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PROVINCIAL BRANCH LABORATORIES.

AT the annual meeting of the Executive Health Officers' Association held in Kingston in 1900, a resolution was adopted declaring the need of Branch Laboratories under the control of the Provincial Board of Health to supplement the work done in the laboratory of the Provincial Board in Toronto. It was stated in the resolution that a single laboratory situated in Toronto did not serve rapidly the outlying sections of the Province and that branches might be established at once at Kingston and London where trained men were available. The Provincial Board, however, did not take any action in the matter. Since then there has been gradually developing among the physicians of Eastern Ontario a feeling that the service from Toronto is entirely inadequate. This feeling has found expression in various ways, and suggestions have frequently been made to members of the Medical Faculty of

Queen's to move in the matter so that our laboratories and the services of our experts might be freely at the disposal of the profession and the public.

The Faculty after full consideration decided to make a proposition to the Provincial Board of Health, offering to do such pathological and bacteriological work as is done in the laboratory at Toronto in return for a nominal grant. The amount was fixed at what was estimated to be the actual cost of making examinations.

It is with regret that we announce to the profession in Eastern Ontario that our proposal has been unfavorably received by the Provincial Board of Health and by those members of the Ontario Government who control the Board.

The reasons given for this action are very inadequate and will not satisfy the profession. It is not denied that a branch laboratory is needed, for it is announced that the policy of the department is to have a laboratory in every county under a County Health Officer. Such a scheme is, however, entirely visionary under present conditions. Men qualified to conduct such a laboratory are not to be had, and if, in the future, they become available it will not be possible to combine efficient laboratory work with the care of the health of a county, the latter duty requiring constant travel in investigating cases of contagious disease. If a laboratory is of any value its service must be available at any moment.

The main reason advanced for refusing the proposal is that other centres would demand like treatment. It seems strange that such a possibility should carry so much weight. In the meantime, however, it ought to be enough to point out that Kingston is in the position of having laboratories thoroughly equipped and in charge of an expert who has the confidence of the profession and the public.

The present decision of the Department can scarcely be accepted as final by that section of the profession directly interested in the matter. The Faculty is willing to make any reasonable arrangement to secure the desired result.

On the initiation of Dean Connell, the Medical Faculty has decided to raise the standard of Medical Matriculation. A few years ago there was great diversity in subjects and in standards in matriculation among the various Medical Schools in Canada. Recently, however, and chiefly under the leadership of the Ontario Medical Council, the standard has been raised, until it will now compare favorably with that in any institution in the old land. Up to the present time, Queen's has conducted a special examination every September, for those students who have not taken the regular Arts Matriculation of the Ontario Education Department. Hereafter, this special Matriculation will be discontinued, and there will be required in its stead, an examination upon the regular subjects and papers of the supplementary Matriculation in Arts. That is, Medical students will be required to take the same papers as Arts students at the September Matriculation. The subjects will be English, Composition, English Literature, English Grammar, Algebra, Euclid, Arithmetic, History (British, Canadian and Ancient) and Latin. The syllabus of work in each of these subjects, will be that prescribed for the Junior Leaving Examination of the Education Department. Intending Matriculants are referred to the Arts Calendar for details, or to the courses of study published by the Ontario Education Department for use in the High Schools and Collegiate Institutes.

Considerable stir has been caused on all sides by the proposal of the Ontario Legislature to amend the assessment act and among others the practising physicians of Ontario will be affected. In a country like Canada and especially in a province like Ontario, the general electorate are fairly safe in abiding by ordinary legislation. We must admit that those who have the raising and apportionment of the taxes of this province are in a better position to judge of the fairness of any plan than is any particular class or individual. We take it for granted that the government of Ontario has no particular 'pick at that devoted individual, the practising physician, but desires to deal with him fairly and apportion to him his fair share of the expenses of government. We could hope that the same

spirit manifested in the treatment of practising physicians were meted out to high corporations, reaping large harvests from the use of public franchises for which they have paid not a single dollar. Perhaps these hopes are not far from at least partial realization.

Another phase of the question must be considered. High corporations have had no monopoly in the matter of deceiving governments. Whatever may be the reason, many persons, strictly honest and truthful in dealing with private individuals, think it no wrong to deceive a government, and do not hesitate to understate the amount of their income that their tax bill may be proportionately less, whether he be the New York Millionaire or the six hundred dollar Ontario Medical Man.

As far as we have been able to understand the proposed amendment we think it will issue in a fairer apportionment of the public burden than does the present system. Some physicians will pay more than at present, while the burden of others will undoubtedly be less. Instead of attacking the proposed changes with the idea of rolling our share of the public financial burden upon some other class, let us attempt to determine our just share and pay up like men. It is certainly a privilege to live in Ontario and the sums we pay in taxes are very small compared to the privileges enjoyed.



THE CARE AND TREATMENT OF THE CRIMINAL.*

By C. K. CLARKE, M.D.,
Medical Superintendent, Rockwood Hospital, Kingston.

THE criminal has always been the most attractive person in the community, if we regard him from the standpoint of popular interest, and that this fact is generally recognized may easily be verified by a brief study of the daily newspapers. In a crude way we admit that, on "general principles," it is in the interests of the state that the criminal should be locked up, and the average man is not slow to say that punishment is meted out as a deterrent to the offender, and a warning to others who might be tempted to commit crime.

To-day the criminal is being studied and classified in a way that will result in his being cared for and treated in a more satisfactory manner than is at present the case, and with much better protection of the rights of the state. In taking up the question of the treatment of the criminal the first error to be avoided is that of confounding defect with disease, because without this distinction the whole question becomes muddled. Even Bosañquet does not seem to have fully grasped the difference, and in his work on the "Philosophical Theory of the State" writes about the "cure of the offender by medical treatment," as if there was always some disease to cure; and when he comes to write of the reformatory theory it is more patent still that he is not fully in touch with the facts now fully accepted by physicians, who have arrived at conclusions by practical methods. In dealing with the question, I cannot lay claim to any great originality, and the views presented are those shared by physicians who have made a practical study of the criminal, and who hope that the day of radical reform in penology is not far distant.

The subject is, of course, an immense one, and there will not be time to take up the social and economic factors at work in the production of certain groups of criminals, and incidental-

*Read at meeting of Executive Officers of Provincial Boards of Health, held in Peterboro, September 10th, 1903.

ly certain kinds of crime, but for fear that all present may not have a clear conception of the different classes of criminal ordinarily met with, I shall briefly refer to a simple classification: (1) The criminal insane; (2) Moral imbeciles; (3) Instinctive criminals; (4) Occasional criminals; (5) Habitual and professional criminals; (6) Accidental criminals.

The insane criminal, or properly speaking, the criminally insane man, that is, the criminal who commits a crime as the direct result of mental alienation, is not recognized by law, as a general rule, and his abnormal condition of mind must be very apparent, before either judge or jury can be brought to believe in the necessity of saving the prisoner from the rigors of the law. The result is that the death penalty is frequently imposed, even in cases where brain disease is clearly marked, simply because the unfortunate sufferer from the disease is supposed to know the difference between right and wrong in the abstract, a difference that nearly every patient in a hospital for the insane can give with satisfactory glibness. However, my views on this subject have been expressed so frequently, both publicly and privately, that I shall not weary you with them. To show, however, that the foregoing statements are not beyond the mark, it is morally certain that several insane murderers were hanged in Canada during the last few years, one of whom was actually arrested in the wards of an asylum for the insane, and tried without the slightest reference to his mental condition. In Germany, of 144 persons who were tried and eventually found insane, only 38 were recognized as insane before the judge, a condition of affairs rather startling in a country noted for the thoroughness of its methods. To those of us familiar with the everyday experiences in a hospital for the insane, perhaps the figures are not so surprising as they might appear to others not conversant with the popular idea of insanity, an idea not so far removed from the conception that insanity is in itself a species of crime; certainly something to be ashamed of. The present methods of attempting to detect the insanity of a criminal are inadequate and crude, especially when the mental condition of a prisoner is supposed to be established by a battle royal between rival lawyers and so-called experts in open court. Fre-

quently those asked for opinions are refused permission to examine the prisoner, and the evidence becomes an attempt to solve a problem more intricate than that of squaring the circle. It is wonderful though how often even physicians are anxious to square this circle ; and the anxiety is generally in inverse ratio to the experience they have had. Of course common sense dictates that the proper time to examine the supposedly insane criminal is before trial, and it is probable that dignified and competent men, familiar with the aspects and manifestations of brain disease, can be found to give judicial opinions of even greater value than those of twelve jurymen, who, in all probability, never saw a case of insanity for more than five minutes in their lives.

A short visit to a penitentiary will soon convince the interested observer that justice has not always been done, and when I look over the endless list of insane persons sent from the penitentiary to Rockwood, suffering from chronic mental maladies, developed long prior to their incarceration in the prison, it is more than evident that man's inhumanity to man can be studied with painful reality at our own doors. Even the victims of gross brain disease are not exempt, and general paresis has time and again been seen among the convicts.

Moral Imbeciles.—The typical moral imbecile is one who is devoid, or nearly devoid, of moral qualities, just as we find some children deficient in intellectual qualities ; such children are absolutely incapable of understanding the ordinary social, religious, and educational influences, and are almost invariably deficient in intellect as well as morality. Many, I might say most of them, are amiable, but drop into criminal acts without the slightest exhibition of what we call viciousness ; indeed, the typical imbecile is rarely vicious in the true sense, he commits his crimes in the most innocent manner possible, and never realizes a sense of responsibility, simply because such feeling is an impossibility. Such cases reach me quite commonly, and some of the crimes committed by them are most astounding. All or nearly all, are easily managed when under proper care.

The Instinctive Criminal.—Some writers are inclined to place the moral imbecile and the instinctive criminal together,

but I think a marked difference exists, for, while the moral imbecile is not usually vicious nor necessarily criminal, instinctive criminals are vicious from the outset. They reveal criminality in its most marked state, and while they form only a comparatively small proportion of the population of a prison, it is the element to be considered most seriously in the discussion of the care and treatment of the criminal. These people are not only mentally, but also physically abnormal.

In childhood they may be precocious, vicious, with sexual perversions of the most remarkable character, when at complete development they are moral monsters full of sensuality and self-seeking impulses. Their depravity is absolutely beyond reach, their claims to mix with society untenable, and their degeneracy a menace to others not quite so low in the social scale.

Occasional Criminals.—The occasional criminal, who is not so far removed from the normal, as the members of the previous class, is one in whom weakness is the chief characteristic. Under ordinary circumstances he gets along fairly well, but if environment and circumstances are favorable to his fall he cannot resist temptation. If properly guided and cared for, he may be a useful citizen; if admitted to our so-called reformatories, ninety-nine times out of a hundred he will become that scourge of society known as the habitual criminal. As Ellis has well said, "The steps by which the occasional criminal, aided on the one hand by neglect, on the other by the hot-bed of the prison, develops into the habitual criminal, are slow and subtle—that is one of the tragedies of life."

The Accidental Criminal.—The accidental criminal, or, as he is sometimes called, the criminal by passion, must also be referred to, although I confess when it comes to suggesting what should be done with him, I shall feel that it would have been much simpler to have left him out of the classification. The criminal by passion is, in the majority of instances, a morally constituted person, who, stung by some great injustice or wrong, takes the law into his own hands, and in a moment of passion commits a crime.

Now, having admitted that criminals are to be classified under some such headings as those suggested, what are we to

think of our system of prisons and so-called reformatories. These are built to accommodate so many criminals who are presumably all of the same class, and who are from the very first herded together with as much regard to classification, as if they were so many sheep.

The one idea present is apparently that of punishment, an idea that is not tenable for one instant for the classes that are admittedly abnormal. That this is the assumption is easily demonstrated, if we recollect that the law is quite able to apportion the length of time it is necessary to deprive a man of his liberty, for committing crime. One magistrate will give a thief two years for stealing a loaf of bread, while the society thief may receive six months for the misappropriation of \$10,000. Another magistrate adopts a different rule, and still has the law for his guide—in other words, to quote from Gilbert's "Mikado," "they make the punishment fit the crime," theoretically, at least. As Professor Ferri remarks, "Up to recent times the criminal has been regarded as a kind of algebraic formula, the punishment has been proportioned not to the criminal, but the crime. What should be done is to attain scientific justice by ascertaining the reasonable treatment of abnormal members of society, not only in their interest, but also in the higher interests of the society to which they belong."

It is quite true that law cannot be expected to take note of the many differences spoken of in the classification of criminals, but it can at least provide the machinery by which the criminal classes can be properly treated and cared for. It would be almost too much to expect that a magistrate without training would dispense law with the slightest regard to scientific justice.

Of course society must protect itself against those who have violated its laws, but it is a question if the highest kind of protection is assured when punishment is aimed at the offence alone. This seems, ordinarily the basis of the treatment of crime. Then again, the punishment of a criminal does not accomplish all that it sets out to do, as it almost invariably neglects to take the slightest cognizance of the social conditions and defective institutions which played an important part in the production of this outcast from society. The great trouble

with the punishment theory is that it is based on the the supposition that the criminal is in all instances a normal being, when the facts go to show that in many instances he is markedly normal.

To the physician the suggestion of cure invariably implies the existence of disease, and it is a common belief that the medical theory is wedded to a belief that crime is invariably the outcome of disease. Nothing could be more erroneous, as the classification adopted shows, and the utmost contended for is the very co-operation of judges and physicians suggested.

It is true that among us there is a knowledge of the fact that many murderers are epileptic or insane, and we know that many others guilty of this crime are criminals by passion, the least anti-social of any of the classes.

However, leaving the region of theory for a time, and taking the practical method of investigating the application of our laws in the care and treatment of well-defined criminals, what do we find in our own country? A ray of light has broken through the cloud in a few places, but on the whole we have little on which to congratulate ourselves when we study the methods in vogue. Our one ideal is uniformity, with absolute disregard of the individual, in other words the only question considered is that of making "the punishment fit the crime."

To commence with our classification, viz, the criminal insane. As I have explained before, when these sufferers from brain disease commit murder they are almost invariably hanged. A very few escape the gallows, and are acquitted on the ground of insanity; these are sent to the provincial asylums, which are not equipped to care for the criminal classes. Outside of that it is distinctly wrong to allow the criminal insane to associate with the harmless insane, but the law insists upon it, and there is no escape. In case the crime is not murder, and the insanity is not discovered until the prisoner is transferred to penitentiary or prison, the result is somewhat different. If in the penitentiary, and his mental malady is not particularly annoying to others, he is kept with the ordinary convicts; if he is troublesome, he is transferred to what is by courtesy called the criminal asylum. As a matter of fact, an insane criminal

is not treated differently from any other convict ; when his sentence expires he is then entitled to treatment in one of the provincial institutions, and although the number of transfers has been large, we may well be silent about recoveries.

Now as to the moral imbeciles. It matters little what becomes of them, for Mark Tapley cannot be compared with them for cheerfulness. Being devoid of moral sensibilities, punishments have no terrors for them, and a sentence of death is received with as much equanimity as an invitation to dinner. It is needless to say our penal system is quite oblivious to the existence of any such being as a moral imbecile, and confers on him the right to freedom when he has worked out his sentence; it will be learned in time that it will be best for all concerned to keep him under control for the whole of his life.

The instinctive criminal enjoys the same glorious privileges as the more amiable degenerate, the moral imbecile, but is much more apt to get into trouble, as even in prison his vicious nature may lead him into crime. If he succeeds in getting through his sentence without complication, he is once more at liberty to commit all sorts of atrocities, and is in trouble very soon.

The occasional criminal, the habitual criminal, and the accidental criminal are cooped up with the degenerates just mentioned—it is one crime, one treatment. What need of classification when law is such a science that it can compute the exact number of days or years to extenuate a particular misdeed ! What a picture, and what possibilities for the future !

How much, or rather, how little is done in our prisons for the reformation of the convict. Little is possible under the present system, which is nothing better than an institution for the perpetuation of criminality. No wonder the tide of criminality has risen.

Havelock Ellis says : "The key to the failure of the prison, and a chief clue to its reform, lies in the system of administering definite and predetermined sentences by judges, who, being ignorant of the nature of the individual before them, and, therefore of the effect of the sentence upon him, and of its justice, are really incompetent to judge." Possibly a slight recognition

of this fact has occurred in Canada, where there is a tendency in minor crimes to use what is called the suspended sentence, and a modified form of the parole system. That its effect is excellent all recognize, for unless we have a system that enables us to discriminate between different classes, how can we look for different results than those which are now the rule.

No one can deny the statement that there are hundreds of criminals in our prisons to-day who might under certain circumstances be set at liberty, while others who will in time be freed, will only continue to prey upon society and commit anti-social acts with regularity. The first step in the solution of the problem is of course obvious, viz., the proper development of the indeterminate sentence. This can be regarded as a mere starting point, although of vast importance, because it transfers the responsibility of fixing a sentence from the judge, who cannot form an opinion of the highest value in regard to the classification of the criminal during the course of a trial, where rival counsels are almost invariably doing their best to build up their reputations, rather than add to the knowledge of the court in regard to the prisoner.

The authority of the judge having been transferred to another quarter, it is obvious that the responsibility should be shifted with great care and circumspection, to the prison or reformatory authorities. As the administration of justice is a costly article at the best, and the expense caused by the criminal population is so great, no fault can be found with a just expenditure which will eventually save untold thousands to the country. The ideal prison, then, should have at its head a commission of the very best judicial and scientific men the country can produce, men whose knowledge of their subject is of the most complete character, and who are able to study and classify criminals properly, and suggest the rational treatment, or punishment, if you prefer the word, in each case. Under this arrangement, it would be possible to give each criminal the careful study his case demanded, before being allowed to associate with others, and it is very certain that few mistakes would be made.

The instinctive criminals would be forever shut up and

kept from society, and the work of reformation, which is, of course, the true work of every prison, could be carried on intelligently and with some hope, especially in the case of the young. Not only that, a proper system of probation or parole could be developed. At present the occasional criminal serves his sentence and leaves prison with the brand of infamy stamped upon him, and while it is true that he has satisfied the demands of the law, he has not expiated his crime, no matter how trivial, in the eyes of the public. A strong man would require an iron will to fight against popular prejudice backed up by our so-called detective system; a weak man finds it extremely simple to succumb to what seems to him the inevitable, and soon becomes a recidivist of the marked type. The system of probation should involve the finding of a proper situation for the probationer. The result is not uncertain, in fact in Elmira, where one of the few modern prisons is to be found, the percentage of recidivists under this system is extremely small. There the period of probation is generally six months.

I have hinted at the importance of having a highly trained and broad-minded commission at the head of the ideal reformatory. More important still is the necessity of having efficient and well-educated officials to carry out the instructions of these heads. We recognize the marvellous change that has taken place in hospitals for the insane, since the advent of the trained and intelligent nurse, and it is more important still that the wardens in charge of criminals should have the most advanced knowledge regarding prisons and their treatment. As Havelock Ellis suggests, "The criminal in all his manifold variations, with his ruses, his instinctive untruthfulness, his sudden impulses, his curiously tender points, is just as difficult to understand and to manage as the hospital patients, and unless he is understood and managed, there is no hope of socializing him."

The system of solitary confinement so warmly advocated by some cannot be too severely condemned. In Elmira, which we can regard as the nearest approach to the ideal reformatory, the endeavor is to occupy the convicts as completely and intelligently as possible, from the moment of waking until bedtime, leaving little or no opportunity for the development of evil, and

not taking away the interest in life. For boys, physical and mental development classes are instituted, and the treatment adopted includes massage, gymnastics, baths, school work, etc., and a carefully regulated dietary restricted to the best requirements of the criminal.

The system, too, of allowing the hopeful criminals to win their way back to freedom, when properly applied, is excellent, as proved by competent observations. As has been well said, the chief aim of the ideal prison is that of being a moral hospital. It is, of course, impossible to more than indicate in a general way the lines along which the advances should be made, as the subject is too large to deal with here. Little has been said about the offences of minor criminals and drunkards. With the first class, providing that the offenders are not of the instinctive criminal class, the suspended sentence is excellent, although it is a mistaken kindness, in fact a grave wrong, with instinctive criminals. Great care should be taken by the magistrates when investigating the crimes of boys, and if necessary, expert advice called in. This has been done occasionally with decided benefit.

Up to the present Canada has developed slowly and healthily, her expansion has been gradual, and we have escaped the dangers incident to sudden accessions of multitudes of immigrants from the older countries. Our record as a law-abiding people has been enviable, and on the whole the administration of the laws has made the comparison between ourselves and our neighbors to the south a very comforting one. As a matter of fact we have been drifting, and are now becoming blind to a danger that is apparent to any of those who have had much to do with the defective and criminal classes. It is useless to deny the gravity of the situation, and as an ounce of prevention is always better than the proverbial pound of cure, now is the time to face problems that are upon us.

As a general thing, Canadians are satisfied that in the administration of justice, we are ideal, and have little to learn, that when a prisoner has been convicted and punishment meted out our duty to society has been finished. Of course, those who have made a study of penology are well aware that Canada

is a generation behind the times as far as the care and treatment of the criminal are concerned. The only explanation of the general apathy regarding the matter is, that we have been living under conditions particularly favorable to ourselves, conditions that will no longer prevail. The difference between Canada and the United States in the matter of crime is ordinarily explained by the assumption that our laws are better, and are administered with greater dignity and promptitude. There is something in that, in fact in some notable cases of insanity there has been far too much promptitude, and judicial errors of the greatest kind made—errors that in a few years will be impossible. As a matter of fact, we are years behind some of the States, notably New York, in the care and treatment of the criminal, and we have not had to face the problems that are encountered there. Up to the present the United States have been the Mecca for all the defective and criminal classes of Europe, and the slums of the larger American cities will always prove an attractive haunt ; but our time is coming.

It is a question for the politicians to argue as to whether it is advisable or not to open our country to hordes of subsidized immigrants, but certain it is, that when the tide of immigration turns this way as it is now doing from Europe, we shall know more about the criminal than in the case at present. Even now it is extremely interesting to study the old world degenerates collected in our institutions, and one marvels that such specimens were allowed to reach our shores. In the anxiety to add to the population, the doors have been practically wide open, and when a degenerate has once obtained a foothold here, a very brief residence makes him secure, until he commits a crime or develops insanity, in either case the result being that he becomes a burden upon the State which owes him nothing. We should take warning by the experience, which has resulted in such a serious condition of affairs in the United States, a condition referred to by Dr. Allison, of the Mattewan Asylum for insane criminals, in New York State, in an address read at the Medico-Psychological Association in Washington last June. I shall quote briefly from his paper, as the quotation contains suggestions that should at once be adopted by Canada, if she is to escape to even a slight extent.

Speaking of the care of insane criminals, he says : "Criminals are a great burden upon the community everywhere ; many of them are of alien birth, and many others of foreign extraction. Congress has recently enacted measures amending the restriction of immigration of the defective classes, which interposes a bar to lunacy and crime coming to us from foreign lands. America has long been a refuge for persons of this class. Some of them come of their own volition ; others are assisted by members of their own family, by prison associations, by benevolent and other societies, and at times by municipalities. Some of these immigrants are habitual criminals ; others, who are poorly equipped mentally, soon become criminals. Numbers of such cases have come directly under our own notice. Discrimination is required to sift from prisons all such inmates, particularly degenerate examples of European origin. An important feature of the new law is the extension to three years of the period of probation, during which insane or criminal aliens who have landed in contravention of our laws may be returned to their native countries. This feature of the Act affords opportunity for investigation into the mental condition, and the antecedents not only of inmates of prisons, but of all institutions for the defective, dependent and criminal classes. Provision is made by which the Government may from time to time obtain information from the officers of penal reformatory or other institution concerning aliens in their custody. Agents in the Government service may be detailed to secure facts from such institutions through which the enforcement of this law may be facilitated."

Just as Dr. Allison says, it is a notorious fact that defectives of all classes are shipped to America as an easy solution of a serious difficulty, and if I could show you many of the degenerates I have met who came here under the name of desirable immigrants, you would marvel that they could have passed the most perfunctory inspection, so obvious were the ear-marks of degeneracy.

Those of the insane type do not constitute the greatest menace, as it is the instinctive criminals that are most to be feared, not only for themselves, but for what they are likely to

hand down as a legacy in the way of degenerate descendents. If we consider the matter alone from the dollars and cents standpoint, the cost to the State even for a small colony of degenerates will in the end be appalling.

In the photograph which I have of some of the degenerates in the Mattewan State Hospital, some seventy persons are shown from the Central and Southern Europe alone. These seventy persons will cost the State something more than two hundred dollars per capita annually, and as they all probably belong to the incurable class, and will easily live on the average ten years each, here we have at once an expenditure of \$140,000 in this one small institution, an expenditure that should not be incurred by the State. That is not the whole question though. How many defective and criminal children will these degenerates leave? Those of us who know what a part heredity plays in the development of insanity and crime can appreciate the magnitude of the calculation.

Probably the most instructive history of the possibilities and cost of a criminal family is the much-quoted Jukes incident. Havelock Ellis details this as follows: "The so-called Jukes family of America is the largest criminal family known, and its history, which has been studied carefully, is full of instruction. The ancestral breeding-place of this family was in a rocky inaccessible spot in the State of New York. Here they lived in log or stone houses, sleeping indiscriminately round the hearth in winter, like so many radii with their feet to the fire. The ancestor of the family, a descendant of early Dutch settlers, was born here between 1720 and 1740. He is described as living the life of a backwoodsman, a hunter and fisher, a hard drinker, jolly and companionable, averse to steady toil, working by fits and starts. The intermittent work is characteristic of that primitive mode of life led among savages by the men always, if not by the women, and it is the mode of life which the instinctive criminal naturally adopts. This man lived to old age, when he became blind, and left a numerous more or less illegitimate progeny. Two of his sons married two out of five more or less illegitimate sisters—these sisters were the 'Jukes.' The descendants of these five sisters have been traced with varying

completeness through five subsequent generations. The number of individuals thus traced reaches 709, the real aggregate is probably 1200. This vast family, while it has included a certain proportion of honest workers, has been on the whole a family of criminals and degenerates, of vagabonds and paupers. Of all the men not twenty were skilled workmen, and ten of these learned their trade in prisons; 180 received out-door relief to the extent of an aggregate of 800 years; or making allowance for the omissions in the record, 2,300 years. Of the 709, there were seventy-six criminals committing 115 offences. The average of prostitution among the marriageable women down to the sixth generation was 52.40 per cent.; the normal average has been estimated at 1.66 per cent. There is no more instructive study in criminal heredity than that of the 'Jukes' family. The total cost to the State of this family as a result of their criminality, is a million and a quarter dollars, and the end has not been reached."

I am aware that the dollars and cents question is not the only important one, but it is the one that appeals to the average tax-payer, and when we think how great already is the expenditure in connection with Provincial and Federal institutions, it is very evident that every available means should be adopted to lessen, rather than to add to, the load we should carry. As an illustration of the folly of holding the door wide open to foreign defectives, I can point to one important criminal, who was deliberately shipped to Canada. His advent brought misery and tragedy, and cost the country, it is said, more than \$50,000. Under a rigid system of inspection, this criminal could not have reached here, as his record in other countries was well known. However, we are not lacking even in Canada in historical proof of my contention that we cannot be too careful in framing laws to enable us to get rid of defective and criminal immigrants before they had time to do much harm.

In the early days of the settlement in Ontario what was called the scum of certain districts in the older countries obtained a foothold here, and it is notoriously true that the cost of these degenerates to Canada has been incalculable. From certain facts that came into my possession, I suspected that a

reading backward of some of these family histories would prove very instructive, and the supposition was quite correct. My own observations have been confirmed by the researches of others.

To illustrate my point in a practical way: Kingston is as you all know a long-settled district, unaffected to any extent by immigration, and yet within the last ten years the Government has had to contribute no less than \$72,875.03 for the maintenance of defective immigrants, who would not have been permitted to obtain a foothold here if satisfactory alien laws had been in force. There were sixty-three of these defectives, seventeen of whom still remain with us.

Their maintenance rate was only calculated at \$130 per annum, and yet the total amount is rather surprising. If that is already the case in one small institution, comparatively remote from the direct effects of immigration, what must be the total amount for the whole Dominion? What is it likely to be in the near future unless we adopt stringent protective legislation?

Of course it will be urged that if we are to have immigration on a great scale we must naturally expect to get a certain proportion of degenerates. This is correct as far as it goes, but does not represent the whole truth. It must always be the case that the failures in life will make a large showing in emigration returns, and while as a rule the sturdy agriculturists of the British Isles furnish a most desirable element to add to our population, the same cannot be said of the mental and physical weaklings reaching us from the slums and poorer quarters of overcrowded cities. These are not the greatest menace though. We have most to fear from the importations from Central and Southern Europe. The types of degenerates I have seen from these quarters far out-rank anything of the kind I have met elsewhere, and furnish a unique study in themselves. The social conditions developing these degenerates are well understood, and it is a debatable question as to whether we are not making a serious mistake in giving encouragement to immigration from this part of the world. The Northern races are far better equipped mentally and physically, and environment has been much more fortunate for them. The practical point though is,

how are we to minimize the danger, and make the best of a situation that must prove serious if ways and means are not found to meet it more than half way. Already one Province has realized what it means to support the insane of an alien race. Two years and a half ago, when investigating the affairs of the Provincial Hospital for the Insane in British Columbia, I found one large ward in that institution devoted altogether to insane Chinese, and no doubt a fair proportion was to be found in the penitentiary. Apparently there was no relief from the burden, no law by which these foreigners could be deported to their own country. At that time the per capita cost was \$255 per annum, so the Provincial expenditure for these aliens was no trivial item.

Now I am by no means certain that we can find a perfect means of controlling the situation absolutely, as with our enormous frontier it is impossible to keep the door shut to degenerates and criminals. A far more rigid system of inspection than that in use at present should be adopted—that would exclude the palpably insane and defective, but in addition to this the indigent class of immigrants who show marked evidence of mental disease or defect, or criminal tendency, should be returned to their own country at any time during a residence of two or three years. This is not an unreasonable proposition, and Federal and Provincial authorities should unite in vigorous action to control the situation as completely as possible.

The public has long ago awakened to the fact, that it pays in the long run to stamp out outbreaks of small-pox, even at a great outlay. No one objects to such expenditure, and the common sense of the thing appeals to all, and yet the ravages of an unchecked outbreak of small-pox are as nothing compared with the misery and expense dependent on the presence in the community of a very small body of degenerates. The proportion of our own weaklings is large enough at present, without being augmented by the addition of Old World specimens.

Surely the question is one that might fairly be taken up by the representatives of the different Boards of Health, and it is with the hope of exciting some intelligent enquiry into the subject that I have ventured to bring it up here.

I am not a pessimist, nor am I an alarmist, but I cannot shut my eyes to things as I see them. The alien degenerate is a spirit we should exercise just as quickly and persistently as well-made laws will permit us.

STRUCTURE OF THE BRAIN.

OUR knowledge of the brain has been acquired through the labors of the comparative anatomist, the histologist, the experimental physiologist and the pathologist.

Its structure is best understood from a study of the anatomical and physiological unit of the nervous system, viz.:—the neuron. There are few of these neurons in the nervous system of the lower animals, say, for example a worm. There are many neurons composing the nervous system of one of the higher animals, say, a dog. To understand, therefore, the structure of a man's brain, or nervous system we begin with a neuron. A neuron is a nerve cell with its appendages. There are different forms of them. They differ in different animals and in different stages of growth in the same animal. But in all we note three common points of resemblance in form, viz.:—(a) a central cell body, oval in form and filled with granular protoplasm; (b) a smooth prolongation from one pole, a fibre or thread generally known as an axone; and (c) a number of prolongations from the other pole of the cell body, much branched and many beaded, and known as dendrites. The cell body varies in size in different parts of a man's nervous system; the axones and dendrites vary much in length and diameter, also in size in different parts of the body; but generally speaking these three parts can always be made out in every careful microscopic dissection of the nervous system. Our next step is evidently to try and understand how these units are grouped together to form the nervous system as a whole—brain, spinal cord and gross nerves. Let us first look at the nervous system of an arthropod, like the cray-fish. In it, we find what is known as a nerve collar surrounding the gullet of the animal, and

stretching from the nerve collar backwards the length of the beast, a double nerve cord with swellings on it at regular intervals. When we examine these swellings under the microscope and especially the two large ones above and below the gullet, we observe that they consist chiefly of collections of cell bodies embedded in a fine network of fibrils. Running into and away from these cell bodies, we recognize the axones and dendrites which we know to be the other constituents of the neurons.

When we examine the cords which run the length of the animal, and also the fine threads which spread in nearly all directions from the swellings or ganglia already alluded to, we find that they are composed of axones and dendrites. In short, the nervous system in a crayfish is made up of a large number of neurons, whose cell bodies are grouped here and there into swellings or ganglia, the dendrites and axones running parallel with each other and forming not only the large nerve cords which connect the ganglia, but forming in addition, thin fine white threads which cover the surface and ramify everywhere throughout the animal's body.

Moreover, it is to be noted that these ganglia occur at regular intervals along the body—one for each division or body segment. Segmentation is one of the most fundamental facts in comparative anatomy and in comparative embryology; it is specially prominent in this animal, and the nervous system is specially related to its segmentation, and this brings us to the next point in our studies, viz. :—the physiology of the neuron.

Many observations in many different kinds of animals seem to have demonstrated pretty conclusively that a neuron receives and transmits impulses throughout its length in one direction only, that is, from a dendrite or dendrites to cell body, and out again along the axone and its branches. So far as we know at present an impulse is never carried in the opposite direction.

Now it is obvious that the crayfish and most other animals are capable, like ourselves, of receiving impulses from various parts of the body, and of sending impulses out again. They all possess at least two different sets of neurons, viz. :—neurons which transmit impulses inwards, and neurons which transmit impulses outwards.

Experiments upon crayfish, and upon animals belonging to the same branch as crayfish, prove that the ganglia of each segment controls its muscular movements. In other words, ganglia are centres of reflex action and act independently of any control from the so-called brain in the head region. In the head region, compound ganglia, or ganglia which have coalesced; control the mouth parts, further back we find separate ganglia which control movements of the legs; further back still, other ganglia which control the movements of the swimmerets. These different ganglia may be disconnected from each other; and yet each will carry out perfectly the separate movements which it controls.

In man and vertebrates we find a similar segmental arrangement of the nervous system, with centres lying at different points along the spinal cord and brain. These centres consist of what is known as gray matter or aggregations of the cell bodies of neurons. The white matter consists of axones.

From below and upwards, throughout its length, we have been able to demonstrate in the grey matter in animals by means of experiments, and in man, as the result of disease, the location of certain centres, analogous to the centres in the segments of the crayfish. At its lower end, for example, a centre for defaecation, one for micturition, one for parturition, and all the way up to the medulla many centres for muscular movements of trunk and limbs, and others for the control of perspiration. But as compared with lower animals, e.g., frogs and fishes, the number of centres in the cord and reflexes connected with them are greatly reduced in man. Along with this reduction, and necessarily connected with it, we find the proportion of grey matter much reduced in amount and white matter increased. In other words many of the cell bodies which we ordinarily find in the spinal cord of the lower vertebrates have been apparently transferred to the brain in the mammals and especially in man. This is easily seen in sections which show varying proportions of grey matter in man, the monkey and the dog, and shows also varying proportions in one of the white tracts in the cord of the same three animals, viz.: the crossed pyramidal tract.

The enlarged upper end of the spinal cord is known as the

medulla and here are located other important reflex centres, such as the one for changing the heart-beat, changing the blood supply to various organs, the production of saliva, the acts of swallowing and of respiration. But it is to be noted that these are not simple reflexes, but are rather in the nature of two or three reflexes coalesced into one act, or what might be termed a chain reflex, in which the first reflex becomes the stimulus for the second to follow.

Leaving the medulla and the cerebellum which is mainly the organ for these co-ordinated muscular movements employed in maintaining the equilibrium of the body in standing and walking, we come to a part of the brain in which reflex action is almost entirely wanting—the cerebral hemispheres. In examining a section of the cerebrum of a rabbit seen from above we note the convolutions and sulci evidently intended to increase the surface of grey matter, i.e., cell matter. The increase is very marked. The underlying matter is white, and consists partly of axones or fibres running from the cord to the surface of the brain, and partly of fibres running away from the surface down through the brain substance and away down the cord. From experiment we learn that dendrites of a neuron carry an impulse from the skin into the spinal cord, thence up the cord, crossing at the decussation, and thence to the surface of the cerebrum to some sensory area. Here the impulse is modified in ways that we do not understand, in neurons which lie on the surface and from one or more of these a new impulse is transmitted down along the fibres of the brain, out along some of the nerves to a muscle or muscles resulting in a contraction, and consequent movement of some part of the body. Microscopic sections of the cerebellum show the arrangement of fibres and cells on its surface, and enable us to understand how impulses arriving at these surface neurons may be distributed to adjoining convolutions and centres.

Our next step is to get some idea of the geography of the brain's surface. This has been mapped out partly by experiments in animals and partly by the study of brain disease in man. One of the very first areas to be located was the speech area—done by Broca. After this came the location of the

motor areas in animals by means of experiments. The location of these areas can be easily recognized and we see that separate areas correspond with and exercise voluntary control over the voluntary muscles of the body—e.g., the head, arms, hands, legs, foot and trunk.

Next in importance to these areas come (*a*) the visual area and (*b*) the auditory area, then (*c*) the areas connected with the senses of taste and smell, and lastly (*d*) what the German physiologists call the “body sense” areas, i.e., those parts of the surface of the brain which are the home for all sense impressions coming in from the skin and muscles of the body. The location of this cutaneous area is disputed—some limiting it to the inner mesial surface between the two hemispheres, some giving it much wide boundaries, and extending it over the region of the motor areas as well.

Now note that after locating all these various areas, there still remains a large portion of the surface of the brain which is not excitable by electric stimuli. These inexcitable areas have been subdivided into “association areas.” These are made up of neurons which transmit impressions from convolution to convolution through short or long distances. They are the neurons which store impressions and, therefore, constitute the basis of *memory*: The difficulty of determining the functions and relations of these areas is very great, because the animals upon which we can experiment cannot talk, and the animal who can talk we are not allowed to experiment upon. But the clinical histories of many patients in our hospitals and asylums have helped us to locate two or three of the most important of these areas. For example, in reading aloud we see that the visual area for words must be connected by means of association fibres with the motor area controlling the muscles of speech—the tongue, lips, larynx. Similarly, in writing a passage from dictation we see that the auditory area for words must be connected by association fibres with the motor area controlling the muscles of the arm and hand in writing. Sometimes speech is lost, sometimes the ability to write from dictation and hence we have been able to infer the location of two association areas.

Disease of different parts of the brain will be followed by different effects according to the location of the lesion. But I shall leave this part of the subject to be treated by Dr. Clarke, whose province this especially is and who will tell you how progressive disease of the brain is accompanied by progressive loss of reason, memory and will, ending finally in complete dementia.

When two gentlemen belonging to this society* asked me to give this paper, I answered that I knew no philosophy and no psychology, and did not see how I could be of any help to them in their philosophical discussions. I have never been able to image to myself how reason and will and religious aspirations emerge from the molecular energy of the brain cells, and yet they must. We see how intelligence dawns in the growing infant, with the growth and development of its nervous system. The 13,000,000,000 cells of which it is composed are all present in the human embryo 3 months old and lying in the uterus of the mother. From that time onwards to maturity the growth is in size and complexity of their connections, and with this growth comes intelligence, speech, will, memory and moral responsibility. Lack of the average quality or number of the brain cells means lack of those mental and moral characters which mark the average man. Imbecility, mediocrity, ability or genius, therefore, are stamped upon a man at birth, and his moral responsibility must vary chiefly with his heredity, and in a lesser degree with his education. I have used the phrase "average man", but the phrase is nothing more than a sexless abstraction. We know only individuals, and individuals vary in body, in mind and in spirit all the way through almost infinite gradations from a driveling idiot at one end up to a Plato and a Shakespeare at the other. The body of man carries, through almost every part of it, indisputable evidence of its evolution from lower forms of animal life. When I commit what society is pleased to call a crime, to what extent am I responsible? Am I responsible at all, if I am but obeying instincts which I have inherited from the serpent and the wolf, or if I commit the crime as a result of an impaired or diseased brain?

*NOTE.—This article is a condensation of an address given before the Philosophical Society. It was largely illustrated with lantern views which are of course excluded from the pages of this magazine.

HYOSCIN AND THE MORPHIA HABIT.

A. B., a graduate of a prominent Medical School in Maryland, had been practising for some years in the Southern States, and gives the following history:—About 15 years ago while a student he was much troubled with insomnia and nervousness through close application to his books, a condition much aggravated at examination time. On the advice of a consultant small doses of morphia and bromides were at different times taken with satisfactory results, viz.:—Patient secured sleep and his nervous symptoms were controlled. On their re-appearance the remedies were again resorted to with similar though more tardy results. Soon after beginning practise he was attacked with malaria of a severe form which left him on recovery in a very nervous condition. The old remedy was resorted to with the result that he soon became a victim of the “habit”. Knowing its dangers and fearful of their results, he attempted to avoid them by varying their mode of administration, as well as the drug used and for a period of twelve years vainly fought an insidious and relentless foe. Not wishing to admit to himself, much less to a fellow practitioner, his true condition he was treated during the last ten years for various troubles, such as chronic indigestion, appendicitis, intestinal catarrh, general tuberculosis, multiple abscess, “decline”, &c., and before meeting the writer, was told he had but two years to live as he was suffering from intestinal and gastric tuberculosis.

His condition before beginning the treatment to be described was characteristic of all such drug habitués, viz.:—Complexion sallow, skin parchment like and drawn, eyes dreamy and dull, tongue coated, breath fœtid, alternate diarrhœa and constipation, neuralgic pains, anorexia, lassitude, emaciation and general weakness. On cross-examination he admitted the use of drugs as the only means of relief. His relatives were consulted and made aware of his true condition and he himself was talked plainly to. After some consideration he signed a document admitting his “habit” and giving the medical adviser authority to confine him in an insane Hospital. Very

little hope of recovery was held out to his friends who were very sensible in their attitude, recognizing his present hopeless condition if the habit were not overcome and the necessity of heroic treatment for such a severe case. Out of consideration of the odium (false) attaching to patients treated in an insane hospital, he was for a few days kept at home and afterwards admitted to a private room in the Kingston General Hospital, the reason being that he could in the latter place be kept under closer and more minute observation. He had taken as much as grs. xx morphia in 24 hours and would take three hypodermics of one grain each in an hour before producing sleep. During the day, he rarely rose before 10 or 11 a.m., he would alternate the morphia with liberal allowances of alcoholic stimulants, ale, porter or whiskey, and bromides.

Treatment was begun at noon, November 19th, when he was given hypodermically hyoscin hydrobromate grs. $\frac{1}{32}$. At 11 a.m. he had himself taken hypodermically morphia, grs. $\frac{1}{2}$. The hyoscin seemed to affect him very slightly, producing only a dreamy quiet and that but for $1\frac{1}{2}$ hours when he got up, wandered around the room and administered to himself as before, morphia grs. $\frac{1}{2}$, finding the drug and a hypodermic needle hidden where we had overlooked it in our search of the room. The patient's father was watching him at the time and seemed afraid he might commit suicide or do something desperate as he was talking and acting in a very wild manner. The patient was seen again at 5 p.m., when he appeared quiet and perfectly conscious. Towards 7 p.m. he became very restless and noisy and was given hyoscin hydrobromate grs. $\frac{1}{32}$. This took effect in about 10 minutes when the patient went off into a profound slumber which continued until about midnight, when he got up and was wandering around the room looking for his "needle" when the physician came in. He recognized him readily and being requested, immediately returned to bed although the father said he had refused repeatedly and appeared a little ugly when urged to do so. He requested some morphia and his pulse being full, strong and regular was given hyocine hydrobromate, grs. $\frac{1}{32}$ again. He remained fairly quiet during the first part of the night, but towards morning, tossed about and talked con-

siderably but not very coherently. On several occasions between 5 a.m. and 10 a.m., he rose and attended to nature's wants, incidentally searching his clothes and various nooks for the old friend. He was seen at 10 a.m. and the physician remained with him until noon, during which time he was conscious and rational, although he begged for morphia to keep him "from going crazy and tearing his arteries out" as "they all burned so". Another $\frac{1}{25}$ hyoscin was given when in about 10 minutes he fell into a stupor and seemed to rest, there being no tossing, the pulse remaining strong, at about 56 per minute and the respiration natural. He remained quiet until evening when he repeated his former actions, but seemed to be more absent minded, his actions appearing somewhat automatic. He was quite unsteady on his feet and his motor functions appeared less under control. At 9 p.m. he received hyoscin, $\frac{1}{60}$ and spent a night very similar to the preceding. His father reported that occasionally he became quite noisy and threatening, saying he would "do for himself and get out of this hell." On seeing him in the morning he was quite conscious and rational but begged the physician not to stop the "dope" as he could not live without it. It was decided to remove him to the Hospital, and at 11:30 he was given hyoscin $\frac{1}{60}$. He was moved at 2 p.m. and although he fought outside interference, readily obeyed the physician, doing as well as he could what was asked. By this time he had lost control of his lower extremities and had to be carried to his room. The moving seemed to excite him considerably and he apparently had the idea that he was being taken to either an asylum or jail. At 3:45 p.m. he was given hyoscin $\frac{1}{100}$, took milk and coffee at 6 p.m., but became very noisy at 8:30. The House Surgeon was telephoned to administer hyoscin, grs. $\frac{1}{30}$, but evidently misunderstood the order, and gave only, grs. $\frac{1}{100}$. He continued very noisy and troublesome during the night. Wishing to rise about midnight and being opposed by the orderly, trouble followed, resulting in a pair of black eyes for the orderly and the presence of two House Surgeons. At 1 a.m. he was given hyoscin, $\frac{1}{100}$ grs., which quieted him but did not put him to sleep. He was reported at 4 a.m. to be quite rational and took milk and egg-nog. Again

becoming hard to control, hyoscin $\frac{1}{100}$ was administered, calming him somewhat but producing no sleep. He had egg-nog oz. vii, at 6 a.m. and breakfast of toast and milk at 7:45 a.m. Becoming uncontrollable and violent, hyoscin, grs. $\frac{1}{25}$ was administered at 9:30 a.m., keeping him quiet until 1 p.m., when he was given a sponge bath which proved very refreshing. During all this time his respiration remained natural and his pulse about 50.

Following is a chart of his case from this time on :

Date.	Temp.	Pulse.	Resp.	Urine	Stool	Medicine.	Nourishment.	Remarks.
Nov. 22								
2:30				1	1	Hyoscin 1-50		
3							Milk oz. vi.	
5		50	normal				Egg-Nog oz. iv.	
5:30							Toast Biscuit	
8							Milk oz. vi.	
10						Hyoscin 1-50 Strychn 1-60	milk and coffee.	
10:30							Milk oz. vi.	
11		46						
11:30		46						sleeping.
12		46		1			Egg-Nog oz. vi.	
1		56				Hyoscin 1-50 grs. Strych. 1-60 grs.	egg-nog oz. vii	restless.
1:30								sponged.
2		60						
3				1			hot milk	
5						Hyoscin 1-50 grs. Strych. 1-60 grs.		restless but not noisy
5:30		56					glass of milk	
6					1 full			
8		48						sleeping.
10							albumen oz. iv	noisy.
10:30							egg-nog	sponged.
11:30							albumen oz. vi	
1 p.m.		60					dinner	quiet.
3							oyster soup	
4	99 2-5	60	20		1	Hyoscin 1-50 grs. Strych. 1-60 grs.	m'k. coffee oz. vi	
9:30							milk oz. vi	
24th.								
12:30							milk oz. vi	
1						Hyoscin 1-50 grs. Strych. 1-60 grs.	milk oz. vi	very restless.
2		66						quiet.
4:30							milk oz. vi	sleeping.
5:30							milk oz. vi	awake & rational
7:30	100	46	20					slept since 5:30.
8:15							breakfast	
10:20							egg-n'g m'k oz. vi	
1 p.m.		68					dinner	
2:30				1	1 full		milk	
3:15	100	68	22				egg-nog	
4						Pot. Bromi grs. xxx		
5							tea	
6							tea	
8							coffee	quiet.

Date.	Temp.	Pulse.	Resp.	Urine	Stool	Medicine.	Nourishment.	Remarks.
6:30								roste and slept well most of night.
8	99	64	16			Tonic dr. i	breakfast	
12						Tonic dr. i	dinner	
p. m.								
4	99 1-5	68	16				egg-nog	
5:30						Tonic dr. i	tea	
7:30							egg-nog	
9:30						Hyoscin 1-100 Strychnine 1-60		
30th.								
3 a. m.							milk oz. vi	
8	98 3-5	66	18			Tonic dr. i	breakfast	had a good night
11							milk oz. vi	
p. m.								
1						Tonic dr. i	dinner	
5	98 4-5	60	20			Tonic dr. i	tea	
7:30					1		m'k, coffee oz. vi	
Dec. 1								
3 a. m.							milk oz. vi	slept since 9:30 p. m.
8	99 2-5	88	20			Tonic dr. i	breakfast	
p. m.								
1:30						Tonic dr. i	dinner	
4	99 3-5	82	20					
6						Tonic dr. i	tea	
8							cup of coffee	
2nd.								
6 a. m.							milk oz. vi	slept most of night.
8:30						Tonic dr. i	breakfast	ate very little.
9:30								out for a walk 2 hrs.
6 p. m.						Tonic dr. i	tea	
8							cup of cocoa	
3rd.								
6 a. m.							refused food	good night slept well since 9 p. m.
8	97 3-5	82	20				breakfast	only ate when Dr. urged him thought it was drugged with dope
10:30						refus'd tonic	milk oz. vi	
1					1	refus'd tonic	dinner	
4	99 3-5	76	20				milk oz. vi	

The patient was removed to his home on the 5th, the reason being that he had very decided delusions of persecution and annoyance on the part of the nurses, and hospital staff. He behaved well from this time on, obeying in every detail directions as to food, exercise and sleep. It will be noted that no morphia was administered from the first day of treatment. On the fifth day he was asked if he could get along without his customary injection, and he replied "not yet". What would you say if you were told you had none for five days?" "That would be the best news I could get" he answered. "Well!" replied the doctor "that is what I have to tell you!" On being assured it was the truth, the patient stretched out his hand and exclaimed "Rome is saved!"

When taken home he was told that no restrictions of any kind would be put upon him, that he could come and go as he liked but was reminded of the risk of again playing with so dangerous a drug. Only one skip was made. The patient had some bad teeth and asked to have them removed. Permission was given but the dentist was not advised of the history of the patient and administered cocaine. This took place at 9 a.m., five days after patient had left hospital. At 3 p.m. of the same day, shooting neuralgic pains were felt, the pulse became rapid and "mental" symptoms returned. The condition was controlled by the exhibition of camphor in small doses and the patient spent a quiet sleepful night. Recovery proceeded in an uninterrupted manner, the patient being allowed to go into the country in a week. He has gained flesh and is now as healthy as any man and best of all has no desire for the former dose, although at perfect liberty to procure it. His mental condition gradually improved although it was a month before he could persuade himself that his former delusions were unreal.

Some of his delusions were very marked. For instance he thought persons came into his room and slandered his mother, accused him of filthy habits and foul conduct and were trying to get him to admit the charges that they might arrest him. Every delivery waggon that passed he thought was a police patrol coming to take him, and he would suffer for hours awaiting the constables entrance. The days he refused his nourishment he thought there was "dope" in it and they were trying to keep him from getting cured by secretly administering the drug. He felt he was being smothered by a high bank of sawdust being pushed through the wall of the ward by a steam engine, and when he was taken out for his first walk he ran around the building and after examining it thoroughly, thought it strange that he could see no sawdust and no evidence of damage to the wall. Attendants were accused of boring holes in the ceiling and pouring chloroform and ether on him all night long, and when his attention was drawn to the fact that no plaster was lying around he cunningly remarked that the doctor and nurses did not know when it was swept up.

Summing up the case we conclude that hyoscin judiciously used will cure the morphia habit ; that much depends on the desire for cure on the part of the patient and very much upon the degree of confidence the patient reposes in his physician. Forceful restraint should not be used under any consideration as it seems to aggravate and add to any delusions present. Replace delusions with good ideas as far as possible, and where this is not possible agree with the delusion and show him how the threatened danger may be overcome. Above all never let the patient lose confidence in you.

ALEX. W. RICHARDSON.

PERSONALS.

Dr. F. W. Bell, Dr. F. J. Ellis, Dr. E. Sheffield, Dr. H. McCarthy, all of '03, are House Surgeons in the A. H. Hospital, Blackwell's Island, New York.

Dr. Laidlaw, '03, and Dr. Leonard, '03, late House Surgeons in the Kingston General Hospital have sailed for England to visit the London hospitals.

Dr. H. Ward, '03, has been appointed House Surgeon in the Manhattan Eye and Ear Hospital, New York.

Dr. John Herald has been kept from his classes by a very painful illness. He is convalescent, although not thoroughly recovered.

Dr. J. W. Crews, '02, in practice at Pittsford, N.Y., spent the holidays in Kingston.

Dr. C. P. Johns, '00, M.R.C.S., has returned from England and dove like is seeking a resting place.

The attention of prospective students is drawn to the changes in Matriculation requirements. Details will be found in the new Calendar to be shortly published.