

by shock to the nervous system, and on being asked whether the ventricular effusion would cause the nervous system to be depressed, he answered, *no*.

Lord Chief Justice Cockburn in summing up said, as for the dulness displayed by the boy, that could scarcely be wondered at after hearing the medical testimony that there was proved to be six or seven ounces of water on the brain. Mr. Hopley ought to have considered that there must be some natural defect which prevented the boy's learning.

From a comparison of this case with the preceding, and some others, I think there can be no doubt that with a brain of this kind there is not only a mental but physical weakness, that just as his feeble powers of mind were stunned by the ignorant force which was used to conquer his obstinacy, so his powers of body, at an equally low standard, could not resist the chastisement he underwent. Even were it shown that the latter was greater than I imagine it to have been, nevertheless, I believe the principle just asserted to be correct.

These cases here detailed, together with some others, afford the foundation for my experience of a chronic hydrocephalus beginning in infancy sometimes continuing to adult life. The subject of it is enfeebled both in mind and body, and a very trifling circumstance deranging his nervous system is sufficient to bring about his dissolution. Most authors are silent on the subject, or I would not have ventured to trespass on the space of the 'Journal of Mental Science' with these cases, but even this silence does not preclude the possibility of such an affection being much more common than I suppose, and being perfectly well known to the superintendents of lunatic or idiot asylums. In the latter I cannot but think they must be sometimes met with; and if so, I for one should be much pleased to hear more on the subject from those who have charge of these institutions.

Blood-Cysts situated within the Arachnoïd Cavity in Cases of General Paralysis of the Insane. By JOHN W. OGLE, M.D. Oxon., F.R.C.P., Assistant-Physician and Lecturer on Medical Pathology, St. George's Hospital. (*With a Plate.*)

THE post-mortem discovery in some cases of insanity, of cysts within the arachnoïd cavity containing blood, has been noticed by certain writers on Psychological Medicine. For example, Calmeil, to whose researches we are indebted for the first clear perception and understanding of general paralysis of the insane, when enumerating the various morbid changes met with inside the cranium

of persons who have died of this form of disease, mentions the occurrence of cysts filled with blood between the two laminæ of the arachnoid membrane; or rather, as it should perhaps more properly be stated, between the dura mater and the arachnoid. The reader may be referred to Calmeil's 'Mémoire' on the form of insanity in question, and more specially to his 'Treatise on the Inflammatory Diseases of the Brain,' Paris, 1859,* in which he describes a series (Quatrième Série) of cases of what he calls diffuse chronic periencephalitis, in which, along with other lesions, false membranous cysts filled with blood are found in the cavities of the cerebral arachnoid. Of this complication he instances five cases, which appear to be all that he has had personal experience of.

At the present time, I suppose, as well in England as on the continent, such cysts would be considered, for the most part at least, the result of changes which had been wrought in blood extravasated, as the result of injury or otherwise, within the so-called arachnoid cavity; but as I do not propose to take this opportunity of discussing their general origin and nature, I will not speak further of the characteristics of these cysts in general, but proceed at once to give the details of an interesting case of general paralysis of the insane which fell under my own care, in which, after death, such an intracranial cyst was found, and then add the description of a similar case which occurred in the experience of Dr. Bacon, to whom I am indebted for the opportunity of mentioning it in this place.†

CASE 1.—*Hæmorrhage within the arachnoid cavity on both sides of the brain—Formation of a cyst containing blood-coagulum and bloody fluid on the left side—Delusions—Maniacal excitement—General Paralysis—Dementia—Partial Hemiplegia—Coma.*

The patient, æt. 32, was a well made, and strong and healthy looking man, whose father had died of some form of paralysis. As a child he had been remarkable for gentleness of disposition; as a young man he had been dissipated in habits and suffered from syphilis, and some forms of secondary symptoms, for which he had been salivated, though not without great difficulty. Before his marriage, which occurred when he was about 28 years old, he began to be odd in temper, and often abstracted in manner; and soon after the birth of his first child, which was in 1859, during the summer time it was noticed that he was "very irritable." He afterwards became affected by what was termed "weakness of the ankles and sinews of the calves," and unable to walk up stairs without difficulty. On one occasion, about the same time, it was remarked that he was unable to button his waistcoat, and also that the mouth was "drawn much to one side for an hour or two." He

* Tome i, p. 537.

† I will only observe (touching upon the comparative rarity of these so-called blood-cysts in the arachnoid cavity) that whilst Dr. Joire, who has had much experience as an alienist physician, has collected 29 cases in which intracranial hæmorrhage external to the serous cavity existed; he has only encountered 12 in which the hæmorrhage has taken place into what he terms the intrarachnoid sac. I must remark that he recognises, as does Calmeil, hæmorrhage between the dura mater and the *parietal* layer of arachnoid.

recovered from this condition, but a few months afterwards great irritability of temper and manner again came on, and also great "variability of spirits." At the latter end of 1861 he increased his daily work very materially, rising unusually early and going to market, and dividing his time between his farm in the country and his town business, and working very hard at each place. In January, 1863, he became highly excitable, and in March, on one occasion, taking a single glass of beer before dinner he perfectly lost consciousness, and fell down but did not struggle. Ever after that time he was more or less the subject of a morbid dread of evil, and low and depressed in spirits. On two or three occasions there was a complaint of *numbness* of the *left* arm and hand; and at times he stumbled in walking. There never was any complaint of "double sight." Later in the year 1863, whilst at some races with his wife he behaved to her most unreasonably, leaving her without money to find her way home unattended. He became addicted to self-pollution. He also lost flesh considerably, and his wife observed that his pulse and the action of the heart were apt to become very irregular, sometimes being unusually quick, at others unusually slow; the bowels also became very irregular, being either very confined or much the contrary.

Symptoms when first treated by myself in Nov. 1863. His manner was somewhat sluggish, and he had rather a heavy look about the eyes. The pupil of the *left* eye was decidedly much *larger* than its fellow; both of them were somewhat inactive to light. There was no strabismus and no apparent want of balance in the features of the opposite sides of the face. He often complained of "odd feelings" about the head, but never of actual pain, and he frequently raised the hand to the head. His sleep was reported as restless and disturbed. The pulse was small and quick but quite regular; the cardiac sounds were natural. The urine was acid, 1033 sp. gr., and quite free from albumen or sugar, but deposited large quantities of phosphates when heated. He was ordered a vegetable tonic with ammonia and chloric ether.

On further watching I found that every alternate day he was subject to great heat of skin and feverishness, with a quick pulse and very moist skin. On these days he was unusually sullen, would remain in bed or in a chair without moving, refusing to speak, or eat, or even to open the mouth, and the saliva would accumulate in large quantities in the mouth as if he was unwilling or unable to swallow; and on these days also he refused to pass his evacuations, and at times would pass the *faeces* into his trousers. The conjunctiva of the *left* eye was often very "blood-shot," and the mucous membrane of the throat was very red and inflamed. On one occasion I was sent for and found him sitting in his chair in a state of great stupor, but capable of being roused; as this condition lasted some time in spite of sharp aperients, fearing some effusion within the cranium and having some suspicion that his ailment might possibly depend upon some syphilitic affection, I determined to place him quickly under the influence of mercury; in about three days, under the use of calomel and the application of mercurial ointment to a blistered surface on the neck, he was well salivated, with the best results inasmuch as the heavy drowsy state completely passed away. The accessions of feverishness and other symptoms above described still, however, continued, observing the alternate days pretty regularly, and the bowels became very costive, requiring frequent aperients. I then determined to treat him with quinine in doses of 2 grains twice or thrice a day, giving him wine freely as the circulation was feeble, and sending him for a time to the seaside. He considerably improved, but still the symptoms, though mitigated, recurred on alternate days as before; and I then gave him five grain doses of quinine twice a day. This agreed with him, and in about three weeks he was in a much more natural condition, he was much less irritable,

and quieter, he would feed himself comfortably, and in about two weeks more there was scarcely any difference between one day and another. During this illness he got it into his mind that he was not at home, that his house was uninhabitable, without a roof, or broken down, and that he was always in some other town than where he was; moreover, he was impressed with the idea that he had no money, no boots, clothes, &c., and had also other delusions. All these continued. If thwarted he was very hasty, and would push people about, but otherwise was quite quiet and free from violence. He then began to entertain an aversion to his wife's relatives. He became possessed with the idea that his children had lost their heads and legs, and he would go about everywhere looking for them and seeing that it was not so. He also persisted in thinking that he smelt chloroform everywhere and tasted it in everything, and that his children had been poisoned by it.

About the middle of February, 1864, I was sent for to see him after he had eaten a heavy indigestible meal. There was a difficulty and embarrassment in speech, and he complained of giddiness and odd sensations about the head; there was, also, a very slight degree of "twitching" of the left side of the face. Under the use of aperients he was as well as usual in two days; but at the end of the month he was again somewhat excited, going about whispering things to himself, thinking aloud, and saying he saw people about him who did not exist, and heard them conversing with him. He was under the impression that his children were poisoned by chloric ether, and for two nights he had no sleep, constantly getting up and trying to walk about the house. Having become more rational and quieter he went again to the sea-coast, and on one day took a very long walk there: in a few days he was brought up to London in a highly furious and maniacal state, constantly talking with a trembling, quivering voice, and shouting imprecations against his wife's friends, threatening to cut off everybody's head, declaring that his children were killed and trying to find the murderers, and asserting that he had come up to London by a *down* train (an incongruity which had puzzled him for several weeks and which, in his attempts to understand it, made him constantly angry). He ate no food for several hours, and being in this constant state of mental and bodily excitement became at last quite exhausted. He then was with difficulty persuaded to take a small amount of food and porter containing some laudanum, which caused him to pass a tolerable night. Being the next day removed into the country he was much less excited, but still was so to a certain degree, and jumped into a pond of water, trying to escape from attendants. For a few days after his return to London there was no return of great excitement, but he again became maniacal, not being violent, but talking constantly and rapidly, fancying himself at one time in prison, at another about to marry every female he could think of, chiefly the royal princesses, to whom he would constantly write long letters. At this time his condition was certified to by Dr. Blandford, whose remarks as to his state are contained in the foot-note appended below.* He then troubled himself for several days

* "Mr. G.'s case at the time I saw it presented an extremely well-marked specimen of the expansive variety of general paralytic insanity in its second stage. My interview was a short one, but I recollect that he was unsteady on his feet, and his speech extremely inarticulate. His delusions were characteristic. In his *délire ambitieux* he told me that he was a baronet; that he was going to marry the Princess of Denmark and all the other Princesses; that he could buy all Bond Street as well as Hanover Square; that he had raised Bond Street a story higher by means of mesmerism; that he was going to give his medical attendant £1000, and any amount to me. The case was so clearly one of general paralysis that I was enabled to sign a certificate without hesitation. I expressed an opinion that it would run a very rapid course. (Signed) G. F. B."

about an inguinal hernia, which it was thought he formerly suffered from, and he began to expose his person and to be very obscene. At this time the pupil of the left eye was at times, but not always, larger than the opposite one; and the left upper eyelid would at times droop decidedly. With intervals of three or four days he had four or five attacks of maniacal excitement, when he would not sleep for two nights together; with intervals in which he would sit in a listless and sullen state, or in a composed condition, smiling at everything said or done. The tongue became furred and the mouth very dry. Nothing seemed to give relief and quiet so much as ice to the head, kept applied for several hours continuously in a bladder. I tried tartar emetic and also hydrocyanic acid and digitalis, but found more soporific effect from half-drachm doses of the *Liquor Opii Sedativus*. Purgative injections were administered, and food, with wine, given according to circumstances.

He then, about the end of April was taken charge of by Dr. Horsbrugh, of Norwood Green. I visited him about the middle of June. I found him lying on the sofa in rather a lethargic manner, leaning on his left side and using his right hand, but moving the left one very slightly. There was decided ptosis of the left upper eyelid. He knew me, but was very undemonstrative. He was unable to walk without assistance, and when he did so the *left* leg was manifestly dragged after him. He complained much of pain at the fore part of the head whenever he was raised up, and then he would put his hand to the head. It was stated that there had been a fetid discharge from the right nostril some days before, but no blood; of this there was no trace when I saw him. He had lost flesh, but it was stated that he had had better nights of late. The tongue was red at its edges, with the papillæ much enlarged. It had been necessary to give him aperients and enemata. The pulse was feeble but regular, the heart's sounds natural; the surface of the body cool. It was determined to continue the use of tonics which he had been taking, and to apply ice to the head in a small bladder, which gave relief as before.

Ten days later I visited him with Dr. Horsbrugh, and found him in a semi-comatose condition, but he could be roused so as to recognise others. The mouth was slightly but unmistakably drawn to the *right* side. The conjunctiva of the left eye was very vascular and of a dull "glazed" character; the left eyeball was quite immovable, its pupil being of the same size as that of the opposite eye. The powers of swallowing were much diminished. There were occasional startings and twitchings of the *left* leg, and a peculiar drooping forward of the head, evidently from loss of power in the neck muscles. The heat of the surface of the body was much below par. Stimulants were freely given and a blister applied to the neck. On the day following, the dysphagia was greater, and the saliva was retained in the mouth; the pulse was, however, firmer and the body was warmer—otherwise he was much in the same state. The urine was passed under him. He died on the subsequent day, having become gradually more comatose.

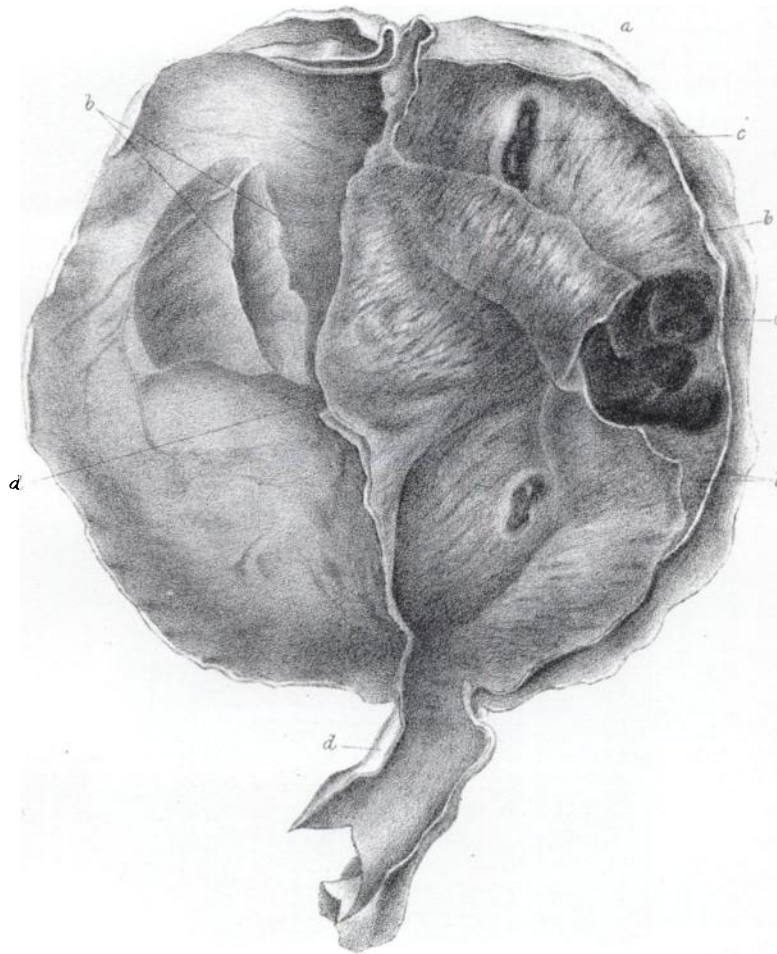
Post-mortem examination made by Mr. Marshall, F.R.S., in the presence of Dr. Horsbrugh and myself.—The body was well proportioned and in very fair condition; the pupils of the eyes were equal and of natural size. *Cranium*.—The bones of the skull were very dense and thick, and the transverse occipital ridge was very prominent, but internally the cranial bones presented nothing unusual. On dividing the dura mater a very large amount of bloody fluid escaped, which appeared to come mainly from the left side of the brain. On removing the dura mater its inner surface on the right side, where covering the upper portion of the right cerebral hemisphere, was lined by a layer of dark-red coloured "false membrane." This did not extend into the base of the cranium, and the arachnoid membrane covering the brain structure was in every part quite transparent and natural, the

blood-vessels, which were beneath and very congested, being well seen through it. On the left side some difficulty was experienced in removing the dura mater from the surface of the brain, and much dark bloody fluid mixed with some blood-clot escaped in the attempt. This difficulty was found to be owing to the pressure of a large *cyst situated in the arachnoid cavity*, formed of tolerably firm dark blood-stained "false membrane" adherent firmly to the inner surface of the dura mater, and very slightly also but firmly to the arachnoid membrane covering the brain; and containing a quantity of red fluid and firm blood-coagulium. This firm false membrane, having strong and large vessels coursing along its substance, extended over the whole surface of the left cerebral hemisphere, including the base of the brain, but it was only over the upper surface of the hemisphere that it formed the bag or cyst above described, as illustrated by the drawing (see Plate). The cyst was converted into a bi-ocular one by reason of a firm adhesion at one part between the two membranous laminae composing it. The arachnoid membrane immediately covering the left cerebral hemisphere, as in the case of the corresponding membrane on the right side of the brain was quite natural and transparent, and in no part was anything like arachnitis (pus or fibrine beneath the membrane) met with. Moreover, the various nerves issuing from the base of the brain were natural in all respects. On making section of the brain its vessels were found to be very full of blood: its upper surface on the left side was somewhat flattened, of a darker hue than on the right, and somewhat of a violet colour, apparently owing to staining by the contents of the arachnoid cavity, but it was quite firm in consistence, and otherwise natural. On further dividing the brain the right lateral ventricle was found to be larger than the left one and to contain more fluid, which was quite limpid, and this inequality seemed to be partly dependent upon the pressure exercised upon the left cerebral hemisphere by the bloody effusion into the left arachnoid cavity and partly owing to a remarkable projection into its cavity of the floor of the ventricle, the result merely as it appeared of a congenital arrangement of the brain tissue, and not caused by any morbid deposit or change. It was also found that some degree of softening of the fornix and of the corpus callosum existed, as also of the right corpus striatum and right optic thalamus, but this was not to any very great degree. On dividing the pons varolii it was, however, found that slightly to the left of the median line there were two patches of more decided softening (of rather a pink hue) situated, one towards the upper portion of the pons, and the other near the under surface (towards the occiput). No disease of the various sinuses or of the various bony parts at the base of the cranium was encountered. The other parts of the body were not examined.

Microscopical examination.—Minute examination merely showed the presence of such elements in the false membranes as are usually found in strong and newly-formed fibrous tissues. The contents of the cyst proved to be merely altered blood-coagula. The false membrane was very vascular.

Commentaries.—On examining the detailed symptoms of the preceding case in connection with the results of the post-mortem investigation, it must be considered, I think, that disease had set in long before I had the opportunity of seeing him at the end of 1863. The change in temper of mind, and general disposition, taken in connection with symptoms which must be looked upon as indicating gradual paralysis of one or both of the legs and arms, and the spasm or paralysis of one or other side of the face, followed by the cause-

To illustrate Dr J.W Ogle's Clinical Case:
Journal of Mental Science, January, 1865.



Dr Westmacott del.

W. West Lith.

less dread of impending evil—all pointed to the supposition that disease had been for a length of time gaining ground; and from the patient's habits, I was inclined at first to regard his illness as possibly of syphilitic origin. It is, of course, difficult, from the wife's history, to ascertain what limbs had been affected (when, for instance, as it was stated, he had stumbled, or been unable to button his waistcoat, and the mouth had been drawn on one (? which) side; but as the "numbness" was positively alone referred to the *left* arm and leg, it is at least probable that, throughout, the limbs, on the same, the *left* side, of the body, had been those concerned in the symptoms above referred to. If so, this supposition receives confirmation from other symptoms which I had the opportunity of witnessing during the future part of his life. It was, at any rate, obvious that cerebral disease, most probably effusion of some fluid, existed; but it was at the same time worthy of remark that so little reference, by reason of pain, giddiness, &c., was made by the patient to the head. I need not dwell upon the acknowledged difficulty in exactly diagnosing such cases as this in their earlier stages, nor the difficulty in certainly predicting what lesions will be met with within the cranium after death. I was persuaded that good resulted for a time from the use of mercury, and I had the impression that possibly the continuous and gentle use of mercury at an earlier stage of the disease might have been of essential service to him. As respects treatment also, the use of quinine in breaking the periodic character of the febrile symptoms is not a little interesting, and goes far to indicate how such periodic attacks in brain disease may be readily likened to attacks of ague, or even (as has occurred) be absolutely mistaken for such attacks.

The delusions experienced by the patient are, I suppose, such as are often met with in certain cases of so-called general paralysis of the insane, and do not deserve lengthened comment. The one of supposing that he came "Up" to London from the sea-coast by a "Down" train, one which troubled him very deeply, for no conversation or attempts on the part of others could, of course, disabuse him, is not a little interesting in a psychological point of view. The idea that his children had been poisoned by chloroform, and that he had it about his bed on all occasions, was, doubtless, the result of certain objective sensations which he associated with the smell of this medicine, which had previously been given to him. Of course, considering that in addition to the extreme disease on the *LEFT* side of the brain, we found also softening of the pons Varolii it is difficult, in our present state of brain physiology, with any degree of positiveness to associate symptoms with one or other lesion alone, nevertheless we cannot but remark upon the extensive lesion on the *left* side of the brain coincident with the drooping of the *left* upper eyelid (paralysis of the levator palpebræ muscle), the dilatation of the pupil of the *LEFT* eye, and finally, the fixing of the

left eyeball (paralysis of motor oculi nerve). The same must be said of the numbness and the loss of power of the *left* side of the body, especially towards the close of life. Such one-sided or hemiplegic symptoms are, I believe, not uncommon in some cases of general paralysis of the insane, but most likely they are always the result of some lesion, visible or not to the naked eye, of the brain tissue, either softening or effusion, or morbid deposits or degenerations,—alterations which, of course, may exist and produce diverse symptoms quite independent of this form of general paralysis. It may be noticed that in this case there was no distinct history of any epileptic attacks, excepting quite at the onset of the symptoms, when on one occasion he lost consciousness, but was not affected by convulsions of any kind. The presence of an increased quantity of phosphates in the urine, as frequently ascertained, is an interesting point in connection, most likely, with the softening and disintegration of the Pons Varolii. It was a matter of regret that we could not make an examination of the spinal cord in this case.

I may in conclusion refer to the fact that we found, on post-mortem examination, no thickening of the arachnoid covering the cerebral convolutions, very slight adhesion of the blood-cyst to the arachnoid membrane, no adhesions of the cerebral membranes to the brain, no atrophy or softening or induration of the cortical part of the brain, and no sub-arachnoïdean ecchymosis of blood: and that the vessels of the pia mater appeared to be in a natural state. I regret that I did not ascertain the specific gravity of portions of the brain-tissue.

The second illustration of general paralysis of the insane associated with a blood-cyst within the arachnoid cavity, which I said I should describe, was the following. It occurred at the Norfolk Lunatic Asylum, whilst Dr. Bacon was resident there.

CASE 2.—*Hæmorrhage into the arachnoid cavity on the right side of the brain—Formation of a cyst containing altered blood—General paralysis—Dementia—Coma before death.*

The patient, Benjamin D—, of middle age, was admitted into the asylum March 7th, 1861, having been transferred from Hanwell in a state of well-developed general paralysis of the insane. Subsequent to the usual series of variations he became quite demented, and died rather unexpectedly after two days' severe illness. He had been declining in strength for some time, but was in tolerable condition and took food well until two days before death, when he was found in bed unconscious, with his limbs drawn up; the breathing was not much impaired, and he died comatose.

Post-mortem examination.—There were signs of old arachnitis, and the lining membrane of the cerebral ventricles was rough and granular. Between the dura mater and the arachnoid covering the right cerebral hemisphere, was a large cyst, containing turbid fluid, like blood somewhat altered. The cyst-walls were of tough and regularly organised structure, and held nearly

half a pint. The cyst could be readily separated from the subjacent dura mater, which was healthy. The thoracic viscera were healthy.

Dr. Bacon, in a letter to me containing the above particulars, proceeds to observe, "the only other case of which I know, you will find an account of in the 'Guy's Hospital Catalogue,' as the specimen is in the museum, and was sent to Dr. Wilks. It was also in a general paralytic."

I may observe that in the case of blood-cyst found in the arachnoid cavity, described by Mr. Hewett in his paper on "Extravasations of Blood" into this cavity, published in the 'Transactions of the Royal Med. and Chir. Society,' Vol. xxviii, p. 63, it is observed that in addition to paralysis of both legs and one arm, the intellectual faculties had been remarkably weak, and the memory very defective. The speech had also been affected, and the bladder paralysed.

In conclusion, I will allude to a somewhat recent case of dementia in which, after death, a soft, pinkish, jelly-like membrane, having extravasated blood between its layers, was found covering the middle and posterior lobes of the right cerebral hemisphere. This is reported upon by Dr. J. C. Howden, in his Appendix to the 'Annual Report on the Montrose Royal Lunatic Asylum,' 1863.

Clinical Cases illustrative of Moral Imbecility and Insanity. By
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Edinburgh Asylum.

THE following cases may be deemed interesting as a contribution to our knowledge of the natural history of one variety of the more obscure forms of mental disease. I have collated the cases from the records of the Royal Edinburgh Asylum, and I avail myself of the opportunity to thank Dr. Skae for his kind permission to give the following abstracts of them. They show the general family features, so to speak, of moral imbecility. It will be at once seen that there is little difference in the character of the mental deficiencies, but that the cases vary principally in the amount of moral perversion.

Under the term "*Moral Imbecility*" I include all those cases in which there is a congenital deficiency of one or more of the moral powers. In using the word *congenital*, I include those cases in which the disease is obviously strictly congenital, or dating from a very early period of life—cases in which there has been an arrest in the development of the brain; using the term in an enlarged