cases embrace a period of thirteen years (From 1884-1892 inclusive - and again from 1901-1903 inclusive). After excluding general paralytics, epileptics and congenital cases I obtained 192 cases of the specified age out of a total admission rate of 977 or composing 19.8% of the total admissions. In all cases transfers, readmissions which have again recovered, cases not insane, and readmissions which have died have not been counted neither amongst the cases below 30, nor amongst the total number admitted.

From the 192 cases obtained I have subtracted 31 cases due to reproductive causes, and eight which were due to alcohol, thus giving 153 cases admitted during the thirteen years or an admission rate of
These cases I have divided up into three age periods:

1. 20 years and under. 31 ....... 20.2%.
2. 21 to 25 inclusive, 56 ....... 36.6%
3. 26 to 30 ** 66 ....... 43.1%

Thus 57.5% of the cases were admitted before 25 years of age.

As regards **history of hereditary insanity** it was present in 18 cases of the first period, in 15 of the second, and in 31 of the third period, or in all in 64 cases, and thus giving a percentage of 41.6. This is much lower than is generally quoted, and is probably less than the actual fact, although "History Forms" are always sent out on the admission of a patient to her friends, They are often very imperfectly filled in which may be due to sentimental reasons or to ignorance on the part of the relatives.

Acting on the same principles as followed in the case of the Females, I made an examination of the **Male case-books** embracing a period of nine years (From 1884-1892 inclusive) and obtained 100 cases out of a total admission of 569. Subtracting 18 cases which were due to alcohol from the 100, 82
cases are obtained, or giving an admission rate of 14.4% as contrasted with 15.6% obtained in the case of the Females, consequently the admission of women under the age of 30 slightly preponderated over the Male admission rate under the same circumstances: Kraepelin states that Dementia Praecox or adolescent insanity is three times as common in the male as in the female sex; this statement is not borne out by the present facts.

Again I have divided the cases into three age periods:

(1) 20 years and under 19 ..... 23.1%
(2) 21 - 25 Inclusive 41 ..... 50%
(3) 26 - 30 " 22 ..... 26.8%.

Thus 73.1% of the cases were admitted before the age of 25 as contrasted with 57.5% in the case of the Females. Kraepelin states that 60% of his cases were admitted before the age of 25.

As regards the Hereditary History of Insanity it was obtained in five cases of the first period, in 12 of the second, and in five of the third period, or in all in only 22 cases, and thus giving the remarkably low percentage of 26.8 as contrasted with 41.6% in the case of the Females, and 70% as given by Kraepelin. The same remarks apply in
this case as in the case of the Females.

In looking over these cases, in all 235 cases, I was struck by the large number of patients that did not conform to Kraepelin's types, and I could only find ten cases that could be put into his Paranoid Section, six amongst the Females and four in the case of the men. I propose to arrange "Adolescent Insanity" into three groups:

(1) The simple form.
(2) The Delusional form.
(3) The Katatonic form.

(1) The Simple to embrace all cases of excitement and depression in which delusions and hallucinations are not a prominent factor, recognising these two states merely as phases in a disease which certainly shows some degree of alternation; a case may first be excited, then depressed, and later become quiet, and lead one to think recovery has set in, only to break down again. Macpherson in speaking of "Folie Circulaire" remarks "A similar alternation of Mania and Melancholia, but without marked periodicity, is often met with in "adolescent insanity", and many cases of Mania are known to commence with symptoms of Melancholia".

(2) The Delusional type - In studying the case books I was struck by a class of case in which excitement or depression is not marked, but where the
36.

deluded state, accompanied by hallucinations, is the prominent factor. The delusional state persists for two or three months or longer, and gradually fades away as recovery or Dementia supervenes. Only in ten cases were the delusions marked when terminal dementia had set in. This sequence corresponds to Kraepelin's Paranoid form of Dementia Praeox. It seems hardly worth while to put these few cases into a special group. The following is a good example of such a case: - A woman, aged 50, who has been here once before, and has two sisters epileptics: this patient on admission was slightly depressed, this state giving way to mild excitement, but the deluded state was the marked feature as she suffered from delusions of persecution, and was much troubled by auditory and visual hallucinations. This state persisted for two to three months, and after a residence of six months she was discharged recovered.

(3) The Katatonic form to embrace cases in which the muscular system is especially affected whether there be Catalepsy, Rigidity or passive stuperose conditions. I have classified my patients on these lines with the following results: -
Number of female patients in each group:

<table>
<thead>
<tr>
<th></th>
<th>Simple</th>
<th>Delusional</th>
<th>Katatonic</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Period</td>
<td>11</td>
<td>8</td>
<td>14</td>
<td>31</td>
</tr>
<tr>
<td>2nd Period</td>
<td>23</td>
<td>16</td>
<td>17</td>
<td>56</td>
</tr>
<tr>
<td>3rd Period</td>
<td>18</td>
<td>23</td>
<td>25</td>
<td>66</td>
</tr>
<tr>
<td></td>
<td>52</td>
<td>45</td>
<td>56</td>
<td>153</td>
</tr>
</tbody>
</table>

Number of male patients in each group:

<table>
<thead>
<tr>
<th></th>
<th>Simple</th>
<th>Delusional</th>
<th>Katatonic</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Period</td>
<td>6</td>
<td>3</td>
<td>10</td>
<td>19</td>
</tr>
<tr>
<td>2nd Period</td>
<td>8</td>
<td>17</td>
<td>16</td>
<td>41</td>
</tr>
<tr>
<td>3rd Period</td>
<td>7</td>
<td>8</td>
<td>7</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>21</td>
<td>28</td>
<td>33</td>
<td>82</td>
</tr>
</tbody>
</table>

Thus amongst the **Females** the "Katatonic form" is commonest, the next in order of frequency being the "Simple", the Delusional form coming last.

Amongst the **Men** the Katatonic form is again the commonest variety, the Simple taking the third place.

Amongst the **Females** the Katatonic is commonest during the first period, the Simple during the second, and the Katatonic again during the third period. With the **Men** the Katatonic is best represented during the first period, and the Delusional form during the second and third periods. Conse-
quently the Katatonic form is commonest amongst both men and women, and in proportion is especially prone to attack those of the first age period (20 years and under).

Perhaps the ultimate results of these cases can again be best studied when tabulated as under:

**Showing ultimate result of each group amongst Females.**

<table>
<thead>
<tr>
<th></th>
<th>Recovered</th>
<th>Readmitted</th>
<th>Transferred</th>
<th>Death</th>
<th>Here</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>F.</td>
<td>38</td>
<td>5</td>
<td>5</td>
<td>3</td>
<td>6</td>
<td>52</td>
</tr>
<tr>
<td>F.</td>
<td>19</td>
<td>2</td>
<td>6</td>
<td>8</td>
<td>12</td>
<td>45</td>
</tr>
<tr>
<td>F.</td>
<td>20</td>
<td>2</td>
<td>7</td>
<td>14</td>
<td>15</td>
<td>56</td>
</tr>
<tr>
<td></td>
<td>77</td>
<td>9</td>
<td>18</td>
<td>25</td>
<td>33</td>
<td>153</td>
</tr>
</tbody>
</table>

**Showing ultimate result of each group amongst Men.**

<table>
<thead>
<tr>
<th></th>
<th>Recovered</th>
<th>Readmitted</th>
<th>Transferred</th>
<th>Death</th>
<th>Here</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>M.</td>
<td>15</td>
<td>5</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>21</td>
</tr>
<tr>
<td>M.</td>
<td>15</td>
<td>2</td>
<td>3</td>
<td>6</td>
<td>4</td>
<td>28</td>
</tr>
<tr>
<td>M.</td>
<td>10</td>
<td>1</td>
<td>6</td>
<td>8</td>
<td>9</td>
<td>33</td>
</tr>
<tr>
<td></td>
<td>40</td>
<td>8</td>
<td>12</td>
<td>16</td>
<td>14</td>
<td>82</td>
</tr>
</tbody>
</table>
As regards **Prognosis** Clouston says 66% of cases of Adolescent Insanity recover, in the cases under consideration I found that amongst the **Females** 50.3% recovered, the total recoveries being 77, and only nine cases out of this number have been readmitted. Of the Simple type 73% recovered, of the Delusional 42.2% and of the Katatonic 35.7%.

Amongst the **Men** 48.7% recovered, the total recoveries being 40, and only eight cases out of this number have been readmitted up to the present date. Of the Simple type 71.4% recovered, of the Delusional 53.5%, and of the Katatonic 30.3%.

Thus the Simple type is highly recoverable in both sexes, the Katatonic being the least so, this being more marked in the case of the **Men**; also more Delusional cases recovered amongst the latter than amongst the former. These figures are in marked variance to those of Kraepelin who only gets a total recovery rate of 21% in all cases, probably to Kraepelin's clinical eye 75% of sane people would appear as degenerates. Personally I think these figures depend on what one considers constitutes a recovery, as in most cases a mental scar is present when the patient has got over an acute attack of insanity; the patient may never be his old self again after such an attack, yet if he is considered to be in a fit state to follow his previous employment, and
to earn his living without being a nuisance to his fellows, I think we are justified in saying he has recovered. When a man suffers from acute croupous pneumonia, and when after the lapse of time the lung clears up, he is generally regarded as having recovered from the attack although the resistance of the tissues of the lung may have been weakened, and he may be more prone to a return of the disease. Yet he has recovered! Why should not the same parallel apply in the case of Insanity? The brain power may be weakened; the brain may not be in quite such a fit state to maintain the struggle for existence, but still for all practical purposes he has recovered for the time being even though he may be prone to a fresh attack of his malady. One is very loth to admit recovery is so infrequent, especially among young people, as Kraepelin states, and in the Katatonic form he admits that there may be periods of intermission ranging from 5 to 15 years when the patient may be discharged and be capable of earning his living, yet he does not consider this constitutes a recovery. Because a patient had an acute attack of Pneumonia at the age of twenty, and was again attacked by the same disease after a lapse of 15 years, has he been suffering from Pneumonia all that time?
The Commissioners in Lunacy (England & Wales) in their last report give an average recovery rate of $37.35\%$ on all admissions, how can these figures be obtained if we are to deal with the matter of recovery as severely as Kraepelin appears to do?

As regards the Deaths - Amongst the Females 25 were recorded or giving a percentage of $16.3\%$ of the admissions. No fewer than 21 of the deaths were due to lung complaints, and out of this number 15 were caused by Phthisis. Fourteen deaths occurred amongst the Katatonic division, eight in the Delusional, and only three in the simple type. Amongst the Men 16 deaths occurred giving a percentage of $19.5\%$ of the admissions, of these 12 were due to Phthisis, nine of which had been in residence in this Asylum between four and twelve years; there were eight deaths in the Katatonic division, six in the Delusional, and two in the Simple.

In proportion, the deaths amongst the males were more frequent than amongst the females. Consequently in each sex the prognosis both as regards mental recovery and life is best in the Simple, and worst in the Katatonic division, and out of a total of 41 deaths, 27 were due to Phthisis, this disease accounting for more deaths amongst the male than in the case of the female sex. Although Kraepelin
states that the various states incident to reproduction are marked etiological factors in the case of Dementia Praecox, I have excluded such cases from my statistics as most authors recognise a special form of "Puerperal Insanity" and other insanities due to reproduction. There were 23 puerperal, five lactational and three cases due to pregnancy, in all 31. Of these 18 or 58% recovered, two were readmitted, three died and five are still in the Asylum. I have also excluded alcoholic cases, amongst the females there were eight, seven of these recovered and one was transferred "not improved". In the case of the men there were 18 "alcoholics", seventeen of this number recovered, twelve within six months and one died of Pyaemia shortly after admission.

Of the 132 Female cases that were admitted between the years 1884 and 1892 inclusive, twenty are still in the Asylum, and in the case of the Men out of an admission of 52 fifteen remain. The majority of these cases suffered from the Katatonic form and are demented and degraded; they are very impulsive and violent, and have periodical attacks of excitement— their habits are bad, and they are inclined to destroy their clothing and seem to take a particular delight in breaking windows, in fact
they are about the worst cases in the House.

As regards the physical signs in Dementia Praecox Kraepelin describes loss of weight, trophic changes in the skin, inequality and dilatation of the pupils, exaggerated knee jerks, spasmodic twitching of the facial muscles, amenorrhoea, and in the last stages a pale pasty face as being characteristic. Certainly dilatation of the pupils appearsto be common. The diagnosis according to the arrangement I have formulated is easy.

If this paper answers no other purpose it brings out the fact that certain forms of insanity, attacking individuals under the age of 30, are highly recoverable, and certainly stimulates one to make fresh efforts to attain this goal, instead of folding one's arms when such a case presents itself and saying it is sure to end in Dementia in from five to fifteen years' time, label it "Dementia Praecox", and lose sight of it amongst the ruck of chronic cases that fill most asylum wards.
REFERENCES

1. Defendorf's Book.
2. Defendorf's Adaptation of Kraepelin, and Johnson's translation.
8. Text book on Mental Diseases.
18. See No. 9 above.
19. Medical Annual 1904.
25. See No. 20.
31. See No. I.