its use would be greatly restricted; as now situated, it too often feeds itself.

We know as yet but little that is positive as to the influence of the duration of use, or, in other words, the age, of a hospital in producing a tendency to the generation of septic diseases within it. It is a question extremely difficult to answer, how far the mere age of a building tends to its unhealthiness—whether that building be a modern hospital or a mediæval Italian palazzo. There are so many circumstances in every building, independently of its mere age, that must modify its sanitary condition—such as the material of which it is constructed—stone, brick, or modern lath and plaster—its site, and the attention that has been bestowed upon its drainage and other hygienic conditions—that we cannot, I think, go much further than this in the answer, viz., that age and neglect will certainly render any building unhealthy.

There is one remarkable circumstance connected with age of hospital, and it is this, that new buildings added on to old hospitals often become more unhealthy than the original building. This happened at one of the Paris hospitals (I believe it was the Neckar), and has been observed in this country also.

But to return again to that on which I base all my remarks in these lectures, viz., the experience I have derived during the twenty-five years that I have been surgeon to University College Hospital, I can say this, that—notwithstanding the immensely improved sanitary arrangements that have, during that time, been introduced and adopted by the increasing vigilance and devoted attention of the hospital committee—the sanitary state of the hospital has just been maintained at the same state that it was a quarter of a century ago. Our amputation-mortality is exactly the same now as it was then, viz., about 25 per cent. The effect of greatly improved hygienic arrangements has been to prevent the hospital from becoming more unhealthy; they have not succeeded in increasing its salubrity. They appear just to have been able to counteract the ill effects that would otherwise have arisen from the impregnation of the building with the accumulated septic emanations of a continuous influx of sick and wounded.

There are various other points in connection with hospital hygiene to which I need do little more than direct your attention, as they are matters of general rather than of special sanitary arrangements; they are matters, in fact, of common sense with common experience. Though generally known, they are often neglected; but attention to which will undoubtedly greatly influence the development, the prevalence, and the persistence of septic disease in a hospital. They consist mainly in the following points. 1. The rendering of all surfaces as little absorbent as possible, by parianising the walls and painting the floors: by these means also they become smooth, and less likely to harbour organic dust. 2. The employment of dry rubbing of, instead of washing, the floors. 3. The frequent purification of the bedding. 4. The removal of all unnecessary furniture, such as bed-curtains, carpets, etc., that can impede ventilation or harbour infection. 5. The removal of the patients' clothes, especially those of cloth and woollen materials, from the wards, and storing them away in an out-building. 6. To compel the nurses to wear dresses that can easily be, and that frequently are, washed. 7. It would doubtless be advantageous to furnish the patients with suits that admit of being cleaned and washed—flannel in winter, cotton in summer. 8. There should always be an abundant supply of carbolised water in the wards for washing purposes. 9. No personal communication through porters, dressers, or house-surgeons; between the dissecting room or dead-house, and the wards. 10. The isolation of patients suffering from fetid ulcerations, especially of a cancerous character. 11. The separation of patients with suppurating wounds from one another by the interposition of unwounded patients. 12. Care not to allow more than one-half of the patients in any given ward to have suppurating wounds, even if these wounds be trivial; nor more, if possible, than one-third if severe. 13. Instantly to isolate all cases of septic disease. 14. To see that there is a current of air admitted into and passing through the ward from the outside of the building by night as well as by day. 15. To close every surgical ward once a year for a month, during which time it should be disinfected and whitewashed. 16. And above all, and under all circumstances, to avoid over-crowding.

By attention to simple hygienic rules such as these, much may be done to lessen the mortality from septic surgical diseases in hospitals; to mitigate the violence of their outbreaks; to limit the range of their destructiveness when they do occur; and, above all, to prevent the risk of ineradicable and persistent contamination of the building by septic poison, a condition which experience has shown to be incurable, and only to be met by the destruction of the infected building.

And now, gentlemen, I have done for the present with this subject, the most important, probably, that is at the present moment before the

profession. It is alike important to the surgeon and to the public. To the public who use the hospitals, there can be no subject of deeper or more vital moment than that those hospitals should be in the highest state of sanitary efficiency. To the surgeon, the importance of the prevention of septic disease in hospitals cannot be overestimated. As matters now stand, the most consummate skill and the most devoted attention are often alike rendered unavailing by the influence of septic diseases generated within the hospitals themselves by the operation of causes entirely beyond the surgeon's control—diseases which neutralise the best directed efforts of his art, and which, in no small degree, increase the pressure of that heavy responsibility and deep anxiety which, even under the most favourable circumstances, attend its exercise.

LETTSONIAN LECTURES ON SYPHILIS AS A CAUSE OF DISEASE OF THE NERVOUS SYSTEM.

Delivered before the Medical Society of London.

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LECTURE III.

GENTLEMEN,—I have still to bring before you the affections which result from the effects of syphilitic disease upon the brain, its membranes, and blood-vessels. So numerous are these, and so important, that I could well occupy, in even a brief account of them, more than the number of hours allotted to the entire series of lectures; and they are so varied and protean, that I might be excused if I took refuge in a merely symptomatic classification of them. But, even were I to bring them before you under the heads of paralytic and convulsive affections, and affections of sensation or of the intelligence, I should find myself in a difficulty of another kind. In many of the cases, there are both convulsions, paralysis, and mental derangement, and these could only be assigned to one or other ground in an arbitrary manner. Moreover, any of these symptoms may arise in one case from one cause; in another, from some lesion entirely different both in seat and character; and one classification would fail altogether to aid either in prognosis or treatment. A real diagnosis implies the identification of the part which has suffered injury, and a recognition of the morbid process which has inflicted it. We can form a rational estimate of the chances of recovery, and direct intelligent efforts for its attainment, only when a distinct and definite idea has been formed respecting the disease we have to treat, and it is only when this has been done that we can profit by our mistakes. Let us have error rather than confusion.

I must here again briefly enumerate the morbid changes which syphilis induces in the brain. You will remember that the characteristic is a tendency to the exudation of a particular kind of plastic material, which may be diffused in the membrane at the base of the brain, or over the hemispheres, or may take the form of a distinct tumour, which will frequently have a great resemblance externally to malignant growths. The "habit of locality" of the tumours, as well as of the diffused exudation, is to affect the surface, although gummata or syphilomata may be found in the substance of the brain, usually, however, in the more vascular parts, the grey matter of the corpora striata or thalami.

In the diffuse form, we may have the membranes adherent to each other, and to the convolutions, by means of the firm plastic material described in my first lecture; and, as a result, the vessels of the pia mater are occluded, the supply of blood to the peripheral grey matter is diminished, and this undergoes atrophic change of some kind, or small indurations may invade the nervous structures from the membranes. Disease of the surface grey matter of the hemispheres may give rise to convulsions or paralysis, or the most varied intellectual or moral disturbances, according to the particular set of convolutions affected, and the nature and rate of progress and stage of the morbid process. This it is—the tendency to affect the membranes, and the varying intensity of the inflammation—which makes syphilitic affections of the brain so multiform.

The order in which I propose to consider these affections is as follows:—First, the slighter changes, presumably in the membranes or

blood-vessels, which give rise merely to periodical convulsive attacks, or in which these constitute the prominent symptoms; next, the graver affections of the membranes; after these, will come syphilitic tumours or syphilomata, illustrations of cerebral affections occurring in infantile syphilis, and, finally, syphilitic thrombosis.

Syphilitic Epilepsy.—As disease of the surface of the hemispheres commonly gives rise to convulsions, it is not surprising that convulsive seizures are among the most common symptoms in syphilitic disease of the brain. Attacks of convulsions may usher in a train of grave disorders of nervous functions, or may be one among many concurrent phenomena, or may form the only important symptoms. They may be produced by tumours growing either from the bones or dura mater, or in the pia mater, or in the substance of the hemispheres, when these reach the surface; or by diffused exudation in the pia mater; or by thrombosis at the time of its occurrence and during the consecutive changes; or by slighter changes affecting the nutritive vigour of the hemispherical grey matter.

They are generally late manifestations belonging to the tertiary period of syphilis, though I have seen syphilitic epilepsy within a few months of the first evidence of constitutional affection.

It is probably a slighter meningeal affection than this which is present in those cases of so-called syphilitic epilepsy in which the convulsive or epileptiform seizures are the prominent symptoms throughout, and not simply the precursors of graver forms of disease. It is probable, again, that syphilitic disease of the arteries, not giving rise to extensive thrombosis, may produce sufficient interference with the cerebral circulation to impair the nutritive vigour to a degree which will permit of irregular discharges of nerve-force, just as we see sometimes in the epilepsy of advanced life.

In epilepsy proper, or idiopathic epilepsy, there is frequently absence of any lesion to which it can be attributed, and it might be that, in syphilitic epilepsy, no appreciable lesion would in some instances be found. Authorities, again, are still at variance as to the nervous centre in which the paroxysms start. I have not had the opportunity of examining *post mortem* a case in which the epileptiform convulsions had been the only nervous symptoms due to syphilis, or met with a description of such a case; but, from the time when I first came to have a definite opinion on the subject, I have looked upon the hemispherical grey matter as the usual seat of the disturbance which gives rise to epilepsy; and, although experiments seem to show that disorder of the cortex cannot be the only cause of convulsions of the kind seen in epilepsy, it is certain that it is a frequent and important cause, and the associated symptoms make it certain that, in syphilitic epilepsy, the cerebral hemispheres are affected. These associated symptoms, together with the age at which the periodical convulsions came on, and syphilitic history, constitute the peculiarities which serve to distinguish syphilitic epilepsy. Before entering upon this point, I will relate a few cases.

The first to be given was under observation for several years. Epileptiform convulsions; frequent attacks of *petit mal*; mental enfeeblement (at one time mania); together with syphilitic keloid and tumours in the tongue.

CASE I.—W. B., aged about 36, came under my observation on October 12th, 1864, at the Western General Dispensary. He complained of an affection of the skin of the chest, which, on examination, proved to be keloid tumours, which had been developed in the scars of former rupial ulcerations. He had also a syphilitic gumma beginning to ulcerate in the left side of the tongue, and great enlargement either of the vallate papillæ or of follicular glands immediately behind them, forming two symmetrical masses at the base of the tongue of the size of a cherry. He made no other complaint at this time, but seemed extremely stupid and confused, and no history at all could be obtained from him at this time beyond an acknowledgment of having contracted syphilis twenty years before. A week later, he mentioned that he was subject to fits, had three or four every day, falling down insensible; he frequently also "lost himself," would become suddenly unconscious without falling, and, when he came to himself, would find himself staring into a window or at nothing, and would not know where he was for a time. His memory was defective and his mind altogether very weak; he could not tell me how long he had had the fits, could give no history of the cutaneous affection, and he did not mention that he had, for more than ten months, been in the workhouse infirmary.

His history, as I gathered it in fragments at his numerous subsequent visits and from his wife, was as follows.

He had contracted syphilis twenty years before. Of its earlier manifestations, I could learn nothing. Before he went into the workhouse, twelve months previously, he had numerous ulcerations, probably rupial, in the scars of which the keloid growths had appeared. His wife had had numerous miscarriages, and had suffered from sore throat for eighteen months. Of four children born alive, two were dead, and

the survivors were weakly, though they did not give evidence of hereditary syphilis.

The first fit had occurred seven years before, and he had had four or five within a month. He had no further attack for twelve months, and then again had three or four, after which there was another interval of nine months. Subsequently, the fits became more severe and frequent, and, twelve months before he came to me, he had six or seven a day, and was quite out of his mind, "raving mad," so that he had to be taken to the workhouse infirmary, where he remained more than ten months. When he first came under my care, he was still, according to his wife's statement, excited and unmanageable, and, especially, would get out of bed at night and wander about.

There was no pain in the head; no affection of sight or hearing; no paralysis. Articulation was distinct, but his talk and ways were childish, and his mind evidently enfeebled. Of course, he was unable to work. Iodide of potassium was given in doses of six grains. The improvement was remarkably rapid. The attacks of *petit mal* quickly ceased, the fits became less frequent, and in less than two months he was able to go to work as cow-keeper for the first time for eighteen months. The gumma in the tongue was quickly resolved, the tumours at the base yielded more slowly, the prominences in the skin gradually diminished and disappeared one by one, leaving shallow depressed scars.

This man was under treatment, at intervals, up to the time of my leaving the out-patient department of St. Mary's Hospital in 1871. The dose of iodide of potassium was gradually raised to twelve grains in 1866, sixteen to twenty grains in 1867 and 1868, these amounts being required to keep down the disease. He would cease to attend, from time to time, when no longer troubled by attacks of any kind, but was soon compelled to return for the medicine. In April, 1869, he reappeared, complaining of giddiness, having had no fit for five months; the iodide was not given at this time, and he had no attack during an attendance of two months. He did not apply again till May, 1870, when he had just had three fits. This interval of about eighteen months was by far the longest he enjoyed; but he was again free from attacks up to October 8th, when the iodide, which he had taken for three months in doses of fifteen grains three times a day, had been suspended for about six weeks. About the end of November, and early in December, the fits were very numerous and severe, and the dose had to be raised to thirty grains, under which he recovered, and he ceased to attend early in 1871. Cod-liver oil and iron were given, in addition to the iodide, during a great part of the time he was under treatment.

There was nothing in the fits to distinguish them from ordinary epileptic seizure; the attacks of *petit mal* varied greatly in intensity; sometimes he was merely confused in his mind or stupid; at others, he would be absolutely unconscious without falling or struggling; if walking at the time, he would go on, and, on several occasions, he was brought to his senses by knocking his head against a wall. To complete the account of his symptoms, mention must be made of frequent attacks of giddiness and of trembling and shaking; occasionally, he felt cold and perspired freely. The minor phenomena did not replace the more severe attacks; but, when quite free from fits, he was usually free from all other symptoms. He was able to work during almost the whole time he was under observation.

CASE II. *Frontal Node; Epilepsy; Attacks of Giddiness and Trembling, with Mental Depression.*—G. B., aged 34, married, with four children, all living, his wife having had no miscarriages, became out-patient of St. Mary's Hospital on April 17th, 1871.

He had been treated by my colleague, Mr. Gascoyen, for tertiary syphilis six months before, and bore on his forehead the cicatrix of a node which had suppurated. He had remained well till within six weeks, when all at once he was seized with a peculiar feeling as if he would lose his breath. This had occurred three times, and twice he had fallen down insensible without the least warning, frothing at the mouth and struggling. Besides these attacks, he had frequent rounds of giddiness when he worked at all hard, and, at times, fits of trembling, especially if he had not his meals regularly. At times, he was very low spirited. He felt quite well, except when suffering from one or other of the symptoms described, and his appetite was excellent—he could eat anything. The pulse was irregular, being obviously affected by the respiratory movements, frequent towards the end of respiration, slower, but fuller, in expiration—a sure indication of cardiac weakness.

He took iodide of potassium in doses gradually increased from eight to sixteen grains three times a day, and never had another epileptiform seizure. The only attack at all approaching these in character was on June 5th, after working hard on a hot day, when he found himself feeling strange, sat down, lost all power, but remained quite conscious; the fingers were cramped and tingled very much. The giddiness also

became less and less troublesome. He was under observation till the end of the year.

The combination here was of epileptiform seizures, with attacks of giddiness, of trembling, and of low spirits. The appetite was remarkably good.

CASE III. *Syphilitic Sore Throat; Violent Epileptiform Seizures; Pain in the Head, Giddiness, Hesitating Speech, Weakness in Legs.*—Henry L., aged 30, painter, acknowledged syphilis, and suffered from syphilitic sore throat while under observation. He had been married eight years; had no children, but his wife had had several miscarriages. On December 3rd, 1870, while in apparent health, and without warning, he suddenly fell down insensible and in convulsions, in which the tongue was bitten, and he fell down stairs and struck his head in the attack; the unconsciousness lasted for an hour. On December 15th, when he came under observation, he complained that, since the fit, he had been unfit for work, suffering from pain in the head, chiefly in the right frontal region, giddiness, especially on stooping; his speech was a little thick, and rather slow and hesitating. The tongue deviated a little to the right when protruded. There was no evidence of paralysis in the face. His walk was very deliberate and devoid of energy. The pupils were equal; the sight good. He had had no lead-accidents, and there was no evidence of lead-poisoning beyond a faint and doubtful blue line in the gums.

Iodide of potassium was ordered in doses of five grains. Next day, December 16th, he had another fit at noon, while sitting before the fire. He had no warning, and would have fallen had he not been caught; the convulsions were violent, affecting chiefly the left limbs; the tongue was bitten. He had no more fits while under observation, but, for a time, he complained of pain in the head, starting during sleep, shaking of hands, and trembling all over. Cod-liver oil, with iron and strichnine, were given in addition to the iodide, the dose of which was raised to ten and then to fifteen grains on the appearance of ulceration in the throat.

CASE IV. *Nodes and Other Tertiary Manifestations; Epilepsy; Headache; Giddiness; Strange Feelings.*—W. M. C., aged 27, painter, was transferred to my care by my colleague, Mr. Gascoyen, on January 11th, 1869. While under treatment for stricture of the urethra, he was seized with a fit on the 8th, and again on the 9th; he felt giddy; his fellow workmen noticed that his mouth was drawn to one side; he then fell down unconscious, and was convulsed, the tongue being bitten.

He had a node on the inner side of the right tibia, and a subcutaneous tumour on the outer aspect of the same leg, for which Mr. Gascoyen had been giving small doses of iodide and bromide of potassium. He was married; his wife had not miscarried, but had had two healthy children. One child, aged 7, had the two upper central incisors short and thin towards the edge, thick near the neck, but without notch. On the 11th, he appeared still to be suffering from the effects of the fit, had headache, and appeared dull and stupid. He was giddy, faint, and felt queer at times, and was occasionally threatened with an attack, which did not come on; but the complaints of other symptoms than the fits were fewer than usual.

Iodide of potassium was given in doses of eight grains three times a day. He had three fits during the night of January 27th, less severe than before; a slight one on the 30th; no others till April 11th, after being drunk on the previous day. Two or three glasses of beer now made him tipsy, a much smaller quantity than was required before. The dose of iodide was now increased to ten grains, but, on the 15th, it had to be suspended on account of symptoms such as I have sometimes seen produced by bromide of potassium. He felt ill; had no appetite; his bowels were confined; the tongue was covered with a thick, moist, white fur, and the breath was foul. His joints were stiff; he felt inclined to shiver; was hot in bed, and cold out; he was depressed in spirits and very emotional. An aperient was given, and an acid and bitter mixture ordered in the place of the iodide. The symptoms just enumerated were soon relieved; but, on the 28th, he had another fit, and the iodide of potassium was again given in doses of six grains. He had no further attack after this while under my care.

CASE V. *Syphilitic Cachexia and Ulceration of Lips; Epilepsy; Petit Mal; Loss of Energy and Spirits.*—Mrs. R., aged 34, had enjoyed good health till her sixth pregnancy, five years before I saw her, at which time, after being ill, and confined to the sofa, for three or four months, in consequence of pain in the head and weakness, he had had three violent epileptiform seizures on successive days. Bromide of potassium was given, and there was no return of the fits till December 30th and 31st, 1872, when she had two. She had not been well in the interval, and, since the last attacks, had suffered greatly from pain at the back and on the top of the head; her spirits were always depressed; she frequently cried, was soon exhausted, and entirely destitute of

energy, so that, from being active in the superintendence of her house and a farm establishment, she had become useless and miserable. Although she had no severe fits, she had frequent attacks of *petit mal*. She consulted me on February 28th, 1873. Her face was expressionless, except in so far as it was indicative of low spirits, and her speech was somewhat indistinct and toneless. The optic discs were normal. She had a syphilitic look, and on the inner aspect of the lips were ulcerations of a syphilitic character. Of her six children, three had died soon after birth, three living were healthy. I obtained no other history of syphilis, the husband being present and acting as spokesman.

The patient was taking bromide of potassium. I gave ten grains each of iodide and bromide, with ammonia and a phosphorus capsule, twice a day.

I saw the patient again on May 17th, when she was, in all respects, better. In spirits, energy, conversation, and appearance, she was quite another woman, and she had resumed her duties in connection with the farm. She had had one fit before commencing the medicine, two or three attacks of *petit mal* at the first catamenial period, but since then had been free from all symptoms of the kind. She had had, for a time, two bad ulcers on the inside of the lip, but they had healed, leaving cicatrices, which looked like mucous tubercles, so-called.

I recommended an increased quantity of iodide for a time, and exacted a promise that, on any return of symptoms, I should be informed. So far as I know, she has remained well.

CASE VI. *Nodes, etc.; Epilepsy; Extreme Nervousness.*—An officer, aged about 30, came under my care in September 1870. He had contracted syphilis four years before, had had very slight secondary manifestations, but, later, had had ulcerations on the forehead and nodes on the skin. He had at one time also suffered greatly from rheumatoid pains, the nature of which had not been recognised; but he drank largely of brandy, for the sake of the relief it afforded him. He was serving abroad in a hot climate four months before I saw him, when he began to have epileptiform attacks of great severity, attended with sensations described as horrible, and had three in one week; afterwards, they came at longer intervals, always occurring in the morning before breakfast.

He suffered, in addition, from pain in the head, almost continuous, but variable in intensity, and worse at night. He had pains also in the left shin, where there was a node. He had also a stricture. He was in a state of extreme nervous depression, could not see his friends, or go out into the street; was incapable of any exertion, and unable to bear the least excitement; would go out for a drive in a cab, and turn back, and always arrived at my house in an excited condition, scarcely able to speak.

He had been taking iodide of potassium, in doses of ten grains, twice a day, together with bichloride of mercury. The treatment I pursued was to give the iodide in gradually increasing quantities, beginning with sixteen grains three times a day. The pain in the head was at once relieved, and the nodes gradually diminished. He had no new fit, though there were repeated threatenings. The nervous symptoms were numerous and varied, and his apprehension extreme. He was under treatment a month before he felt equal to walk in the street, and four or five months before he trusted himself alone out of doors or went into society. The largest dose of iodide reached was thirty-six grains; but, under this amount, the tongue became large, pale, flabby, and was indented by the teeth, and the dose found to suit best was thirty grains. He took also cod-liver oil.

The appetite was enormous, and it was thought better not to restrict him in the amount of food. The only alcoholic drink allowed was claret in small quantity. At the end of six months, he was able to rejoin his regiment abroad. After some months, however, during which his duties were very trying, he had another fit. A second, within a month, caused him to be sent home again, and he came under my care in December 1872. The treatment was resumed; he had no new attack, and improved greatly in health. He rejoined his regiment abroad in the spring of 1873, since which time I have heard of him, but have no definite knowledge of his condition. He is still, however, discharging his military duties.

CASE VII. *Nodes, etc.; Epileptiform Seizures, beginning with Loss of Speech and Dimness of Sight, Giddiness, Faintness, etc.*—Joseph D., aged 30, labourer, came under my care on January 16th, 1871. He had had syphilis ten years previously, which had been followed by secondary eruptions, and he had, on admission, nodes on the skin. He had been married seven years; his wife had miscarried once, and had borne four living children, one of which died of water on the brain at the age of five months, another from inflammation of the bowels at two months.

During the previous month, he had had four fits, and had previously suffered from pain in the head and across the eyes. In each fit, he first

lost his speech and his sight became dim; he retained consciousness sufficiently to enable him to make signs to his fellow workmen to catch him; the unconsciousness became complete, and he was convulsed, the entire attack lasting about ten minutes. Other symptoms were frequent giddiness, causing him occasionally to fall, starting in his sleep; at times, perspirations, or a feeling of stiffness in the tongue.

Iodide of potassium was given, at first, in doses of six grains, gradually raised to twenty grains. He only had one complete seizure, and the giddiness became less and less frequent and severe.

CASE VIII. *Syphilitic Eruption; Epileptiform Attack*.—Rose R., aged 24, had been in the Lock Hospital three years before for syphilis. For four months, she had been subject to an eruption on the scalp, and, when this was absent, she suffered from pain in the head and fits of epileptiform character, with loss of consciousness and struggles. These last came on very irregularly, sometimes three or four in a day; at others, two or three in the course of a week; and, at another time, they might be absent for a week. She had a papular eruption along the roots of the hair, and crusts on the back of the head. The eruption soon disappeared, and the fits ceased, under the administration of five-grain doses of the iodide of potassium.

Looking over my notes of old cases of epilepsy, I find several which, in the light of subsequent experience, I am now inclined to set down as of syphilitic origin, notwithstanding the absence of ascertainable syphilitic antecedents.

I may now sum up the features of epilepsy, symptomatic of syphilitic disease of the brain, by which it may be distinguished from ordinary epilepsy. As to the convulsive attacks themselves, there is nothing distinctive either in their character or frequency, or in the time of their access, *i.e.*, whether nocturnal or diurnal. It is difficult to obtain a reliable description of a convulsive seizure, and the opportunities of watching an attack are very rare; but, after careful questioning of witnesses in cases of idiopathic and syphilitic epilepsy, I have come to the conclusion given, which is, moreover, that generally accepted. If this statement can be qualified in any way, it would be by the greater irregularity of the intervals between the fits.

An important distinction, however, exists in the fact, that the intervals between the convulsive paroxysms, due to syphilitic disease of the brain, are not intervals of perfect health and freedom from nervous disorders. On the contrary, if there are not nocturnal headaches, or osteocopic pains, or sleeplessness, such as are caused by syphilis, independently of disease of the brain and diagnostic of syphilis, there may be frequent attacks of *petit mal*, often many times a day, or of convulsive twitchings of the eyes or of a limb, or merely of vertigo or of faintness; or there may be a state of extreme and unaccountable nervousness and apprehension.

Again, we are often put on the track of syphilis by the age at which the epileptiform attacks first come on. It is matter of universal experience that true epilepsy is a disease of early life. If the predisposition, hereditary or otherwise, exists, the disease develops itself before the changes attending the full evolution of the organs are completed. Dr. Russell Reynolds gives the following table of the age at which epilepsy began in 172 cases.

Under 10 years of age	...	...	...	...	...	19
Between 10 and 20	...	...	...	...	...	106
" 20 and 45	...	...	...	...	...	45
Over 45	...	...	...	...	...	2

But, of the 45 in which the disease began between 20 and 45 years of age, by far the larger number began at or about the age of 40; so that, in early adult life, there is almost complete immunity from epilepsy. Now, it is just at this period that the epileptiform seizures due to syphilis most frequently come on. When, therefore, a young adult begins to have convulsions of epileptiform character, we may at once suspect syphilis, and the suspicion will be strengthened if there are other nervous phenomena, and may be converted into certainty by evidences of past syphilis, nodes, perforations or cicatrices in the throat, white marks on the tongue, and pigmented scars at different parts.

Once let it be ascertained that epileptiform attacks, not accompanied by other evidences of cerebral disease than such as have been enumerated in the cases I have given, are due to syphilis, and the prognosis is most favourable. There is always a liability to relapse, but I have known almost complete immunity from all symptoms to be enjoyed for more than ten years.

[To be continued.]

ON THE MEDICAL SERVICES OF THE NAVY AND ARMY FROM THE ACCESSION OF HENRY VIII TO THE RESTORATION.

By WILLIAM R. E. SMART, M.D., C.B.,
Inspector-General, Royal Navy.

[Continued from p. 169 of last number.]

IN these quotations, we have most trustworthy evidence of the characters of many of those who obtained employment in the armies and navies of England and France, at the end of the sixteenth and beginning of the seventeenth centuries. As far as relates to the English navy, we learn that many of the surgeons were professors, rather than possessors, of the science and art of surgery; that the captains of ships had the power to enter and employ as such in their ships whomsoever they chose; that the system of bounty to surgeons on joining, to enable them to furnish their surgical chests, admitting of prepayments of from £20 to £50, equal to eight times as much in our day, was most grossly abused; that desertion, after receiving this bounty, was not an uncommon practice; and that ships often proceeded to sea without any one entitled surgeon to assist their crews. The only counterpoise to the force of these assertions made by Gale and Clowes, is that they wrote in the spirit of men who had closely at heart the position and interests of the London Company of Barber-Surgeons, of which they were eminent members, of whom Gale is candid enough to admit that the Company was unable to furnish a sufficiency of surgeons to meet the requirements of the great national services; and it must be inferred that the captains who engaged their surgeons were compelled to take the most plausible who offered themselves for employment; the state itself doing no more to assist them in their search, than by allotting to surgeons no better position and pay than to the common seamen. These, it must be admitted, were deplorable realities that militated against the best interests of the sick and wounded; but we ought not to pass from this era of military and naval surgery without taking a cursory glance at the state of the profession at that time. Henry VIII may be regarded as the far-seeing patron of the medical profession, as well as father of the English navy. On his ascending the throne, he found the profession practised by physicians, by master-surgeons, and barber-surgeons. Of these, the first had been closely allied with the ancient Church. With regard to that alliance, Dr. John Freind, who had served as physician in our army, 1717, in his *History of Physick* (fourth edition, volume ii, page 259) states that, "notwithstanding the edicts of the Church, either they grew into neglect, or the monks found a way to evade them; and it was chiefly owing to the multitudes of them employed in our faculty, that at length the Colleges of Salerno and Montpellier began to decay. There might be some reasons in these ages, why this sett of men should be made choice of, where their power over the consciences of others was very great, especially in cases which required secrecy; but the Reformation, I think, has put an end to this enormity; and perhaps it is no great prejudice to the publick, that in our times there are no more *Practicing Divines*, who either cannot be well qualified in their own profession, or must be very unskilful in ours." And (at page 111, vol. ii) he remarks that pharmacy and surgery were in so little esteem with the physicians (the *Medici Honorati et Nobiles*) "that they thought it below their character to understand them; and, therefore, they left all manual operations, such as bleeding, couching of cataracts, laying on caustics, etc., as well as the making up any medicines, to their servants, the *servilores* and *ministri*."

Notwithstanding this generally depressed state of surgery, there were to be seen in Padua and Paris, at the end of the fifteenth century, master-surgeons who boldly undertook to remove calculi from the kidney. The city of London had also master-surgeons of repute, even in the fourteenth century, although there, as elsewhere, the barbers were the ordinary attendants on surgical cases, receiving and boarding patients in their homes.

That great reformer, King Henry VIII, found our profession in a chaotic state: there were physicians and apothecaries, master-surgeons and barbers, and quacks of both sexes, all dealing irresponsibly with those ills that flesh is heir to. The physicians of the day included a mass of empirics and charlatans, together with travelled scholars and men of refined science. To these last the king granted collegiate rights, with power to grant licences to practise medicine and surgery, and to inspect all shops where drugs were stored and sold, which brought the apothecaries legally under their collegiate control, and gave them the power, if so inclined, to consolidate the science and art of surgery with the practice of medicine. The surgeons were "master-surgeons", whose social status rested on their individual ability and repute, and "barbers" who united the practice of minor surgery with a meaner calling, and