tom (usual in such cases), namely, a drawing up of the upper eyelid, so that a portion of the sclerotic above the cornea is exposed. This retraction is due to irritation of the unstriated muscular fibres of Müller, which are found in the upper eyelid, and are supplied by the sympathetic. Her sight is good, though her eyes are readily fatigued in reading, etc., owing to her being considerably hypermetropic.

Before I proceed to make any comments on this interesting case, I wish to call your attention to another case of the same disease also present here this evening. In some respects it is a great contrast to the other one. This patient is a young single woman, twenty-three years of age, robust and strong-looking. She shows no signs of the pronounced cachexia so evident in the other patient. But she is especially interesting now, as being also the subject of unilateral exophthalmos. In her case, the right eye only is prominent. There is very little, if any, enlargement of the thyroid, but there is constant palpitation. The pulse has varied during the time she has been under observation from 116 to 140. She comes of a healthy family, and has always had good health till lately. She first noticed the prominence of the right eye about a year ago. All this time she has been feeling nervous and excitable. She came to King's College Hospital about nine months ago, complaining of pains in the back of the head, and palpitation. She stated also that she suffered frequently from "bilious attacks", attacks of vomiting which would last a whole day, after which her throat would get very large. She complained also of frequent profuse perspirations, coming on twice and three times a day, sometimes without any cause, and sometimes on the slightest exertion. The hands and feet are always perspiring, and her hair is sometimes "wringing wet". She is easily fatigued, has lost her appetite, and is much thinner than she used to be. She suffers much from dysmenorrhœa, and all her symptoms are worse at her periods. She says her throat was much more enlarged nine months ago than it is now.

Having thus briefly called attention to the history of these two cases, I will now point out what I think are the facts which especially merit consideration.

1. *The order of evolution of the phenomena.* It has usually been assumed that the cardiac excitement precedes the enlargement of the thyroid and the exophthalmos, and many seem to look upon the two latter symptoms as in some degree consequences of the former. I doubt if this be true. Trousseau also seemed to doubt this, and he called attention to cases where all the characteristic phenomena appeared suddenly and simultaneously; and he justly remarks, "palpitation first attracts attention because the least disturbance of the heart's action cannot escape notice". In the first of my cases, it seems certain that the exophthalmos preceded the cardiac excitement by a considerable period. I should suggest that there is no other relation between these phenomena than that of the effects of a common cause.

2. *The occurrence of unilateral exophthalmos as well as unilateral enlargement of the thyroid.* It has been stated by most writers on this subject that the exophthalmos has been always bilateral and equal; but I have shown the Society two cases in which this is not the case, and if I had thought it necessary I could have shown a third.

3. *I would call special attention to the remarkable phenomena in my first case of the falling out of the hairs of the eyebrow and eyelids* coincidently with the protrusion of the eyeballs, and to what is perhaps of more consequence still, the peculiar crossed manner in which the phenomena were developed: first, the projection of the left eye and enlargement of the right lobe of the thyroid, with the shedding of the hairs of the left eyebrow and eyelashes, and then the slighter enlargement of the left lobe of the thyroid with the slighter but simultaneous projection of the right eyeball and shedding of the hairs of the right eyebrow and eyelids.

4. *I would suggest that, in considering the pathology of this disease, we have thought too exclusively of the striking local phenomena, and neglected somewhat the consideration of what, perhaps, I may be permitted to call the more diffused phenomena of this disease.* I allude especially to the constantly recurring diarrhœa, so troublesome a symptom in many cases; to the profuse perspirations arising without any obvious cause, and common to nearly all cases of this affection; and to the emotional excitability of the nervous system which is also generally present.

Many text-books do not even notice the occurrence of diarrhœa and perspirations in these cases, although they form a very important and characteristic part of their clinical history.

I call attention to these points, because they seem to me to suggest very strongly a central nervous lesion as the pathological basis of these phenomena, a lesion the disturbing influence of which is, no doubt, radiated preferentially along special tracts of the sympathetic nervous system, and thus gives rise to those special phenomena to which attention has been too exclusively directed. But this disturbing effect is by

no means thus restricted in the most pronounced examples of this disease; for such diffused phenomena as profuse perspirations, paresis of the cutaneous vessels, obstinate diarrhœa, and an abnormal irritability and mobility of the nervous system are almost constant phenomena. The occasional sudden and simultaneous onset of the characteristic symptoms of the disease, or their equally sudden aggravation after fright or other emotional influences, lend weight to this view; while the irregularity with which the three local affections are developed, one or other being not seldom absent, appears inconsistent with any constant limited local change in any of the sympathetic ganglia. Moreover, the crossed manner in which the peculiar phenomena to which I have called attention in my first case were evolved strongly support the suggestion of the central origin of this affection.

The results of treatment also, I think, countenance this view; for no kind of medicinal treatment that I am acquainted with is attended with the same marked benefit that arises from change of air and scene. This I look upon as the most valuable remedy for exophthalmic goitre, an affection which I believe to be primarily a neurosis of the emotional nervous centres.

EAR-DISEASE AND LIFE ASSURANCE.*

By JAMES PATTERSON CASSELLS, M.D., M.R.C.S. Lond.,

Fellow of the Faculty of Physicians and Surgeons; Surgeon to, and Lecturer on Aural Surgery at, the Dispensary for Diseases of the Ear, Glasgow; etc.

IN 1875, a gentleman, aged 30, applied to an old-established and wealthy insurance company to effect an insurance on his life. The medical officer of the company, having examined the proposer, was quite satisfied with the life, save in one respect, and that referred to the condition of the gentleman's right ear, from which there came a constant but scant discharge of pus-like fluid. I have no means of knowing whether the proposer gave voluntarily the information concerning the existence of this ear-discharge to the medical examiner, or whether it was discovered by this gentleman in the course of the examination; in either circumstance, it may be inferred, on the one hand, that the patient did not regard the fact of an ear-discharge as prejudicial to his acceptance by the company, and therefore as not injurious to his health; on the other, that the examination had been unusually exhaustive. From the knowledge that an ear-discharge betokened "incalculable dangers" to the life of the individual who had such a symptom, the medical referee already referred to had decided to report unfavourably upon this case, notwithstanding the otherwise highly favourable circumstances that pertained to it. With an earnest wish, however, to give the proposer every chance of acceptance, he recommended to the society that the applicant be sent to me for a special opinion as to the state of the ear. When the gentleman presented himself before me, he was in excellent general health, and had always been, he said, in an equally good condition. His family history was unexceptionable; as regarded the local affection of the ear, he gave the following history. In 1860, without any apparent cause, and preceded by no defect of the sense of hearing, the right ear began to discharge matter, and this discharge had continued from then till now—sixteen years. Except on one occasion, some years after the institution of the discharge, he never had pain in his ear at any time. On the occasion referred to, he attributed the occurrence of pain to cold caught by imprudent exposure. In reply to the direct question, whether during this painful attack the ear-discharge were in any way affected, he could give no definite reply; but thought that, from its first appearance till now, the discharge had continued unchanged, either as to quantity or to quality. It was noticed that the expression of his face was peculiar; when he laughed, it was seen that the muscles of the left side of the face were alone thrown into action, but motion in those of the right side was not quite abolished. The sensation of both sides seemed equal.

The state of the diseased ear was as follows. He was quite deaf to ordinary conversation on the right ear, and could not even hear a watch on contact, the normal hearing distance of which is six feet. The inner third of the meatus was highly congested; there was no pus or other fluid in this canal, probably owing to the fact that it had been recently cleaned out in preparation for my examination. The right membrana tympani presented numerous signs of old-standing disease, to which particular reference need not be made here. The point which interested me was the following. Traversing the whole upper segment of the membrana tympani, close to the annulus, was to be seen an oblong somewhat semilunar-shaped lesion of the membrana flaccida (Shrapnell's membrane). A probe, introduced through this aperture, passed

* Read before the Glasgow Medico-Chirurgical Society.

inwards and upwards till it was arrested by the roof of the tympanum. At the moment of this contact, the patient affirmed that he felt a distinctly grating sensation, although I was quite insensible myself, not only to this, but to any similar sensation, such as one experiences when, with a probe in hand, he comes into contact with diseased bone. The left ear, though not complained of, was, nevertheless, not free from defect—defect that time and circumstances may develop.

In the report which I made, I spoke of this case as follows. "The result of the examination is to show that X. Z. suffers now from chronic inflammation and suppuration of the 'drum' of the ear, or tympanum. The ear-discharge, though moderate in quantity, and not accompanied with pain, has been, nevertheless, continuously present for a period of sixteen years. I have good grounds, therefore, to fear that latterly this suppuration is the consequence of an ulceration of the bone forming the roof of the drum-cavity. With this belief, I cannot regard his case as free from the possibility of dangerous consequences arising at any moment, so long as the discharge continues."

To this official report I appended, by way of supplement, the following remarks. "The opinion that the roof of the tympanum in this case is curious, though founded on negative evidence, yet amounts almost to a certainty, since I have never met with a case of similar ear-disease, of such long standing, without this grave complication being ascertained to exist on examination, either during life or after the death of the patient. My experience of similar cases in my own practice, during the last few years, has been both varied and extensive, at all ages and in all stages, most of them as like each other as are two peas. From the fact that many of these cases were met with in very old people (some of them being upwards of eighty years of age), and who all life-long had suffered from this form of ear-disease, and yet had been free from trouble as regarded their ears, except that which arises from discharge and deafness, I am not disposed to regard such cases as necessarily fatal; nor indeed so likely to give rise, for obvious pathological reasons, to affections of the brain or general system, as several other forms of ear-disease readily do. But, while saying this, I do not mean to convey the impression that they are not dangerous. On the contrary, they are highly so; and all the more to be feared, in that the complications that may arise are incalculable as to their results. When a case of this kind terminates fatally, as is not seldom the case, one is astonished at the rapidity with which the fatal issue is approached, and the extensive destruction of the tissues, which subsequent examination reveals. For instance, I saw a case which had continued for many years without showing a bad symptom, save constant otorrhoea, and which remained free from any other one till sixteen days before death took place; after which, examination revealed the most extensive destruction of tissues that I have ever seen as a result of ear-disease. The whole of the tissues forming the roof of the tympanum in that case was completely destroyed, as well as that portion of the temporal bone entering into the formation of the external auditory meatus. Was it conceivable, and if so, is it possible that, in sixteen days (reckoning from the onset of the more violent symptoms till the death of the patient), all this havoc was accomplished? Another fact in connection with the case, which forms the subject of these supplementary remarks, is: the duration and source of the ear-discharge; having existed for so many years, and coming from a part of the ear liable at any moment, from its proximity to important and vital parts, to be associated with dangerous complications, it is not prudent to shut one's eyes to the possibilities of the case. Indeed, for general guidance, it may be laid down and accepted as an axiom that, with an ear-discharge—whether moderate or copious in quantity, continuous or interrupted in its flow, short or long in its duration—*so long as it exists*, one cannot tell where, when, or how the case may terminate. For this reason alone, based as it is upon wide clinical and pathological experience, I cannot venture to predict what may be the future of the present case. The facial paralysis shows that the morbid action has, at some period in its career, implicated the Fallopian canal and its contents;* and this fact adds to the hidden dangers of the case under notice."

"If", I further added, "I may be allowed to make a suggestion, not valueless I hope, it is that, among the questions submitted to applicants for life assurance, the question be directly asked: Have you at any time suffered from an ear-discharge? Doubtless, some of the questions

even now put by insurance companies to those who propose for life-assurance, give to them, as well as to the medical examiner, the opportunity of mentioning or ascertaining this fact, if it had existed or exists; but the beautiful indefiniteness of the question to which I refer more particularly—viz.: Do you know of any other circumstance not comprehended in the above questions that may render the acceptance of your proposal for insurance more than usually hazardous?—leaves a ready loop-hole for deceit on the one hand, or laxness on the other. Even where neither of these alternatives exist or can be entertained, there yet remains the fact that many of the laity, and not a few of our profession, regard an ear-discharge as not only not dangerous, but as positively salutary; in such circumstances, the true significance of this symptom, even when it is known to be present, is always overlooked, with consequences, now and again, that one may easily imagine."

The sequel of the case upon which I have dwelt remains to be told. The company for which I advised declined to accept the proposal, until the gentleman could offer to them satisfactory evidence that his ear-disease was cured. Being dissatisfied and disappointed with the result above related, he went to one of the celebrated German aural surgeons, from whom he received an opinion, which did not afford him more or greater assurance of safety; and it proved quite valueless in the eyes of the insurance company, to whom it was exhibited, as I was informed. Though I do not know the exact nature of that opinion, I am led, from that circumstance, to believe that it essentially corroborated mine. Another office, in which the gentleman was already insured, and had been for nearly ten years, hearing of this rejection, called upon him to resign his policy had from them, on the ground that no mention was made in their contract of assurance that he had a discharge from the ear. Having done so, he had the opportunity given to him to make a new proposal to the same office; this he did, with the result that the directors refused to accept his life on any terms. Recently, I was informed that he had been examined by a medical gentleman, and accepted by another office, which, in the knowledge of the ear-discharge, added a loading of five years to his age. It is but right to add, however, that the medical gentleman who passed him as a sound life for the first office, which afterwards rejected him on re-proposing, was the same who passed him on this last occasion.

It is this case, together with the knowledge that it is not a solitary one in relation to life-assurance experience, which furnishes me with the title of my paper, and gives me occasion to bring the subject thus prominently before the profession, especially before those who may be advisers to insurance offices. For their consideration, I will suggest two questions that may come up in the relation of ear-disease to life assurance. These are: Suppose that an individual, in good general health, with an unimpeachable family history and regular habits, applies to have a policy of assurance effected, who is either perceptibly dull in the hearing or absolutely deaf, without any ear-discharge or lesion of tissue, ought such a one to be accepted as a first-class life? or, it may be, ought such an individual to be accepted at all? Again: Ought one who does suffer or has suffered from an ear-discharge, irrespective of its quantity and duration, and with or without lesion of tissue, be accepted under any circumstances or conditions?

To attempt to reply to these questions, so as to do justice to them and to my own views as to the Etiology and Evolution of ear-disease, is impossible in the limits of a single paper. At the outset, in reply to the first question, we are brought face to face with a difficulty in the absence of a standard of average hearing distance. What, one may ask, is meant by dulness of hearing? About absolute deafness, there is no difficulty; but inasmuch as hearing is a relative function, what one may regard as dulness of it, may, by another observer, be regarded as very fair and good hearing; and further, the statement, not seldom uttered in self-defence by those who are accused of hearing badly, "that there are as many imperfect speakers as imperfect hearers", must not be lightly set aside in the consideration of this question.

Apart from the consideration that, in direct proportion to the impairment of the function of hearing, so is the individual liable to meet with accidents to which others, not similarly affected, are altogether exempt.* Apart from this fact, however, I have to say that as clinical observation, and the balance of probabilities as to the etiology of ear-diseases in general, lead me to the conclusion that all idiopathic ear-diseases

* Since this paper was read, I have examined the ear of a youth aged 16, who died from basilar circumscribed purulent meningitis, arising from a chronic exanthematic catarrh of the tympanic cavity, which had lasted from infancy without a bad or violent symptom, except a continuous discharge from the ear, till two weeks before the fatal issue. In this case, the brain-disease was directly caused by the diseased action in the tympanum being propagated along the Fallopian canal, by the aid of the facial portion of the seventh pair of nerves, which was of a dark colour throughout its entire length. Although there was caries of the mastoid, yet this canal seemed to be the direct channel of communication between the original disease in the tympanum and the fatal disease of the meninges.

* It may be objected to this latter statement, that among those who make up the total number of victims of street-accidents in London, the proportion of deaf people is very small; many accounting for this fact, by saying that those who are deaf have their cautiousness highly developed by their infirmity, and thus are protected in circumstances of danger. On the contrary, deaf people are too conscious of the dangers to which their loss of hearing exposes them, and, with characteristic good sense, avoid all recognised dangers. Of all places, the busy streets of the metropolis are therefore shunned, except by that very small number of those whom necessity or recklessness compel to go thither.

causing deafness, and tissue-changes accompanying them, evolve themselves from a common cause; that the gravity of the various abnormal tissue-changes is determined solely by some of the many predisposing constitutional tendencies which the general organism may inherit or acquire anew; that the possibilities of such abnormal tissue-changes, in degree of gravity, are beyond calculation, so soon as the normal tympanic tension is altered or disturbed, from whatsoever cause, I would recommend that no one who is deaf should be accepted as a first-class life; but the amount of loading ought to be determined by the risks to which his life is exposed by the defective hearing, as compared with that position were he free from all deafness. If there were, in addition, a syphilitic diathesis, or a well-marked catarrhal constitution, under no circumstances would I recommend such an individual to be accepted. In such a case, time and other influences may bring to issue such results, in the tissues of the ears, as are hardly realisable by general practitioners.

In answer to the second question, there is less difficulty in giving a reply; indeed, most assurance offices in this country are following the example of those in America and on the Continent of Europe, which refuse, under any conditions, to accept the proposals of those who suffer from otorrhœa. My own opinion on this point is, that this mode of procedure is too absolute; for there are many cases of ear-disease, with lesion of tissue, in which there are reasonable grounds for saying that, inasmuch as the ear-discharge is simply an excessive secretion from the hypertrophied tissues, or at all events not the result of an ulcerative process, either of those or the underlying bone, it may in a healthy constitution not only not increase, but spontaneously and permanently arrest itself; therefore, such cases should be accepted, with the addition of a small "loading" to the ordinary premium.

Finally, I would urge upon Assurance Companies that the state of the organ of hearing be specially considered in all life-assurance transactions; and especially that the exact pathological condition of the tissues, in a given case of ear-discharge, should be had regard to by their examining medical officers, before recommending the life for acceptance; otherwise time, or, it may be, greater care and better knowledge on the part of a future examiner, may show that this recommendation was to some extent unreliable.

PROTRACTED SUSPENSION OF THE MORAL AND INTELLECTUAL CONSCIOUSNESS IN EPILEPSY.

By EDMUND HOLLAND, M.D., M.R.C.P., F.R.C.S.,
Assistant-Physician to the Hospital for Women, etc.

THE reprieve of Treadaway rankles in the depths of many lay and professional minds, and heavy indeed was the responsibility of those gentlemen whose evidence averted his death on the gallows. The duration of unconsciousness after an attack of epilepsy is very variable, and, in some few cases, exceptionally protracted; and not only so, but during this period the automatic motility may be above par in force, and exerted with the appearance of rational volition. In corroboration of these views, I have briefly to relate the circumstances of a case recently imposed upon my consideration. Mrs. B., a widow aged 32, multipara, dull and lethargic in habit, and a member of a somewhat peculiar family, had epilepsy in childhood; had drunk freely of gin in married life, and to more decided excess in her widowhood. She came on a visit to her friends at 4 P.M., bearing the appearances of her ordinary health, and, whilst taking a glass of ale, fell down in an epileptic paroxysm, which was only partially exhausted when I arrived. After the fit, there was a brief restoration of consciousness to such a degree as to allow her expressing some contrition for her depraved habits; but she soon lapsed into somnolency, and slept somewhat restlessly about eight hours. Upon awakening from this sleep, the intellectual and moral faculties were suspended; her face pale, expressionless, and calm; her eyes rather widely opened, her pupils very sluggish, and the left one contracted; she did nothing she was told to do; shocked all propriety and decency; refused all food, drink, and medicine; but, with the air of a somnambulist, she quietly glided about the house until thwarted, obstructed, or taken hold of, when her force became excessive, quasi-convulsive, and her bearing so threatening as to alarm all around her; it was obvious that any show of provocation or persistent resistance would impel her to acts of extreme violence. She remained in this condition for thirty hours before she recognised her friends or accepted food, and then complained of severe headache, which was eventually relieved by sleep, conciliated by chloral and bromide of potassium, leaving her much in her usual health, but utterly unconscious of the seizure, or of its subsequent automatic phenomena.

Commentary.—The medico-legal teachings of this case are of considerable importance, and may aid in the solution of the want of motive frequently mystifying the elucidation of great crimes. The protracted unconsciousness, associated with the capacity of exerting exaggerated muscular force, the easily induced rage, and the ability to see and to hear, rendered her an extremely dangerous animal machine, to which suicide might readily have accrued as an accident, and by which homicide was clearly possible under irresponsible cerebration, when any obstruction to its automatic progression supervened.

PECULIAR WOUND BY A KNIFE CAUSING SPEEDY DEATH.

By CHARLES E. HOAR, M.B.Lond., Physician to the
West Kent General Hospital, Maidstone.

ON January 9th, 1877, about 4.30 P.M., Mr. Guy was sitting at dinner opposite his wife at a table three feet square, when, in a moment of passion, Mrs. Guy stood up with a carving-knife (the blade of which was eight inches in length, and sharp, through wear, at each edge), and threw it at him. It entered the left side of his neck: he snatched it out at once, got up from the table, and walked up stairs, bleeding freely, sat on the edge of his bed, and died within thirty minutes after receiving the wound.

When seen, half an hour later, his face was pale; the pupils were widely dilated; his tongue was pressed forward between the teeth; bloody froth was in and exuded from the mouth and nostrils. A small wound was visible on the left side of the neck, from which dark blood was oozing.

Post Mortem Examination Twenty-one Hours after Death.—There was slight rigor mortis. The body was well nourished and of healthy appearance. There was a punctured oblique wound, three-quarters of an inch in length, in the skin of the left side of the front of the neck, anterior to the sterno-mastoid muscle, three inches (in an extended position) above the sternal end of the clavicle. On removing the skin, the left anterior jugular vein was found to be perforated vertically, and empty of blood; the left sterno-hyoid muscle was cut through diagonally. There was extravasation of blood in and around this muscle. The left sterno-thyroid muscle was cut through; the first and second cartilages of the trachea on the left side of the front were obliquely cut through, and the lower part of the second cartilage was also perforated towards the back on the right side. Some small deep veins at the base of the neck on the right side were wounded; and there was considerable extravasation of blood directly connected with the posterior aperture in the trachea. The wound penetrated between the bodies of the vertebrae and the inner side of the anterior part of the first rib (nearly wounding the right pleura) to a distance of five inches (in an extended position) from the skin. The thyroid gland was large, but uninjured. The carotid artery and internal jugular vein of each side were also uninjured. The bronchi were full of dark blood. On opening the chest, the lungs did not collapse: they were pale in front, but distended with frothy blood and air. The large veins of the chest and right cavities of the heart were full of dark fluid blood. The left cavities of the heart were empty, and ventricle firmly contracted. The stomach contained dark matter.

The case is interesting in many points. The cause of death was undoubtedly suffocation, in consequence of the blood flowing into the trachea, principally through the posterior aperture, and filling the bronchial tubes. Whether syncope from loss of blood accelerated the decease or not, it is hardly necessary to inquire, as the suffocation must have soon occurred. It is said that he spoke a few words after he went up stairs. The very small external wound, the depth which the knife penetrated, the transfixion of the trachea, and the immunity from injury of the carotid arteries and internal jugular veins, were peculiar features of this case.

It is attested by a witness sitting at the dinner-table at the time of the event, that the handle of the knife left the hand of Mrs. Guy before it entered the neck of her husband. The knife, being two-edged, resembled a short dagger, which accounts for the severity of the wound.

The Bill indicting Charlotte Guy for the murder of her husband was thrown out by the Grand Jury at the recent Assizes. She pleaded "Guilty" to the charge of manslaughter, and was sentenced by Sir Wm. Balfour Brett to ten years' penal servitude.

JAMES FREDERICK WHITE, herbalist, member of the Leeds Town Council, and an ex-member of the Board of Guardians, was, on the 8th instant, fined twenty shillings for refusing to have his children vaccinated.