be more benefited by mercurial treatment than if it was adopted without the application of such primary measures. We now have to administer mercury in the form of calomel, combined with opium, in such quantities as will speedily affect the system; otherwise, if lymph has not already been effused, it will speedily make its appearance, or if it has been poured out, and we do not set to work to cause its speedy absorption, it will soon effect destructive mischief. If the patient had not been relieved by the depletion, he will very quickly be so by the mercurial action, and his sight, if not previously destroyed, will be as quickly to a certain degree improved. We give two grains of calomel and half a grain of opium twice or three times in the day, but less of each if the patient is very weakly. Sometimes we substitute the bichloride of mercury with sarsaparilla, or we may order blue pill, or mercurial inunction. Fresh extract of belladonna should be applied all around the eye, and be washed off morning and night, and then be reapplied; and warm fomentations, such as poppies, chamomile, or hops, &c., may be applied.

Many patients apply to us after having suffered from prolonged attacks of iritis, and who have been only treated by antiphlogistic measures and common aperient medicines. These generally have permanently-contracted pupils, with synechia; and this is even a more favourable result than might with truth be depicted. Where depletion has been carried to excess, and the patient applies to us with synechia, lymph effused, a dull iris and cornea, and he seems unable to bear salivation, or an approach to it; we sometimes succeed by giving minute doses of the mercury and chalk two or three times a day, or oftener; the bichloride, as I mentioned just now, in minute doses, with sarsaparilla or bitter infusions; and by simultaneously supporting his powers dietically. The mercury and opium ointment may be rubbed into the temple at night, or laid on as a plaster, if there is much nocturnal pain. Great authorities have differed much as to the action of mercury in these cases, some believing that it will alone arrest the deposition of lymph, and cause its absorption; whilst others still maintain this opinion—that mercury has no such direct power, but that the lymph is removed, because the inflammation which caused its effusion has been arrested. Some years since we tried the turpentine at the Ophthalmic Hospital, in consequence of what Mr. Carmichael had written and said on the subject; but it did not succeed with us, although fully tried for some time, and therefore we abandoned it. Mr. Carmichael published several of his cases which he had treated with turpentine successfully. He gave drachm doses three times a day, in almond emulsion; and sometimes he ordered much larger doses; and he gave linseed-tea and camphor julep, to prevent the occurrence of strangury; also he added something to counteract the acidity of the stomach liable to be produced by the turpentine; and he thought that the urgent head-symptoms, which are generally supposed to require depletion, were relieved by this turpentine mixture, even without depletion. As in simple, so in syphilitic iritis, we order bleeding and mercurialization—the former not to such an extent as in the simple form, and the mercury must be administered with great care, and yet the system must be placed well under its influence before you can expect to effect any good. Anodyne frictions and opiate plasters to the temples, and at a later period blisters, are useful. Relapses often occur after these forms of iritis.

Of the treatment of pseudo-syphilitic iritis I have already spoken this evening. I also mentioned the gonorrhœal form of this disease: the conjunctiva and sclerotic become very highly coloured, the cornea becomes very quickly hazy and dull at its posterior surface, and the iris is very soon affected on its anterior surface; the pupil becomes contracted, and lymph is gradually effused very abundantly, so as to block up the pupil, and even sometimes it fills the whole anterior chamber. The pain, intolerance of light, and epiphora, are present now as in other cases. There is not any puriform discharge from the conjunctiva. Purging, venesection, and calomel and opium, are at once necessary; and counter-irritation at a later period.

Rheumatic iritis requires also very generally a certain amount of depletion, general or local. There is usually some fever present; but here, again, we must have recourse to calomel and opium, or Dover's powder, in moderate quantities, at night. Some effusion remains in many cases. Colchicum or quinine, in different cases, are highly desirable; we join the former with an alkali and bitter infusion, the latter in pills, and, at a later period, in gentian and lime-water, or bark combined with soda; the diet must be very carefully attended to, as also the state of the bowels. The patient may drink

freely of nitre and barley-water, or other similar diluents. The patient should strictly confine himself to his house, and avoid, by every means in his power, the taking cold. Sometimes the patient is much relieved by having his head enveloped in dry flannel, so sensible is he to every change of temperature or to damp.

Arthritic iritis requires a very similar treatment to that which benefits the rheumatic form. Depletion and mercury must not be carried to any excess. Tonics, counter-irritation, warm frictions, and anodynes, bark and soda, and the other forms of medicines that I have suggested for rheumatic iritis; I have already described to you the treatment of scrofulous patients, when they suffer from attacks of primary iritis. You will have observed, that mercury has been advocated by me in different proportions, and with different adjuncts for every form of iritis; and the more I see of this disease, the more fully convinced am I, that we should not be safe in treating the majority of these cases without it, although I would not for a moment cast a doubt on the correctness of the statements on the other side of the question.

[ERRATA.—In the last lecture the following errors occur, which our readers are requested to correct with the pen:—Page 5, line 11 of the lecture, for "this" read "the;" p. 6, col. 1, line 17, for "disease" read "diseases;" line 43, for "ophthalmic pain" read "ophthalmia, pain;" line 62, for "tonic" read "wine;" col. 2, line 22, for "some" read "tonic;" line 24, for "conical" read "corneal;" p. 7, col. 2, line 16, for "one often sees" read "we often see;" line 34, for "no vessels" read "red vessels."]

ON THE NECK AS A MEDICAL REGION; EFFECTS OF EMOTION; MORBID ANATOMY; AND A TABLE OF PAROXYSMAL SEIZURES.

By MARSHALL HALL, M.D., F.R.S., &c.

ESSAY SEVENTH.

I HAVE watched a case in which mere *blushing* has been repeated, has become intense, and has even passed into an epileptoid affection.

I have watched a case in which fear—the fear of cholera, induced the most intense epileptoid seizures.

That action of the muscles which almost constitutes the phenomenon designated *expression*, is, in reality, the faintest shade, or type, of epileptoid affection, into which it may even pass; whilst the phenomenon so well known by the terms *blushing* and *flushing* is the faintest shade or type of the congestion resulting from the epileptoid seizure.

Shame usually suffuses the cheek, but I have observed that suffusion to pass over the head, the neck, and the thorax.

Anger suffuses the countenance even to lividity, and affects the deeper-seated tissues even to apoplectic or epileptoid congestion.

Intense fear, even whilst it depresses the power and action of the heart, induces a ghastly pale lividity, and congestion of the countenance, a condition which, being extended to the tissues within the cranium and spinal canal, especially the latter, may lead to the epileptoid seizure.

Amongst the most remarkable phenomena of the emotions is the laryngismus and pharyngismus, or *choking*, which so constantly occurs in them, marking, as it were, the Neck, as the region or seat of their operation.

It is remarkable how specific the effect of this trachelismus is, in different instances. I saw a case, a few days ago, in which, with the well-founded fear of a seizure, arising from the sensations induced, one eye and eyelid became the subject of a permanent congestion, seen in the livid hue of the conjunctiva, and the permanently enlarged state of the veins of the eyelid. In other cases, the cerebrum may be chiefly affected, as in noiseless sleep; in others, the medulla oblongata, as in stertorous sleep, in laryngismus in its varied forms, and in pharyngismus. Nay, one patient may have an affection of the optic nerve, as *muscae*, or *flocci*; another of the acoustic, as *tinnitus*; a third of the olfactory, as the odour of musk; a fourth of the nerves of touch, as the *aura epileptica*. I need not describe the varied forms, as well as the degree, of the actual seizure. It is alike in no two patients, but in the same patient it is generally the same.

Everything seems to be special: the kind of exciting cause; the kind of the resultant effect; the part, or the organ chiefly affected.

It any observant person will watch, he will discover as much of *expression* in the Neck as in the face. Even the head itself is proudly erect, indignantly averted, or humbly or modestly depressed by the various emotions. Laryngismus,

pharyngismus, are *felt* by the patient, and trachelismus is *seen* by the physician, even in the milder cases of emotion or passion. I have just witnessed a scene of this kind: a boy of ten or twelve was parting with a near relative; at the moment of separation, his bare neck exposed the contraction of the genio-hyoid, and other muscles of "The Neck," with quivering of the chin, and an ill-concealed flow of tears. Mr. Bryant observed the same action of the genio-hyoid in a case of epileptoid affection.

It is singular that Sir Charles Bell, in his "Anatomy of Expression," should have entirely omitted to notice the muscular and other phenomena in "The Neck." In the severer cases of spasmodic malady, the action of the platysma myoides, of the cleido-mastoid, of the omo-hyoid even, of the trapezius, is readily traced by the anatomist.

In thin persons, even the omo-hyoid may be seen or felt in spasmodic action, crossing the inferior triangular space obliquely, in its course from the scapula to the os hyoides. This day I have witnessed this phenomenon with Mr. Henderson, of Portman-place, in a relation of his. Each action of the muscle was visible, sensible to the touch, and attended by a sense of *choking*! A similar occurrence was detailed to me, illustrated by a pencilled sketch, by Mr. Bryant, of Bathurst-street. The same sketch represents the jugular vein, not only distended, but actually dilated into a bulbous form by the action of this muscle and of the cleido-mastoid, in the superior triangular space.

Two patients have, independently of each other, described the feeling of a "*spike*" in the midst of the muscles of *The Neck*.

The compression and distention of the jugulars are obvious in themselves and in their visible effects; the condition of the vertebral can only be inferred by the symptoms produced. But these are not equivocal. The external jugular conveys the blood from the part and organs seated externally to the cranium; the internal performs the same office in regard to the encephalon generally, and the vertebral, in regard to the base of the cranium, and the superior portion of the spinal canal. Let pressure of the first distend the face; that of the second, the veins of the cerebrum; that of the third, those of the medulla oblongata: external tumefaction and lividity, cerebral irritation, congestion, and stupor; irritation or congestion of the medulla oblongata, with spasms or laryngismus, are the varied results—results which may occur distinctly or combined. Indeed, however we may endeavour to view these effects distinctly, they are both—as to the active agents, the muscles; or the passive subjects, the veins, involved in them—usually found in varied combination.

The whole question must be submitted to careful dissection and experiment, as well as observation. The inquiry would form an apt continuation of that of Sir Astley Cooper, published in *Guy's Hospital Reports*. Sir Astley Cooper's experiments were merely limited to the effects of obstruction to the *arteries* and *nerves*. But he already arrived at the conclusion that the vertebral was of still greater importance than the carotid. The inquiry in which I propose to engage would not only determine the relative value of the vertebral and the jugular veins, but the nervous centres and muscular organs affected by each of these, and the degree of influence induced by obstructed artery and obstructed vein, obstructed arterial flow and obstructed venous return, respectively and comparatively. We already know which kind of vessel and which kind of function is most liable to be affected during life and in the human subject.

I have thus traced the effect of emotion and passion, to which I may add *attention*, on the nervous centres, and the muscular and venous systems. Diseases so seated within the cranium, as by contact, pressure, or counter-pressure, to irritate the medulla oblongata, (and diseased states of the blood,) act in a precisely similar manner. This action is centric and *catastaltic*. The irritations—dental, gastric, intestinal, uterine—produce similar effects, through ex-centric or *diastaltic* action. There is much in this statement to awaken inquiry, both as to the origin and the remedies, of this *Class* of diseases.

I now proceed to treat of another question. What is the precise effect of obstructed veins on the blood-channels situated intermediately between these vessels and the arteries?

In the face, which we *can* observe, we see flushing, lividity, tumefaction, and sometimes permanent minute *ecchymoses*. Let us take these as indications and types of what occurs in the deeply-seated tissues of the encephalon. These tissues become equally gorged with venous blood—congested, tumefied, with serous effusion, *ecchymosed*. The congestion is seen in the fulness of the veins, and in a venous hue; the

tumefaction in the *flattened* condition of the cerebral convolutions, and in the symptoms of counter-pressure; the serous effusion, under the arachnoid and in the ventricles; the *ecchymoses*, in the numerous "*red points*" of various size, from which we are led, by one step, to explain laceration of the cerebral tissue, the existence of a "*clot*," or the origin of "*softening*!"

Why these effects should, in some instances, be perfectly general, in others circumscribed, it would be difficult to determine. We observe this effect in the face (I have already noticed a case in which one eye was chiefly affected) as well as in the encephalon. The special vein chiefly obstructed may have its influence, a fact which may perhaps be determined by injections; the peculiarity of tissue, or of the cause of the affection, emotion, or irritation, and their speciality, may have theirs. Œdema and discoloration depend on infiltration or endosmosis; softening results from disintegration.

From all these observations my reader will readily perceive the relation and alliance between apoplectic and epileptoid and paralytic affections. The difference is one of *seat* rather than of *kind*; all may be *paroxysmal*; though for obvious physiological and pathological reasons, the epileptoid affection is more frequently so than the other.

Let us suppose the condition of the cerebrum which I have described; it may be pure congestion, and may subside promptly, with its effects, whether apoplectic, epileptoid, or paralytic; it is *paroxysmal*; or it may combine *ecchymoses*; it will then subside much more slowly, perhaps less perfectly, or it may involve a small clot, or a circumscribed softening; the paralysis will then be *persistent*.

The question, then, of paroxysmal, or of persistent, paralysis, is one of intra-vascular or of extra-vascular affection, and it is of the utmost moment.

I have seen many cases in which the paralysis was paroxysmal and evanescent. In the case of epileptoid attack to which I have alluded as having its origin in the fear of cholera, there was hemiplegic paralysis of the right leg. It disappeared; but the patient never perfectly lost a feeling of some kind, either of numbness or of weakness in that limb. After two attacks from fear, a third occurred after dining on cold beef; and proved fatal. On a post-mortem examination, a small clot was found occupying the left corpus striatum.

But perhaps the most interesting case I have seen is the following:—

On May 21, 1850, I was summoned to see a gentleman, aged about fifty-five, recently returned from thirty years' service in India.

I found him affected with violent convulsion of the *right* side, especially of the cleido-mastoid, and of the arm; slightly of the leg. There was a state of unconsciousness. We gave half a drachm of ipecacuan, and of the bi-carbonate of potass, repeating them in twenty minutes. During the nausea and sickness *all* spasm subsided; but it returned in a slight degree as this nausea and sickness subsided. In a few hours afterwards it entirely disappeared. The right *arm* was left powerless, the *leg* feeble.

Mr. B— was put under the influence of mercury and purgative medicine. The arm greatly recovered its power; the leg almost perfectly. This amendment continued three days.

Still the recollection was impaired, especially if a question were put to him, and he denied that he *felt* any better.

At length the memory and the arm and leg became *again* feeble, without any assignable cause, and the pulse descended to 42 in a minute.

A day or two later there was hiccup, with the same slowness of pulse, and perfect paralysis of the arm.

My patient gradually sank without any new attack or symptoms, the hiccup disappearing, and the pulse becoming frequent.

On examination, the convolutions of the left hemisphere was found flattened, and a large circumscribed venous-coloured portion of the brain was seen, occupying the *left thalamus*, and extending across, rather deeply, into the right. It appeared to be congestion. In no part was there effusion; but in the centre there was a moderate-sized dirty yellowish portion, perfectly softened and pultaceous. A small portion of similar diseased condition existed in the pons Varolii, in contiguity with the medulla oblongata. There was a moderate quantity of turbid fluid in the ventricles.

I had ventured to foretel the existence of disease, affecting by irritation, pressure, or counter-pressure, the medulla oblongata.

This gentleman had been observed to lose his memory

[Our readers will continue on the *second* column of the opposite page, omitting the table which fills up the *first* column, and which is referred to at the end of the Essay.]

TABLE OF PAROXYSMAL SEIZURES.

Types—1. *Blushing*; 2. *Sick-headache*.

I. THE CAUSES.	II. THE MODE OF ACTION.	III. THE MEDIUM OF ACTION.	IV. TRACHELISMUS—usually Torticolis.	VI. SPECIAL PHEBISMUS—of	VIII. CONGESTION—of	IX. THE SYMPTOMS.	X. SPINAL ERETHISM—	XI. PREVENTION, TREATMENT—consisting in
1. 1. Emotion, Excitement; 2. Intra-cranial Disease*; 3. Abnormal Condition of the Blood; 4. Sleep;	Catastaltic,	1. The Facial— 2. The Spinal Acces- sory—1 3. The Descendens Nervi—2 4. The Spinal— Nerves.	1. The Platysma myoides; 2. The Cleido-mastoid, 2 the Omo-hyoid, &c.; 3. The 1 Trapezius, the Scaleni, &c.; 4. The Subclavian;	1. The External Ju- gular— 2. The Internal Ju- gular— 3. The Vertebral— 4. The Subclavian— Veins.	1. The Face, Eyes, &c. suffusion, ecchy- mosis, distended veins; 2. The Cerebrum; echymosis—red points, or clot; softening; 3. The Medulla oblongata; 4. The Hand; lividity, distended veins.	1. Flocci; tinnitus; 2. Headache; vertigo; oblivium; stupor; delirium; stertor, laryngeal or nasal; 3. Falling; nutatio; loss of speech; paralysis of the hand; hemi- plegia; 4. Spasm; torsion of face, eyes, Neck, limbs; 5. Bitten tongue, lip, or cheek; 6. Convulsion, gene- ral or partial; ex- pulsion of urine, faeces, semen; 7. Spasmo-paralysis; 8. Syncopal seizure.	With augmented Susceptibility to Returns.	1. Avoiding the Exciting Causes; 2. Removing Erethism; 3. Removing Congestion; 4. The use of Specific Remedies.
II. 1. Dental— 2. Gastric— 3. Intestinal— 4. Uterine— 1. Catamenial— 2. Puerperal—	Irritation; Diastaltic,	1. The Trifacial— 2. The Pneumo- gastric— 3. The Spinal— Nerves,						
		1. The Recurrent— 2. The Intercostal— 3. The Abdominal— Nerves.	V. LARYNGISMUS— with Efforts of Expiration.	VII. GENERAL PHE- BISMUS†.				

* Or this cause may act diastaltically through the meningeal branches of the Trifacial; see Arnold.
 † This is also induced in extreme disease of the Heart with impeded "arriere" circulation.
 ‡ The epileptoid paroxysm exhausts the excitability; the patient is therefore safe for a time, except there be the presence of a powerful exciting cause. Afterwards re-action takes place, which proceeds to excess, and there are augmented excitability of the spinal centre, and susceptibility to renewed seizures. The type of all this is presented by experiments. With this erethism, there is augmented excitability of the larynx, so that exposure to the north-east wind or drinking cold water induces laryngismus.

during the previous winter, an effect chiefly seen in errors in his accounts, and in altered modes of conduct, the effect, I suspect, of a seizure unobserved.

Could the congestion found on examination be first the effect, and afterwards the cause, of epileptoid seizure; being diminished for a time by the sickness and purgation, but yielding afterwards to softening?

Is mere congestion in such a case accurately indicated by paroxysmal, and softening, by persistent paralysis?

It will be remembered that in the case arising from the fear of cholera, the first malady was distinctly epileptoid.

In my next paper I purpose to trace the phases of the affection commonly designated "sick-headache," from this form of malady, usually regarded as of trifling import, into the epileptoid seizure.

I conclude this essay by referring my reader to the foregoing TABLE OF PAROXYSMAL SEIZURES, the result of much persevering research. Esquirol observes—"Les symptômes de l'épilepsie sont tellement extraordinaires; tellement au dessus de toute explication physiologique; les causes de cette maladie sont tellement inconnues, que les anciens ont cru qu'elle dépendait du courroux des dieux."—(Des Maladies Mentales, t. i. p. 274.) If I have made that, which has been hitherto so obscure, clear and intelligible, and even obvious, the great object of my labours is attained.

My future papers may be regarded as commentaries on this Table.

ON THE DURATION OF PREGNANCY IN THE HUMAN FEMALE.

By JAMES REID, M.D.,

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(Continued from page 598, vol. i.)

Sui juris rerum natura est, nec ad leges humanas componitur;
 Modò properat, modò vota præcurrit, modò lenta est et demoratur.
 SENECA.

AFTER a careful examination of the foregoing instances of very prolonged gestation, the conviction forces itself on the mind, that in the great majority of them there were cogent reasons on the part of the women for intentional deception, whilst in the others, various sources of error have been pointed out, which probably led the patients to deceive themselves, and we cannot therefore allow such very exceptionable cases to weigh against the present experience of the whole medical profession.

But if we narrow the question by limiting the inquiry as to whether the usually-received period of gestation may not occasionally be exceeded to the extent of some days, we shall then enter upon a field which may be fairly contested.

In the Gardner Peerage case, which led to more discussion on the point in this country than any other recent trial, we find that five of the medical witnesses only were opposed to protracted gestation. Sir Charles Clarke gave forty weeks as the usual period, and as the extreme period after the last sexual intercourse. Mr. Pennington gave a latitude of three days beyond the forty weeks; but at the same time made the extraordinary assertion, that "we are never hardly deceived in our calculations as to the time of conception." Dr. Gooch stated that a term of forty weeks exceeds the usual limit of pregnancy, and that, dating from the last intercourse, the period is generally less than nine calendar months. Dr. R. Blegborough's evidence also was for a period of thirty-nine weeks, or 273 days. Forty weeks he regarded as the "ultimum tempus." Dr. Blegborough "relied much on peculiar sensations experienced at the time of conception, reckoned from that event, and was always right in the calculation." Dr. D. Davis's experience was likewise for "nine calendar months," as nearly as possible, and he should rather incline to one or two days within that period than beyond it. Dr. Davis also relied upon "particular sensations" as to fixing the date.

On the other side of the question, or as evidence for a protracted gestation, appeared Drs. Granville, Conquest, Merri-man, H. Davies, Dennison, Hopkins, J. Blundell, Power, and some others. The experience of these eminent practitioners went as to the usual period being 280 days, but that it might be prolonged occasionally for some days; whilst it was stated by Dr. Power, "that gestation may extend to eleven calendar months, if not longer." Many of the cases adduced were unable to stand against the cross-examination of the opposing counsel, and the female witnesses who attended to prove the possibility of very protracted gestation, by their own cases,