

extent, are shown in cases of juvenile general paralysis, because stress comes in less, although it does come in at puberty; but still in some of the cases I have shown there was no stress, and it was due to the syphilitic poison solely coming into the body.

Dr. Urquhart has kindly furnished me with some valuable and reliable statistics relating to the subject of the causal connection of syphilis and insanity in patients belonging to the middle classes of society, which he has kindly permitted me to append.

*Concerning Cases of General Paralysis admitted into Murray's Royal Asylum, Perth, from 1880 till 1898 inclusive.*—The total number of persons admitted was 266 males, 244 females—total 510. Of these, 27 males and no females were general paralytics.

Of these 27, there were 13 undoubtedly syphilitic, 8 probably syphilitic, 4 doubtfully syphilitic, and 2 probably not syphilitic.

Of the 8 probably syphilitic, 1 was temporarily blind in one eye, 1 was temporarily paralysed on one side of the face, 1 had strabismus of one eye, 2 had soft chancre, 1 had urinary stricture and scar in the groin, 1 was suspected to be syphilitic by his family, 1 was a marine engineer of bad character.

Of the 6 doubtfully or not syphilitic, all had endured great mental stress; 1 was attributed to hereditary insanity and worry, 1 to hereditary insanity and alcoholism, 1 to alcoholism and gout, 3 to worry only.

The incidence of the causes may be classed as follows:

I. Insane heredity, 8; neurotic heredity, 2; parental alcoholism at the time of conception, 3; parental paralysis, 3; no hereditary tendencies admitted, 10.

II. Personal history—of worry, 15; alcoholism, 10; fall on head after alcoholism, 1; sunstroke after alcoholism, 1; sexual excess, 2; gout, 2. Two cases recovered and remain well.

Concerning syphilitic cases during the same period other than general paralytics, 14 males, 1 female—total 15. The female case soon recovered from alcoholic mania. Of the 14 males, 1 is degraded to the rank of a common labourer; 2 terminated in dementia (1 died of diabetes); 1 died of apoplexy in acute recent mania; 1 remains in a state of chronic mania; 5 remain in a state of delusional insanity; 4 continued melancholic (1 committed suicide). Two were discharged "recovered," but 1 relapsed and 1 disappeared. All remain in asylums except those 2 and those who died. The whole 14 were intractable as regards recovery, the prevailing mental state being that of limited and fixed delusions. The element of mental stress as causative was singularly absent. One male, an imbecile, a case of hereditary syphilis, may be mentioned in addition to those above detailed.

*Anæsthesia in the Insane.* By W. H. B. STODDART, M.D.,  
M.R.C.P., Assistant Medical Officer at Bethlem Royal  
Hospital.

THE subject of the present paper has occupied my attention for more than two and a half years, and during the whole of that time I have felt deeply indebted to my colleagues both at Bethlem Royal Hospital and at the Lancashire County Asylum at Prestwich for the generous way in which they have afforded me every opportunity of studying the subject. Some of these gentlemen have not only permitted me to examine their cases,

but—knowing my interest in the subject—have, at inconvenience to themselves, drawn my attention to cases which would otherwise have escaped notice, and have further assisted and encouraged me by confirming my own observations. I therefore take this opportunity of most heartily thanking all these gentlemen for their valuable help and kindness.

I have entitled my paper “Anæsthesia in the Insane.” As a matter of fact that title is not strictly accurate. It should rather be “Analgesia in the Insane.” Of course, every alienist is familiar with the fact that many insane patients show no response to a pin-prick. The main object of this research has been to determine the distribution of this analgesia on the surface of the body. Two forms of stimulus were usually employed, viz. the prick of a pin and the pinch of a strong spring tie-clip.

In most of the cases there was very considerable mental reduction, and that is why a *painful* sensory stimulus was usually employed—these patients not having sufficient intelligence to give reliable information about a simple *tactile* stimulus.

In a few patients, however, it was possible to compare the loss of sensation to pain with the loss of sensation to touch. These patients had sufficient intelligence to give reliable answers as to whether they were able to feel a simple *tactile* stimulus or not. In these cases anæsthesia was invariably more extensive than analgesia,—that is to say, that beyond the area of complete insensibility there was a narrow zone in which a pin-prick or sharp pinch was recognised as a tactile stimulus. I mention this now lest I should omit to refer to the matter later on, and also in order to justify my use of the word “anæsthesia.”

It is not the purpose of this paper to deal with anæsthesia which is due to coarse lesions of the nervous system. This is, of course, common enough in institutions for the insane; but it is much more easily studied in the comparatively sane patients met with in neurological practice. It would therefore be a useless task to attempt a research on such losses of sensation in the obviously insane.

Although it is not the main subject of this paper, I wish to take this opportunity of communicating the observation that “comparative hemianæsthesia” is a much more frequent condi-

tion in the insane than is usually supposed. Let me here explain what I mean by "comparative hemianæsthesia."

If a patient is quite unable to feel a tactile stimulus on the right or left half of the body—the anæsthetic half being marked off by the middle line of the head, neck, and trunk,—that condition is, of course, called "hemianæsthesia." If the patient can feel on both sides of the body, but can feel better on one half than on the other, that is what is meant by "comparative hemianæsthesia." The way to test this condition is to touch the patient with an equal amount of pressure on two symmetrical spots of skin, and to ask him on which side he believes you to be touching him the more heavily. If he states that there is a material difference on the two sides wherever you may test him, he has comparative hemianæsthesia. In some cases the patient can appreciate a tactile stimulus on either side independently; but if touched on two symmetrical spots of skin he is only able to appreciate the tactile stimulus upon one side. The hemianæsthetic side is nearly always the left in a right-handed individual, and the right in a left-handed individual.

I am not prepared to make any definite statement as to the other symptoms associated with comparative hemianæsthesia in the insane—I have not yet accumulated a sufficiently large number of cases to draw satisfactory conclusions from them. My present collection of cases, however, would appear to show that the symptom is especially associated with disturbance of the generative organs. Masturbators, climacteric cases, and women with uterine or ovarian disease are apt to show this symptom. These are the cases which are also especially apt to have hallucinations of smell; but none of my cases of comparative hemianæsthesia have shown this symptom.

I now mention severe cases of stupor. Here the patient shows no sign whatever of perception of painful stimuli. And this is the case with both the anergic and delusional forms of stupor. Further, it matters not whether the stupor occur in the course of a typical hereditary insanity, delusional insanity, epilepsy, or general paralysis. I have had examples in all these insanities of this apparent anæsthesia during stupor. If the stupor be only sufficiently severe, the patient takes no notice of pricks with a pin, pinches with a tie-clip, or of the stimulus of the electrical wire brush. When, however, these patients recovered, or when their stupor gave place to some other event

in their insanity, they were without exception able to convince me that every stimulus caused pain. They would say that they felt the pain quite acutely, but that they were unable to speak or to move in any way in order to signify that they felt it. And I am quite satisfied that there was not even any limited region on the surface of the body where they were unable to feel. In two cases, one male (case of anergic stupor) and one female (case of delusional stupor), I explained to the patients that I wished them to remember which parts of their body were analgesic, and to tell me on their recovery. I went carefully over the whole surface of the body with a pin, and impressed upon them during the whole of the examination that I wished them to remember on which parts of their body they were analgesic, and to tell me the result on their recovery. In order that I should not tire their memories I spread each examination over several days, taking the body piecemeal, and during the remainder of their illness I used to keep reminding them to remember their anæsthetic areas. In both cases they told me that they could feel every stimulus all over the body. In the case of the female this was five months after the examination, and so vivid was her remembrance of it that she had developed and (for all I know) still has ideas of persecution by me.

I now come to a variety of anæsthesia which, for some reason which I have been unable to discover, appears to have hitherto entirely escaped observation ; and I cannot resist the belief that it will some day be of some importance in helping us to understand the physiology and pathology of the nervous system. For reasons which I shall discuss later on, I am of opinion that the explanation of this anæsthesia must stand over until we possess more physiological data to work upon. It will perhaps be most clearly described by first indicating its maximum distribution, and then showing less and less extensive distributions until we arrive at the minimum.

In the case presenting the most extensive anæsthesia of this variety, the patient (R. P—, Fig. 1) was unable to feel except in the following areas :

(a) An area about 1 inch by  $\frac{3}{4}$  inch over each supra-orbital ridge.

(b) An area about  $2\frac{1}{2}$  inches by 2 inches above the middle of each Poupart's ligament.

(c) Two narrow strips over the dorsal and cervical regions of the spine.

This was a case of stupor with catalepsy occurring in a Polish Jewess who had suffered from hysteria for about sixteen years, and had received treatment at nearly all the leading neurological schools of Europe. It was a complicated case; she had loss of smell and of taste, and her visual fields had been contracted for years.

I only mention this patient because her anæsthesia, while very extensive, conformed more or less to the type now under consideration. The case may or may not be of value from our present standpoint; we must not forget that she had been hypnotised many times, and that probably every neurologist under whose care she fell had attempted to arrest her hysterical fits by pressure on the supra-orbital nerves and upon the ovarian regions. Such cases as these are, of course, extremely rare.

The next stage, however, is sufficiently common for me to have discovered three examples among about 1000 cases of insanity, whose sensation was carefully examined. But it is quite possible that I may have lost one or two examples, because this anæsthesia is at times of quite short duration. I regret that I have several times come across an example of this variety of anæsthesia in its less extensive distributions, have delayed charting it for a few days, and at the end of that time have found it gone. Of these cases I consequently have only a record in writing.

In the stage now under consideration (A. E—, Figs. 2 and 3) sensation is retained in the feet, in an irregular kind of bathing-drawers area, in small more or less symmetrical spots about the nose, and perhaps a small strip over the dorsal region of the spine.

When the anæsthesia is still less extensive the above areas are larger (M. D—, Fig. 4). To speak figuratively, the sandals and bathing drawers are replaced by socks and knickerbockers, and there is a mask-like area across the face where sensation is retained. The spot in the middle of the back is larger, and there may be small areas of sensibility in the palms of the hands.

If the case improves gradually it is possible to observe the upper limit of the knickerbockers rising and the lower limit of the mask descending until the two meet. The condition is

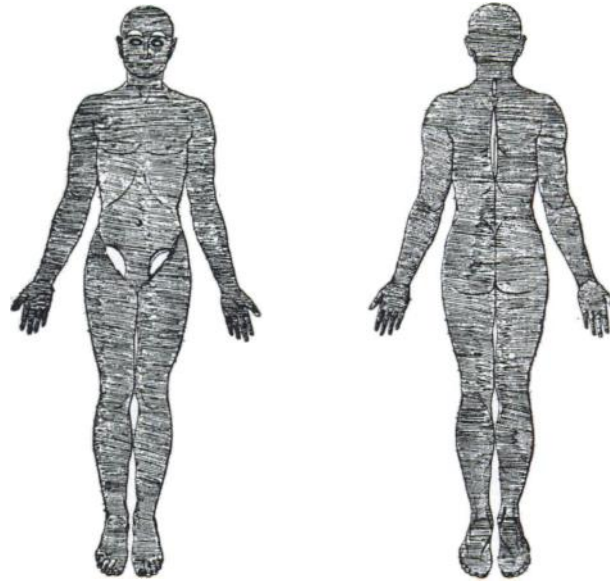


FIG. 1.

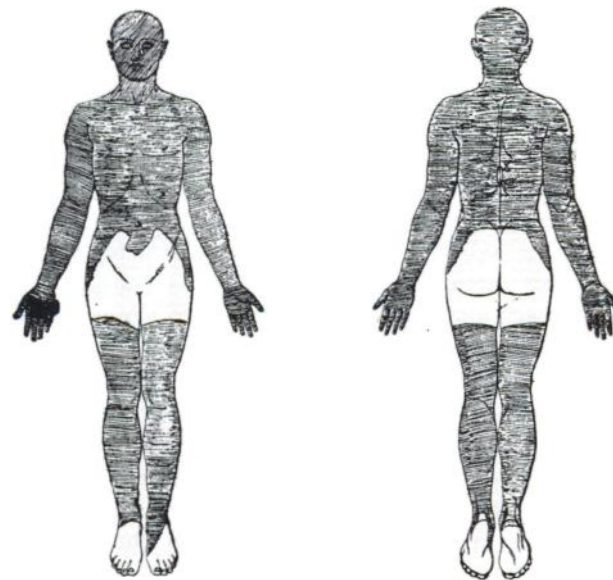


FIG. 2.

To illustrate Dr. STODDART'S Paper.

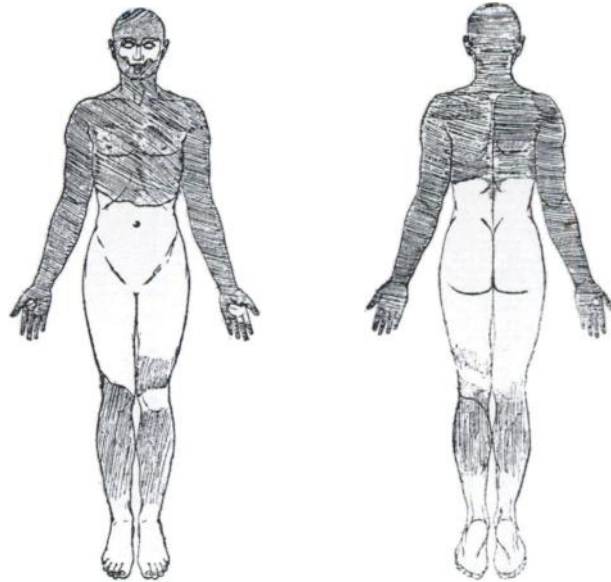


FIG. 3.

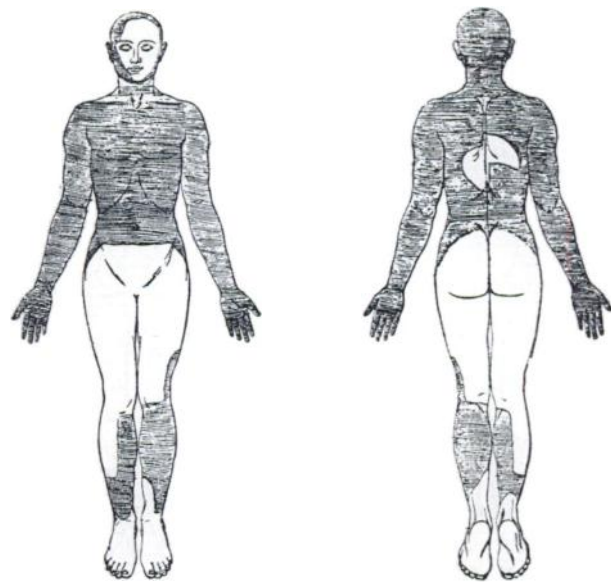


FIG. 4.

To illustrate Dr. STODDART'S Paper.

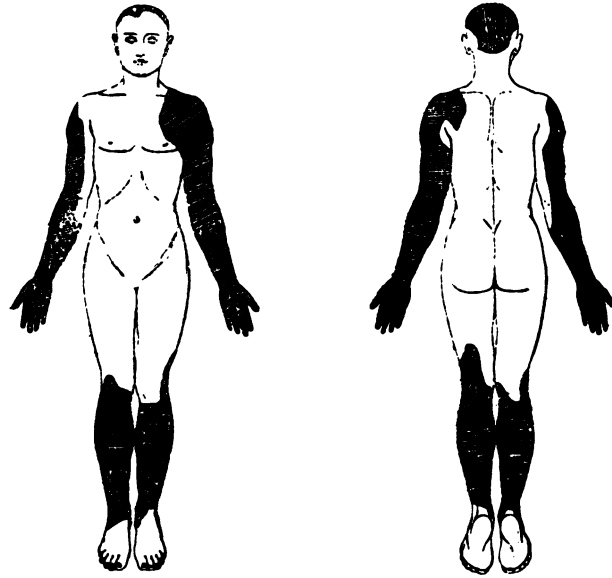


FIG. 5.

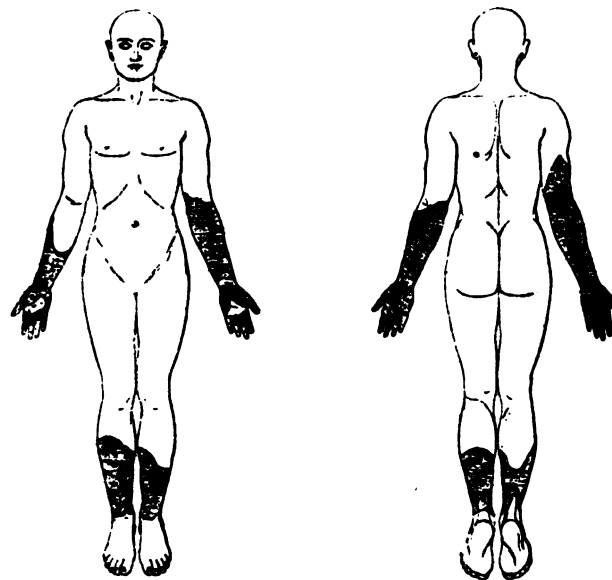


FIG. 6.

To illustrate Dr. STODDART'S Paper.



#### DESCRIPTION OF FIGURES.

FIG. 1.—R. P—, stupor with catalepsy occurring in a case of hysteria.

FIG. 2.—A. E— (July 10th, 1897), melancholia with much loss of memory. The case in many ways resembled alcoholic dementia (so called). The patient, though non-alcoholic herself, was the offspring of alcoholic parents.

FIG. 3.—A. E—, recovering (August 8th, 1897).

FIG. 4.—M. D—, post-maniacal stupor.

FIG. 5.—M. B—, secondary dementia.

FIG. 6.—P. N—, post-maniacal stupor.

then one of anæsthesia of the back of the scalp, of the arms, forearms, and hands (the palms perhaps being sensitive), and a band of anæsthesia six to eight inches wide round the legs.

In still less extensive distribution (P. N—, Fig. 6) there is merely a sort of glove of anæsthesia up to the elbow or stopping short of this, associated with bands of anæsthesia round the legs.

And lastly, in its smallest discoverable extent there is merely anæsthesia of the backs of the fingers.

Generally, but not always, the anæsthesia is rather more extensive on the right side than on the left.

In a few cases it is possible to determine that loss of the sense of position of the hands co-exists with their anæsthesia. The patient may be unable to pick up a pin. One patient when tested in this way would try and fail to pick up the pin, and then in a characteristically insane way would repudiate her symptom and say, "I *can* pick up the pin, why *don't* I do so?" She is still under observation, and now refuses to attempt to pick up a pin. On being told that the reason of her refusal is that she *cannot* pick up a pin, she replies, "Yes, I can, but I don't want to."

In what mental diseases does this anæsthesia occur? It occurs most commonly in advanced secondary dementia—in those patients who are incapable of clothing and feeding themselves or of looking after themselves in any way, who are wet and dirty, who either do not talk at all or who only babble incoherently to themselves. These show anæsthesia varying in extent from merely a few spots on the backs of the fingers up to the gloves of anæsthesia reaching to the shoulders and associated with bands of anæsthesia round the legs.

In these cases of dementia the extent of the anæsthesia not only varies from day to day, but at times it is absent altogether, even from a patient who may the previous day have exhibited a moderately extensive distribution. The symptom, however, is not to be observed in the dementia of general paralysis.

The next most common cases are those of post-maniacal stupor. These, again, may exhibit anæsthesia of the same type and extent which occurs in the demented, but it may be more extensive. In one case at Prestwich of post-maniacal stupor the anæsthesia was one of the most extensive examples met with.

Lastly, two examples of extensive anæsthesia of this type occurred in cases of melancholia. In one case the patient stated one morning that she felt that something had gone very wrong with her. On examination extensive anæsthesia was found. It cleared away entirely in three days. The other case is one still under observation. Although I have not known the patient during the whole of her illness there is little doubt that she has been anæsthetic for three years. In her original certificates there is the statement that she "attempted to put her hand into the candle flame, and stated that she could not be burnt." Again, in the first note on her admission there is the statement that she says "it does not hurt her to cut or burn herself as it does other people, and that she only does it to show that it doesn't hurt her." This case was a somewhat peculiar one. She had been melancholic throughout, but her most marked mental symptom was loss of memory. At one time she could not even remember her own name.

Examples have also been met with in stuporose alcoholic cases and choreic insanity.

I do not yet feel justified in committing myself to any statement regarding the symptoms associated with this variety of anæsthesia. Mentally there is often but not always great loss of memory; physically there is, I believe, usually diminution of the visual fields.

I deeply regret that I can at present give no very certain explanation of these phenomena, but I have attempted to study them in various ways.

I presume that all present will agree that they are due to functional and not organic disturbance, especially in view of the symmetry and of the variability of the anæsthesia.

The two most extensive examples were in cases of melancholia. In previous papers (*Journal of Mental Science*, 1898) I gave reason for the belief that melancholia was due to an auto-intoxication of the neuron—that it was due to a retention of effete products of metabolism within the cell bodies, and no reason has been adduced why this opinion should be changed. This being so, the arguments then adduced may be used in the explanation of the anæsthesia of melancholia, however unusual it may be. The large sensory cells would, according to those principles, suffer more than the small sensory cells, and my

conclusion, therefore, is that the cells representing the bathing-drawers area and the feet are the smallest which occur among the cortical sensory cells.

It is to be regretted that this conclusion is not at present capable of confirmation or denial, because we know nothing of the cortical representation of sensation.

Meynert concluded that it was to be localised in the temporo-sphenoidal lobe ; Ferrier concluded that it was to be localised in the hippocampus ; Horsley and Schäfer concluded that it was to be localised in the gyrus fornicatus, and none of these gentlemen's experiments and conclusions have been satisfactorily contradicted, so far as I am aware. Dr. Ferrier is now inclined to join hands with Horsley and Schäfer.

Flechsig concluded from his earlier experiments that sensation was localised in the parietal cortex, and I believe I am expressing the opinion of most English neurologists when I say that clinical experience leads us to agree with this conclusion. His most recent observations are in accordance with the view of Horsley and Schäfer. Dr. Mott has some experiments in support of the localisation of sensation in the Rolandic or parietal regions.

In view of such conflicting evidence we are at present quite unable to say where sensation is localised in the cortex ; still less are we able to examine the sensory cells and compare the size of them according to the parts of the surface which they represent.

There are some striking points about this variety of anæsthesia. Perhaps the most striking of these is the fact that the parts which are omitted (bathing-drawers area and feet) are just those parts whose sensation (according to Head, Thorburn, Starr, and others) is first represented in the lowest spinal root ganglia,—the ganglia whose nerve-cells with their processes are the longest cells in the body. The cells of the ganglion on the first sacral posterior root, for instance, have one process reaching from the foot to the ganglion and another reaching from the ganglion to the medulla oblongata. These facts are striking, but it is difficult to perceive their significance.

There is a totally different mode of regarding this anæsthesia. We have been studying the appreciation by patients of sensory stimuli. We may take it as an axiom that all sensations are modes of behaviour of a mind. I use the term "sensation" in

its usually accepted sense as synonymous with the term "perception of sensation." The word "sensation" connotes the existence of a mind.

Now all the examples of the form of anæsthesia which has just been described occurred in patients whose chief symptoms were mental, and we are justified in concluding that these were due to lesions—functional or organic—situated in that part of the nervous system which is the physical basis of mind.

In support of this view there is an observation of some importance. In cases of extensive distribution of the anæsthesia the mouth and pharynx are involved, and the patient does not feel the prick of a pin in those parts. But the pharyngeal reflex is present, showing that the lowest level is intact, and therefore that the anæsthesia is due to disorder in the highest levels.

It follows, then, that the parts most represented in sensation in the physical basis of mind are just those parts which are most frequently anæsthetic in these disorders, viz. the backs of the fingers, or in greater degrees of reduction the forearms and hands and legs. According to Dr. Hughlings Jackson's principles, these would be the last sensory areas to be completely evolved, and sensation is in them the least organised and most unstable, and the areas which are most rarely affected would be the most organised and the most stable, and sensation would be here most completely evolved.

Further, the parts which are most rarely involved in this form of anæsthesia are just those parts which are apt to dominate consciousness in mental disturbances in general. The epigastric aura, so common in the epileptic, immediately precedes the loss of his consciousness, or in other words the abolition of his mind. And how frequently do we meet with cases of insanity in which the patient refers all his trouble to his abdomen! His bowels are blocked up and the abdomen is distended with food; he has a snake in his abdomen, or a voice talks to him from there, which he refers variously to his own conscience or to some animal or spirit there. Again, when we receive some dreadful news we have an indescribable sensation in the abdomen. The very names "hypochondriasis" and "melancholia" recognise this symptom. In common parlance, a man *vents his spleen* against another, and sympathises with him *from the bottom of his heart*.

Many of the Semitic races to this day regard the bowels as the seat of the passions. And there is plenty of evidence that this view was held in ancient times. I quote two passages from the book of Jeremiah. "Is Ephraim My dear son? is he a pleasant child? for since I spake against him I do earnestly remember him still; therefore My bowels are troubled for him: I will surely have mercy upon him, saith the Lord." And again, after lamenting over the wickedness of Jerusalem, he says, "My bowels, my bowels! I am pained at my very heart, my heart maketh a noise within me, I cannot hold my peace, because thou hast heard, O my soul, the sound of the trumpet, the alarm of war."

All this has a very practical bearing in the treatment of the indigestion complained of by the majority of insane patients. Of what use to them are "liquid peptonoids," alkalies, and indigestion nostrums in general, when their discomfort is merely due to their consciousness being dominated by their abdomen on account of mental reduction?

The way in which these facts are to be regarded is as follows: in the physical basis of mind the whole body is represented in sensation; in mental disturbance the most unstable parts suffer first and most (those areas which represent the arms and legs especially); then and not till then do the neighbouring most stable parts rise into consciousness, especially those parts representing the abdomen. This is a popular way of putting the matter. It would be more accurate to say that the abdomen passes from subject-consciousness into object-consciousness.

The meaning of these facts is in some respects not quite clear. It is easy to understand why sensation round the pelvis and abdomen should be early in its complete evolution: firstly, for the necessary appreciation of the desire for food; and secondly, for the purposes of perpetuation of the race. It is more difficult to understand why sensation in the feet should be early in its evolution, and still more difficult to understand why the backs of the fingers should be the very last sensory areas in evolution.

In conclusion, I may say that I feel that no apology is necessary for my bringing to your notice the above observations, even if my explanation of them is unsatisfactory. A science can only be built up after multitudinous accumulation of facts, and we must not be disappointed if facts must temporarily

remain unexplained. By way of summary let me say that comparative hemianæsthesia is a much more common symptom in the insane than is usually supposed ; that the universal anæsthesia occurring in stuporose cases is spurious ; and that a variety of anæsthesia—hitherto undescribed—is liable to occur in melancholia, post-maniacal stupor, and dementia. I submit these observations for discussion, and for suggestions as to the explanation of these obscure but interesting phenomena.

[Read at the Annual Meeting of the Medico-Psychological Association, London, 1899, but not discussed. The consideration of Dr. Stoddart's communication will form part of the agenda at the next General Meeting.—Eds.]

---

*Night-nursing and Supervision in Asylums.* By F. ASHBY ELKINS, M.D., Med. Supt., Leavesden Asylum, and JAS. MIDDLEMASS, M.D., Med. Supt., Sunderland Borough Asylum.

WE think it will be generally acknowledged that the problem which the treatment of noisy, destructive, and dirty patients sets to their medical officers is greatest as regards their management at night. It is then undoubtedly that noise, destructiveness, and dirty habits have the greatest chance of getting free play, and it is then that the efforts for reformation have to be greatest. If these efforts are successful considerably more than half the problem will have been solved. It is to this part of the question, viz. the supervision of such patients during the night, that we desire in this paper to direct attention. At the outset it may be stated that our proposals are not theoretical. They are the result of practical experience gained during the past four years in the Sunderland Asylum. The special arrangements we propose to describe were instituted by one of us at the opening of the institution four years ago. At first a few cases were dealt with tentatively, but, as the first results were so encouraging, the number of cases was gradually increased, until all the patients who were restless, noisy, destructive, or of dirty habits came without exception to be dealt with. The asylum, situated at Ryhope, is a small one, containing only 350 beds, and on this account, as well as because it was new,