insanity benefits the phthisis, but in a few, where the phthisis is very chronic, an attack of insanity may be followed by the permanent disappearance of the phthisical symptoms, or attacks of mania may alternate with symptoms of phthisis. In by far the majority of such cases, however, the phthisical symptoms are merely masked, while the deposition of tubercle goes on.

The Morbid Psychology of Criminals. By DAVID NICOLSON, M.B., Medical Officer, Her Majesty's Convict Prison, Portsmouth.

(Continued from Page 409, *Vol.* XIX.*)*

The Special Delusions of Prisoners.

Having made ourselves acquainted, in a measure, with the more rudimentary perversions to which mental operations in prisoners are liable, we shall be the better able to enter upon a consideration of those more advanced perversions which establish themselves at the expense of the healthy exercise of a reasonable intelligence, and which induce behaviour so eccentric or obstructive as to necessitate medical interference. These latter I propose to deal with under the general term of *delusions;* not being always careful to discriminate between a "delusion proper" and a hallucination; for, after all, what is a hallucination in its outward manifestion but a delusion credited (upon grounds not always well established) with some relationship to the organs of sense.

The delusions met with among imprisoned criminals are of two kinds; the *ordinary* and the *special.* By ordinary delusions I mean those to which prisoners, in common with all human beings, are liable. In number and extent they are inconceivable, as they lie beyond the confines of reason and healthy imagination. Although I may have occasion to make remarks which are applicable to ordinary delusions, they are in themselves beyond the subject at present in hand.

The *special* delusions of prisoners to which I am desirous of drawing attention may be defined as those delusions which arise in connection with the peculiar circumstances of prison life, and which are referable, more or less, to those circumstances. They are special rather as to the frequency than as to the exclusiveness of their occurrence in prison; for it is not to be maintained that delusions of a kindred nature may not occur in the outer world.

If we were to attempt to build up a theory as to the occurrence of special forms of delusion among prisoners, we would naturally seek for a foundation in those outward conditions which characterise prison life, and we at once find ourselves face to face with the essential principles of imprisonment as a system of punishment; and we shall find that the correctness of such a theory is endorsed and supported by practical observation. Apart from the social and moral degradation implied, those principles involve physical penalties which are partly passive and partly active in their nature. The former include severance from social intercourse and comforts, and restriction of diet, as well as of personal liberty; and the latter, the active penalties, consist of the strict enforcement of discipline and the exaction of a certain amount of labour. Such penalties, the intentional and irksome counterpart of social freedom, depend for their efficacy upon their general impressiveness on individual prisoners. And as it is on this footing that they are inflicted, and their results calculated, the physical inconveniences which they involve, and which are both novel and irritating, necessarily establish themselves among the primary and prominent subjects of thought among the imprisoned. Irksome experiences of this sort are accepted by the vast majority of prisoners as the necessities of circumstance, whose effects are to be put up with since they cannot be avoided. But in some minds, and in certain frames and conditions of mind, such experiences not only effect the vivid impression intended, but they go further; they give rise to ideas so strong, and, as it were, one-sided in character, that the balance of reason (such as it is) becomes disturbed; the whole mind is swayed in one direction, and becomes unstable, as a ship whose ballast has shifted. One of the chief ways in which this mental disturbance reveals itself is in that morbid process which I have noticed under the name of simple perverted ideation. I pointed out that this process implied the existence of certain somewhat persistent misconceptions, and these misconceptions are neither more nor less than the rudimentary condition of delusions.

There are four sets of subjects to which the special delusions of prisoners are referable, and they may be thus enumerated:—

1. The unfair treatment he receives as a prisoner, by the infringement of his "rights," or by undue punishment.
2. The food he gets is tampered with; by the addition of poisonous or deleterious substances.

3. Mysterious visitations and communications (mostly associated with thoughts of home or of guilt).
4. The original injustice of his conviction and sentence to imprisonment.

We shall now proceed to consider the more important points connected with these delusions. I may first state that they are usually found in combination, two or more of the delusions occurring in the same case. The first, second, and fourth have in common the idea of injustice and ill-usage, which, as we have already seen, so readily presents itself to the prisoner's mind. In considering each form separately, we shall be able to learn something of the various phases of mind in criminals, in connection with which delusions are apt to occur.

I. *Delusions bearing upon Unfair Treatment.*

The *origin* of delusions on this subject may be *fanciful*, or it may be *circumstantial.*

The delusion, whose origin is *fanciful*, grows out of some false conception in the mind of the prisoner himself, as a starting point, there being no actual prison occurrence to which it can be referred.* In illustration of this *fanciful* starting point, we may take the case of a prisoner who entertains the idea that some particular official, of whom he knows nothing, and who has never had anything to do with him, has selected him as a special object of persecution. Under this false impression he conducts himself as if in constant dread of the influence for evil which this official exerts against him. He is ever ready to fasten upon the fancied tormentor any or all of the mischances or trivial inconveniences of his position, which are themselves often mere flights of fancy. Being unable to correct these erroneous workings of his imagination, he lapses into confirmed delusion, which, under such circumstances, is almost sure to be accompanied by other signs of mental and cerebral derangement. Delusions having this fanciful basis are happily rare, but their occurrence indicates at the outset an amount of mental disturbance which is proportionately serious, seeing that the primary annoyance and irritability have, in point of fact, no immediate external exciting cause, and that they are due merely to the *already* morbid mental processes themselves.

Delusions of *circumstantial* origin, on the other hand, are

* This will not, of course, detach it from the *special* class, for the general prison circumstances (from their irksome nature) may be shown to favour the formation of notions of this sort.

referable to some distinct event, or set of events, happening during the prison career. Such events, implying improper or hard treatment, are, in the great majority of cases, simply in accordance with the rules of discipline, which must be maintained; as when a prisoner commits himself in a misdemeanour, which he may consider of trifling importance, and for which he is punished, as he thinks, with undue severity. But, no doubt, there is now and again some unfairness connected with such occurrences, as when a prisoner, to use his own phrase, is really "put upon" by a warder, and is indiscreetly dealt with, if not wilfully wronged. In the former case, the hasty impression taken up in the face of authority indicates an impulsiveness and want of judgment; but in the latter, where the prisoner meets with vexatious interference, the original annoyance and irritation can only be looked upon as natural, and, up to a certain point, excusable. But in whatever way the early subjective feelings of irritability are set up,—whether they are natural and well-grounded, or whether they are the evidence of defective or diseased conditions of mind—the *character* of the ultimate delusions belonging to this class is the same; a false idea becomes established in the mind of the individual that he is purposely annoyed and ill-treated, either in a general way as regards the circumstances of his imprisonment, or else, more particularly, at the hands of one or more officials.

Delusions of this irritative type lead to well-marked outward manifestations in the conduct and bearing of the individual. He is apt to offer resistance to authority, and to show resentment; and out of this grow stronger feelings of hate and revenge; threats are freely made use of, and personal violence attempted. Such delusions are, I think, proportionately much more common among male than among female criminals; and this is for the most part due to the stricter discipline enforced among the former, and to the distasteful pressure of their labour upon them. Hence, many of the lazy, discontented men come to be possessed with delusions of this form—their chronic grumble having assumed the mastery.

II. *Delusions as to Poisonous or Deleterious Admixtures with Food.*

The dietary restriction entailed by imprisonment exerts its punitory influence by striking at the first instinct of our nature; and it is no wonder if this influence presses itself

closely home upon the thoughts of the prisoner, and thereafter gives birth to extravagant and morbid ideas on the subject. A compulsory dietary, framed on the physiological principle of the balance of nutrition apart from possible gastric capacity, is one which cannot fail to produce frequent and powerful yearnings, both physical and mental; and if the prisoner, from the almost constant tenor of his thoughts, may be said to have a belly-god, it is assuredly not of the Epicurean form. That their food is poisoned, is popularly accepted as *the* delusion of prisoners. Dickens, writing about the inmates of the prison at Lausanne, says,* "One delusion seems to become common to three-fourths of them after a certain time of imprisonment. Under the impression that there is something destructive put into their food, 'pour les guérir de crime' (says M. Verdeil, the prison doctor) they refuse to eat." Although in the English prisons it is nothing like so rife as this, yet there is no single subject on which prison delusions of a definite character are more frequently formed than that of food. Food-delusions are sometimes the only evidence of mental disturbance presented by prisoners, and it is a matter of some difficulty to arrive at any conclusion as to how far there is a primary disturbance in the nervous tract connected with the sense of taste. My impression is, that they almost always originate in some disturbance of the ideational centres. This form of delusion is usually associated with those of the irritative type which I have just described; food-poisoning being looked upon by the deluded victim as a means adopted for his annoyance and torture. The delusion may induce him to refuse his food altogether for a day or two, but he will not persist long in so doing in the face of artificial feeding. Or he may refuse a portion only of his day's rations; his cocoa, for instance, on the ground that "something" has been put into it. Were it not for the variety, limited as even that is, of the prisoner's diet, I believe delusions on the subject would be much more common in English prisons than it is.

III. *Delusions as to Mysterious Visitations and Communications.*

In a great many cases the mystery in false perceptions of this sort connects itself with the friends and relatives from whom the prisoner has been separated. He will assert that his mother came to him and spoke to him in his cell last night, or that his sister is now waiting outside the prison to

* Foster's "Life of Dickens," vol. ii., p. 207.

take him home. In other cases some fearful image presents itself to him; he sees a "black man," the devil, or some hideous animal. It is not to be wondered at if strange fancies arise in the mind of the prisoner, shut up in the silence and darkness of his cell, with only the workings of a guilty conscience for companionship. How often may it be said that the object of hallucination in the criminal is "but a dagger of the mind." May he not say with Macbeth—

> "There's no such thing;
> It is the bloody business which informs
> Thus to mine eyes."

Delusions of visitations, &c., are apt to reveal themselves in temporary excitement. The prisoner, in his cell, is heard talking loudly, and in an excited fashion *to* some object, and, when the door is opened, he continues to address himself to the phantom, or he tells the warder to "look at it." If the object presents itself in the form of the devil, or something hideous, he may attack it or barricade up his door in order to prevent it getting at him. He does not attempt violence usually on the prison officials in connection with this delusion; he may rather ask protection.

Delusions of this class have a more prominent relationship to the organs of sense than have those bearing upon the subject of food; and vision and hearing are chiefly referred to.

But where delusions—or hallucinations if you will—are evolved from ideas connected with the sensorial centres in prisoners, it may be asked, when do they warrant the use of the term *special* prison delusion? for here, as in all hallucinations, we have sensorial impressions represented, and those impressions in the present case are not necessarily consequent upon imprisonment; indeed, they seldom are. The peculiar feature of special delusions of this sort consists in the readiness with which, as a result of imprisonment and its concomitants, particular sensorial impressions are taken up and interpreted (or misinterpreted) in certain directions, false notions and convictions being finally established.

The impression which is conveyed upwards from the organs of sense comes in contact with those ideas—of home and friends on the one hand, or of horror and guilt on the other—which are naturally prominent in the prisoner's thoughts; and the morbid product of this association shows itself as a hallucination, or, more correctly, as an illusion.

But the reverse of this process, where no actual impression has fallen upon the sensorium, and where the mental strain or tension in particular directions conjures up or suggests the existence of a sensorial current, is equally frequent in its occurrence, if not more so. There is no doubt, however, that the higher mental processes connected with ideation are almost always chiefly and primarily at fault, apart from the question whether the sensorium has or has not been acted upon from without. Where it has *not* been acted upon, I take it that we have an illustration of what has been called an "idea-produced hallucination."

Visitation-delusions relating to home-friends have, at the outset, to do with emotions of a sentimental nature, and a quiet demeanour is preserved, but, as they become complicated with desires on the part of the prisoner which have to be denied to him, he is apt to get noisy and troublesome.

IV. *Delusions as to the Original Injustice of his Conviction and Sentence to Imprisonment.*

Had we been considering special delusions in chronological sequence, we would have had to begin with those in this class, for not only do they refer to the past as regards their topic, but they may be regarded also as likely to occur most frequently during the earlier portion of imprisonment; indeed, the prisoner not unlikely brings the rudimentary misconception, if not the delusion itself, to prison with him.

I pointed out, when speaking of the Accidental Criminal, how, by a gradual process of accommodation, the moral faculties adapt themselves to the commission of crimes of various shades of enormity; so that whatever keenness those faculties may have originally had, is gradually worn off as crime succeeds crime. The effect of this moral bluntness or blindness is such that the individual fails more or less to perceive or realise in the crime he has committed the extent of his delinquency, or deflection from the path of duty. He excuses himself, and finds strong extenuating circumstances, even if he feels that he has done wrong. He levels his crime down so far to his own satisfaction, that very little of it is left; and when for this slight degree of criminality he finds himself subjected to the unpleasant experiences of imprisonment, he looks upon himself as unjustly dealt with, and an injured man. Of course all this may occur without any delusion coming as a result. I wish merely to indicate how the thoughts of the criminal may work their way up towards a

delusion. He may stop short at any particular point; or, if he goes on as far as to work himself into the belief (when really guilty) that he committed no offence or crime whatever, he may nevertheless conduct himself properly and rationally while in prison.*

Convicts are very loth to mention the crime for which they have been sentenced. They tell you they were *charged* with this, that, or the other, and assertions of innocence are by no means unfrequent. "Innocent, sir, as the babe unborn," is the usual phrase.

Delusions on the subject of unjust conviction reveal themselves in two forms of outward expression.

In the first, the prisoner is depressed in spirits and appears to be overcome by the dreadful nature of his surroundings. When in this melancholy vein, the criminal is constantly harping upon his innocence as to crime; or else he is seized with a species of home sickness and longs to get back to his friends. "Why do you keep me here," he says, "when you know that I have done nothing to deserve this punishment. Do let me go to my wife and the children," and so on. He pleads very earnestly, but is not impertinent or insubordinate. Most probably it is his first imprisonment when his delusion has this character.

In the second form, which is the more common, and which sometimes appears as the advanced stage of that just described, the prisoner not only asserts his innocence, but he demands his freedom, and even uses threatening language and violence in addition. His tone is altogether different from that of the other. He is demonstrative and talks loudly. "I'm no convict," he declares; "you've no business to keep me here and treat me like this, and I won't stand it," &c., &c. Very likely he is an old hand, who has had a turn or two both of asylum and prison life; one of those dare-devil sort of characters who are a pest in either place.

Delusions of this class are purely psychical, whichever form they take.

General Remarks.—Having indicated the usual forms in which special delusions are met with among prisoners, as well as some of the leading features which characterise them,

* As we are dealing with cases of evident mental instability, we must not forget the *possibility* of crimes being committed in connection with epileptic discharges involving the cortical centres of the brain, whereby consciousness is, for a time, obliterated. The deed being lost to consciousness at the time, fails to present itself to memory afterwards. So, too, with some drunken acts.

I am in a position to make some general observations on the subject. I am fully conscious of the intricacy and speculative nature of investigations started with the view of probing the workings of a "mind diseased," and if it were necessary for me to make excuse for entering upon them, I would do so on the ground that I seek only to put a reasonable interpretation upon mental phenomena occurring in connection with certain external conditions which, as I said at the commencement of this series of papers, if they are exceptional, have the special advantage of being uniform in their application. The study of phenomena of this sort, tested at the standard of prison experience, is important as a matter of actual practice; and it may prove useful as a basis of comparison for kindred phenomena occurring in circumstances less definite and uniform.

It being shown that imprisonment, when it exerts a hurtful influence on the mind, favours the formation of delusions of a special type; and having made ourselves acquainted with the subjects with which these delusions connect themselves, we have attained a knowledge that will enable us so far to predict the nature of the prisoner's delusion. To put it otherwise; our knowledge consists in this, the delusion of a prisoner *may* be that he is a teapot, for example, or an Emperor, or that he is possessed of untold wealth, but it will much more likely be that he is harshly and unjustly treated, that "they" are trying to murder him, or that he suffers from food-poisoning. And, tracing the subject backward from the delusion stage, we can judge in a measure what prominent lines of thought in a prisoner forewarn us of the risk that delusion and insanity will be the sequel.

If this can be done in the case of prisoners, the question comes to be how far it can be done with other groups of individuals. True, with prisoners we possess accurate knowledge of their circumstances and surroundings, their goings out and comings in, as well as of the general run of their ideas; and we have the further advantage of their being brought to our notice during the earlier stages of mental disturbance. But, still, a careful study of the knowledge and information at our command in the case of groups enjoying the full run of social privileges, might surely yield some results as to the occurrence of special delusions in them. It is of the nature of a truism to say, in a general way, that the mind is liable to break down in the direction in which tension or strain is kept up; but what, under particular

circumstances, are the directions in which tension and break-down are likely to occur? and, if the mental break-down comprises a delusion, what *peculiar* forms of delusion (if any) are recognisable? Simply to mention an example, the special forms which delusions take when they occur in Revivalists and their mode of growth might be worked out. Something has yet to be done towards ascertaining the position we are to assign to delusions in the domain of mental pathology. There suggests itself a striking analogy between delusions (as mental outgrowths) and tumours of the body. The prominence of the one on the surface of mental phenomena is as readily distinguishable as that of the other on the outline of the body. As we have *innocent* tumours, whose "structure is not widely different from that of a natural tissue," and "which do not grow at the same time in many different tissues;" so have we innocent delusions which may be said to be merely an extension of normal mental processes, and which are simple, and confined to one set of ideas. Again, as there are *malignant* tumours (with structure peculiar to themselves) whose root is deeply set in more tissues than one, and whose destructiveness diffuses itself until the very vitals are reached; so are there *pernicious* delusions (apparently unconnected with normal ideation) whose tendency is hurtful and dangerous, and which are apt to increase in number or intensity until they altogether override and destroy the intellectual faculties. But, without asserting the completeness of the analogy, and without carrying it further, it may be asked, what is the use of seeking for a pathology of delusions when they are so diverse, that their name is Legion? And yet this was the very difficulty in connection with tumours before their elaboration by Virchow and Paget. The latter says,* "the diversity of character is the great difficulty with which the pathology of tumours has to contend; but the diversity is not to be called inconstancy; it is due to the fact that each tumour has, like each natural tissue, its phases of development, of degeneration, and of disease." And surely delusions have their phases too, whether we look upon them as outgrowths upon the normal intelligence on the one hand, or as indications of diseased states of mind on the other. In what I have said about special prison delusions, I have sought to present them rather in connection with the former point of view.

* "Lectures on Surgical Pathology," 1863, p. 389.

One peculiarity of such special delusions is that they all (except some of those connected with midnight visitations) deal with *possibilities;* thus, a prisoner *may* be ill-used; his food *may* be tampered with; he *may* be innocent of the crime of which he is convicted. Improbable as they may be, they are nevertheless not impossible, and they are free from that absurdity and incongruity which characterise so many ordinary delusions. And this peculiarity of special delusions is one of the best, perhaps the best, evidence of their *growth.* They start from an idea which in itself is not only conceivable and possible, but which is more or less naturally suggested by circumstances. And as the effect of imprisonment is to bend the mind inwards upon itself, the idea repeats itself and thereby gains ground until it finally establishes itself in a morbid or diseased state. Solitary confinement is especially apt to give rise to mental disturbance, and is well known to favour the occurrence of delusion; and hence it was found necessary to limit the "separate" stage of penal servitude in English prisons to nine months. But we shall have occasion to refer to this again.

Of the special delusions of prisoners, two sets are purely psychical, viz., those connected with the original injustice of their sentence, and those that have to do with unjust treatment during imprisonment. The remaining two sets, referring to food-poisoning and to visitations, may also be purely psychical; but they are distinguished from the others by involving a reference to sensorial impressions. But whether those impressions, in individual cases, had any *actual* existence, or were simply *ideal,* is a point which I believe must, in the great majority, remain a mystery; the means for helping us to arrive at a positive decision being at the very best but slender. These latter delusions, then, may be psycho-sensorial as well as purely psychical; but we are seldom in a position to say when they are the one or when the other.

It is of some importance for us to inquire, in connection with these special delusions, how far any violent or dangerous tendencies may be apprehended. It is clear that with delusions of an ill-natured type we can never hold ourselves as being safe and free from risk. And as with the delusions of which I have been speaking, we have for the most part evidence of a fancied grievance, giving rise to irritation and feelings of resentment, we cannot be too cautious in dealing with those so affected. We have to see that they are deprived of the means of effecting any evil purpose, and we

must be careful not to offer them, by being unguarded, suggestive opportunities of attack. And these precautions are, of course, all the more necessary on the part of anyone against whom the grudge is specially levelled. Self-injury is not on the whole very likely to be resorted to. Partial or complete abstinence from food may be tried, but it is not long persisted in. In the sentimental form of delusion, bearing on unjust conviction or severity of sentence, there may supervene such an amount of melancholy as to prompt to self-destruction, and to necessitate the institution of precautionary measures.

There is one more point upon which I must touch. Prisoners *sham* delusions, as they are found to sham almost every other morbid condition. Now, although cases of feigned insanity present themselves to us from time to time without delusion, they yet most generally have this accompaniment; for it affords a striking contrast with the normal display of reason and intelligence. Delusion is a positive evidence, and the impostor seeks to make a profitable use of it in his game of insanity. How far do prisoners affect special delusions in their imposture? It will be found that those forms (connected with food-poisoning and visitations) which I noticed as involving a reference to sensorial impressions, are generally utilised by the schemer. And for this reason; they appeal more directly to the senses of the on-lookers by affording grounds for such conduct as appears incompatible with sanity. This does not hold with regard to the other special delusions, and hence they are not favoured by the impostor.

The prisoner who is "mad but in craft" knows that if he gets up an excitement, and "sees the devil," &c., the matter comes at once distinctly within the province of the doctor, who deals with him according to the opinion he arrives at. But if, on the other hand, he were to affect a "grievance" and a feeling of indignation and resentment against an official, and to follow this up by using expressions appropriate to the occasion, he would very likely be relegated, in the first instance at least, to the punishment cells for the use of threatening language.

The impostor does not like half measures; he gets no credit for them. He takes care to present an insanity which there is no risk of confounding with a mere ebullition of temper; and which is sufficiently far removed from any line of conduct that could be called rational.

Since these remarks about special delusions were written,

a particular interest has arisen in the pathology of the subject, out of the suggestive paper of Dr. Blandford's, on "Auditory Hallucinations," and the subsequent discussion upon it at the quarterly meeting of the Medico-Psychological Association, held in December. (See "Journal of Mental Science" for January last.)

Without committing himself to a precise cerebral location of auditory hallucinations, Dr. Blandford points to the anatomical situation of the auditory centres in the medulla oblongata, and says that "there appear to be reasons why they may be referred to such a region rather than to the higher centres of the brain convolutions;" and again, further on he puts it that "the higher brain centres are not, according to my view, affected primarily by this disorder." To this Dr. Maudsley takes exception, and looks upon such a location as a mistake, and would hold the morbid seat of hallucinations to be in supreme centres of the brain.

Any attempt to reconcile such contradictory opinions on the part of two acknowledged authorities must appear a hopeless task; indeed a reconciliation is necessarily impossible if it is found that the statements of opinion are made with regard to the same class of cases, and if we are bound to accept the one to the exclusion of the other.

If we are speaking of uncorrected hallucination—hallucination as an evidence of insanity—it is impossible for us to get rid of the testimony which the supreme brain centres themselves (as the seat of the intellectual faculties) afford as to their participation at least in the morbid process going on. But it is altogether another matter when we come to consider the probable *seat of origin* of the morbid action; when we come to ask ourselves whether the hallucination arose in some deranged or diseased condition of lower centres and revealed itself through the higher (intellectual) centres, or whether any cerebral derangement, giving rise to hallucination, is confined to the higher centres.

I confess I see no sufficient reason why the location of the *origo mali* as regards the hallucination may not possibly be in either the higher or lower centres. It seems to me, that in working out his paper, Dr. Blandford's mind has been dwelling principally upon those grave, persistent hallucinations which justly call forth from him the most unfavourable prognosis. He implies as much when he remarks that, "where we notice them in the insane they are, for the most part, chronic, and the acute stage, whatever it may have

been, has passed away." At least it is chiefly to this that I would trace his rejection of derangement of the higher brain centres, as, at any rate, *a* primary cause of auditory hallucinations. It is not always in our power to catch a hallucination in its early or favourable stage, and we certainly would not go to an asylum to look for it. In such a position it may be advantageous for us to inquire how far an investigation into the *growth* of delusion or hallucination out of, or in connection with, natural and healthy ideas, proves itself useful. A genuine uncorrected and special prison-hallucination (possibly auditory) leading to irrational behaviour, occurs in a criminal who shows no other evidence of insanity. The treatment consists in his removal from the solitariness of his cell to a ward, where others are present, with whom he is permitted, more or less, to associate. The hallucination speedily (if not at once) ceases, under the new circumstances in which he is placed. He is *cured*, I think I may use the term, of his delusion or hallucination by the removal of certain conditions, which are found to be productive of hallucination; conditions involved in solitary confinement, of which, taken generally, the main feature is the limitation of thought, together with the concentration of ideas in particular directions. It may be taken, therefore, that the special direction and concentration of the thoughts are the conditions to be removed in order that the resulting hallucination be dispelled. And the readiness with which the hallucination is thus cured shows that it was due to some disturbance in those higher centres of the brain immediately concerned in the intellectual processes rather than to any morbid condition in the more remote centres.

Griesinger,* speaking of the effects of imprisonment on the mind, says, "Solitary confinement particularly disposes to hallucinations of hearing; this appears to result from patients soliloquizing and believing that they hear others speaking."

In such cases, possibly enough, but not of necessity, some impression is made upon the auditory centres from without, but the hallucination or illusion is developed out of the interpretation which the supreme centres put upon the recorded impression, and which very frequently is in accordance with the prevailing current of ideas; as for instance when the individual's mind is filled with thoughts connected

* Mental Diseases, "Syd. Socy. Edition," p. 148.

with home or with a guilty conscience, as we saw when speaking of visitation-delusions. Change of scene from solitary brooding into association with fellow beings, forms, together with the supply of fresh ideas from real speakers, the natural remedy. I cannot but think that in cases of this sort we are warranted in looking upon the higher centres as being primarily at fault. I do not see how any organic mischief in lower centres giving rise to hallucinations could be so easily remedied. If it is said that temporary hyperæmia or tension in those centres might account for this curability, what about such temporary and local lesions also obscuring the reasoning powers (which may not hitherto have shown signs of being disturbed)? Or I would ask how it is, as sometimes happens, that the hallucinated patient who *tastes* poison in his food and therefore refuses it when offered by certain attendants, will nevertheless accept it as untainted when given by others? Surely here it is the *idea* and not the *taste* that is morbid.

Both Dr. Blandford and Dr. Maudsley claim the hallucination of Sir H. Holland's patient as being illustrative of the particular view which each holds; and this shows how much the question is at present a mere matter of opinion. And it is unavoidable that it should be in a great measure speculative. But the point which I have been urging, as to the growth or development of hallucination out of normal currents of idea, and in connection with peculiarity of surrounding circumstances, helps us, I think, to some practical evidence, which is more of the nature of proof; especially if we bear in mind the curability of some of the cases, and the conditions attending it.

But while I think we must accept the possibility of uncorrected hallucination having its primary morbid seat in the intellectual centres of the brain, I do not see that we are in a position to deny the possibility of the sensory ganglia being the primary seat of derangement. No one will deny the liability of the ganglia of sensation, in common with every other part of the body, to become the seat of disease, structural disease; and consequently no one will deny their liability to disturbance or derangement of function. A morbid state of the sensory nervous centres being possible, what is the result? They may be the seat of morbid sensorial impressions; it matters not here whether the morbid impression is the morbid record of a *bonâ fide* impression from without, or whether it is simply the product of morbidly acting centres. This morbid

or false impression is transmitted upwards to the centres of perception and ideation; where, *if it be corrected*, the best possible proof, viz., that of the *sane* individual himself, is afforded that he is the subject of a deceptive sensation (of the nature of a hallucination) which, however, he is able to dispel by the evidence of other senses and by his reason. If the morbid impression is left *uncorrected*, and irrational behaviour comes to be indulged in in consequence, the hallucination is an evidence of insanity; but its seat of origin remains the same, *i.e.*, in the sensorium. Or, to take Dr. Maudsley's own illustration of his position, in connection with the sense of vision. He says that in his perception of a chair three parts of the perception "are really inference, and so far imply reasoning;" and they are held to substantiate the correctness of the fourth part of the perception which is supplied by the sense of sight. Exactly; but, if occasion required, could they not equally testify to its *incorrectness?* Could they not tell us that the fourth (the initiative) part of the perception (the visual impression, say), is false; and thus inform us that the corresponding sensory centres (the optic centres) are the seat of some derangement? Assuredly they could; and we have the false impression, the hallucination, corrected. But if the three reasoning parts do not so inform us, they must accept the false impression as real and normal, and the hallucination becomes established as well as the insanity of the individual.

When the man whose leg has been amputated, refers uneasy sensations to the foot which has been removed, we point to the cut extremity of the nerve as the seat of disturbance, and not to the brain centres, whose healthy and undisturbed condition enables him to correct the false impression of the presence of a foot. Again, when we find a tumour connected with the abdominal viscera of an insane patient who believed her belly to be full of living serpents, &c., we are not unwilling to see in this tumour the original cause of the particular delusion. And if ordinary sensation when disturbed or morbidly affected thus shows itself to be capable of *originating* false impressions and suggestions, which the brain may or may not be able to correct, how can we refuse to recognize the possibility of the same being done by those centres of special sense, whose functions, being more subjective from their closer relationship to the intellectual processes, are therefore less demonstrable than the illustrations I have just given.

Dr. Maudsley himself asserts for the sensory ganglia an

independent action in disease as well as in health. In connection with functional disorders of those ganglia he speaks of hallucinations of vision as by no means unfrequent amongst some children at an early age, and points to the existence of a true "sensorial insanity." "*The patient's senses*," he says,* "*are possessed with hallucinations, their ganglionic central cells in a state of convulsive action* [the italics are ours]; before the eyes are blood-red flames of fire, amidst which, whosoever happens to present himself, appears as a devil, or otherwise horribly transformed; the ears are filled with a terrible roaring noise, or resound with a voice imperatively commanding him to save himself; the smell is, perhaps, one of sulphurous stifling; and the desperate and violent actions are, like the furious acts of the elephant, the convulsive reactions to such fearful hallucinations." We have here neither more nor less than a rich and vivid picture of pure ganglionic hallucination.

Before concluding these observations on a question full of interest, I may call attention to a point which is worthy of some direct notice, as, if it is overlooked, misconceptions may arise.

In an insane person who becomes the subject of hallucination, the pre-existence of insanity from disease of the supreme cerebral centres does not prove that those centres are likewise the primary morbid seat of the hallucination. For seeing that the disease has existed for a longer or shorter period before the advent of hallucination, it is also possible for us to conceive that the particular hallucination did not come on *until* the general disease had extended to and involved the ganglionic centre to which reference is made. In such a case the particular hallucination is to be looked upon as having had its seat of origin in the morbid state of the sensory ganglia, notwithstanding the evidence of pre-existing disease of the higher centres. In other words, the seat of origin as regards the insanity is not necessarily the seat of origin as regards the hallucination; and in this statement different and not unimportant issues are involved which may not at first suggest themselves.

Those issues I can do no more than briefly refer to as dealing with the relations which insanity and hallucination have to each other, both in point of location and in point of time, as well as with the methods in which they may be

* "Physiology and Pathology of the Mind," p. 101.

found to approach each other and become associated in particular cases.

The following propositions embrace the leading suggestions :—

1. The hallucination may have the same morbid seat as the insanity, and it may arise before, with, or after the insanity, *i.e.*, its primary and sole seat may be in the higher or intellectual centres of the brain; it may be purely ideational.

2. The hallucination may differ from the insanity (of intellectual centres) in its seat of origin; it may take its rise in the sensory ganglia—

a. *Prior to* the Insanity: Corrected hallucinations becoming persistent and leading up to insanity.

b. *Subsequently to* the Insanity: The ganglia becoming involved, secondarily, in the morbid process; thereafter giving forth morbid impressions which are left uncorrected.

c. *Simultaneously with* the Insanity: Improbable, but not impossible.

However possible any one of these relationships may be in the abstract, there can be no doubt of the difficulty of diagnosing the particular relationship in individual cases. The close alliance between the physiological and pathological action of nerve currents and the frequently insidious transition from one to the other in connection with unstable mental manifestations, make this difficulty no matter of wonder.

The utility of investigation into the primary morbid seat of hallucination bears upon the purposes and treatment; in addition to the pathological interest of the question.

I would not have held myself warranted in departing from the main subject of these papers so far as to enter into this discussion had I not thought that the exceptional forms of hallucination with which I had been occupied might be brought into some useful relation with the question raised by Dr. Blandford. In continuing the illustrations of morbid phases of mind among criminals, I shall next take up the forms of "Weakmindedness" among them.

(*To be continued.*)