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Fig. 1.

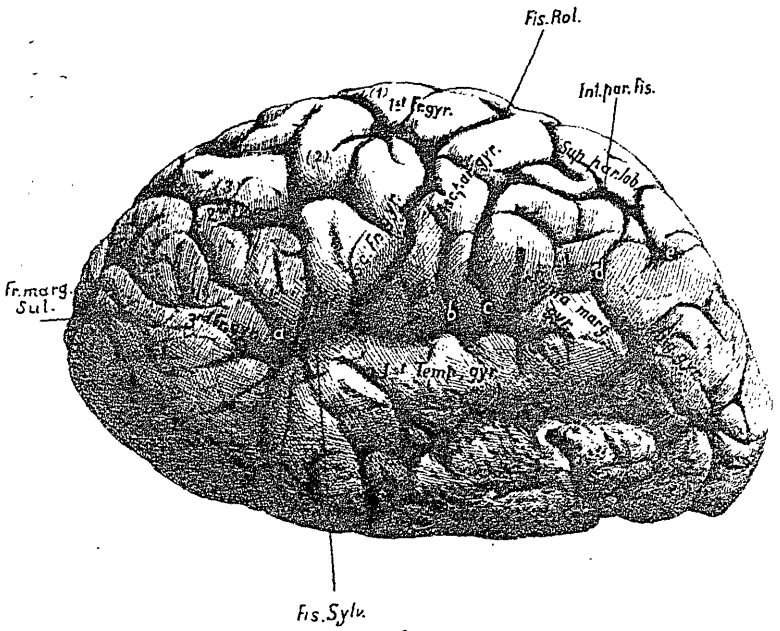
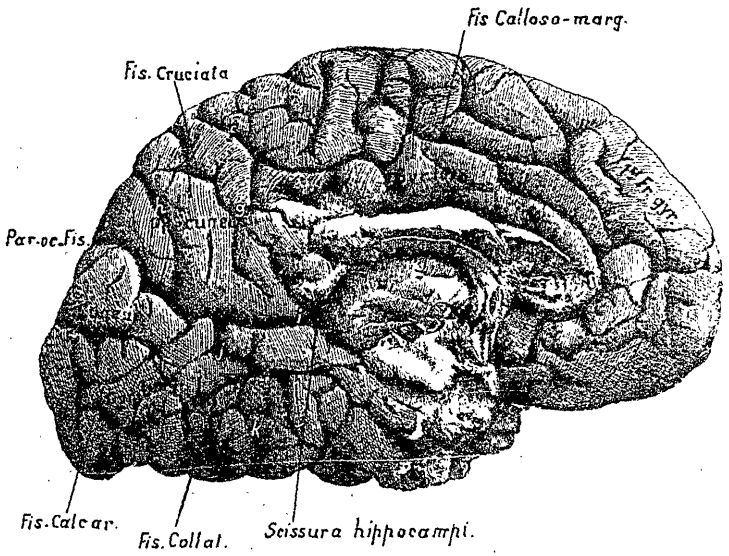


Fig. 2.



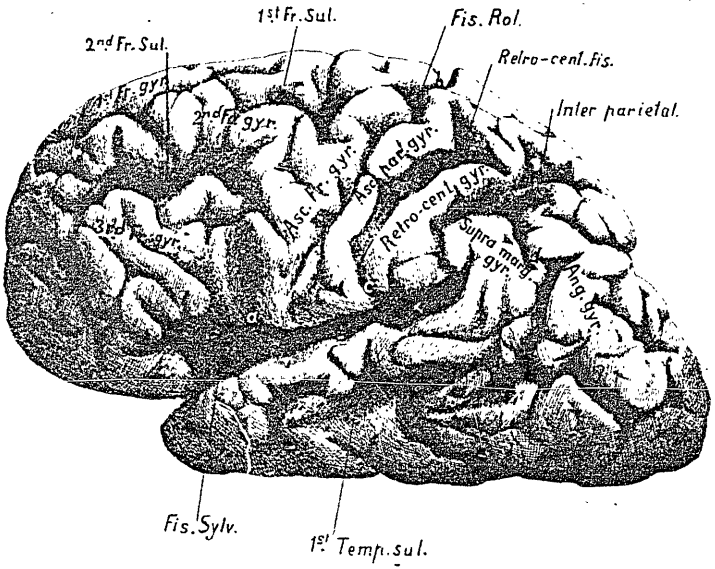
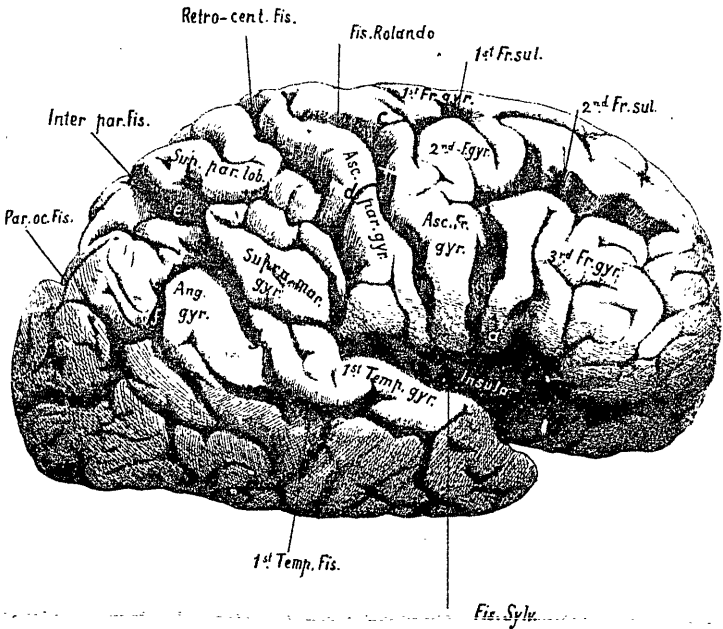


Fig 4



CANADA
MEDICAL & SURGICAL JOURNAL

FEBRUARY, 1882.

Original Communications.

ON THE BRAINS OF CRIMINALS.

WITH A DESCRIPTION OF THE BRAINS OF TWO MURDERERS.

(PLATES I. AND II.)

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[*Read before the Medico-Chirurgical Society of Montreal.*]

Mentally and bodily, we are largely the result of an hereditary organization, and the environment in which we have been reared. The child of a bushman nurtured in the family of a philosopher will not be able, with favourable surroundings, to rise much above his race level; the child of a philosopher, reared among the bushmen, will not reach his paternal standard, but the grossness of the savage natures around him will have weight to pull him down, and what is fine will learn to sympathize with the clay. In the former case, the individual cannot transcend his organization; and in the latter, he cannot burst the iron bars of his environment. That the mental and moral status of a man is determined by the conformation and development of his brain is an axiom with the school of physiological psychologists. The conformation is a matter of inheritance; the development, of education (in its widest sense). The different mental conditions of individuals are the expression of subtle differences in cerebral structure, just as the diversity in the features of men is the result of minute variations in the arrangement of the tissues

of the face. That a faulty physical basis can have no other sequence than a faulty mental and moral constitution is acknowledged and acted upon by every one, so far as idiots and imbeciles are concerned, but that mental and moral obliquity is invariably the outcome of an ill-conformed or ill-developed brain is a doctrine novel and startling, though logical enough from the standpoint of modern physical fatalism. Endeavours have recently been made to put this theory on firm grounds by showing that in a large number of criminals the type of brain differs from that in the law-abiding members of the community.

Anatomists and physiologists have of late paid much attention to the conformation of the brain surface, and the convolutions and fissures are now studied with care and minuteness. In a typical European brain, the cerebellum is completely covered by the cerebrum, and the general arrangement of the gyri and sulci is such that there is rarely any difficulty in mapping them out and assigning their proper names to each. Thus on the external surface of each hemisphere we recognize two fissures which are constant and invariable in position—the *fissures of Sylvius and of Rolando*, (*central sulcus*.) Other fissures constantly present, but less definite in their arrangement, are: the *inter-parietal*, which passes through the parietal lobe, the *parieto-occipital*; separating the parietal and occipital lobes, best seen from the median surface, the *superior* (1st), *inferior* (2nd), and *ascending* (3rd) frontal sulci and the 1st and 2nd *temporal*.

On the median surface, the *calloso-marginal*, the *parietal-occipital*, the *calcarine* and *collateral* are well marked and distinctive.

The convolutions or gyri separated by these fissures are remarkably uniform, and, though often intersected by subsidiary sulci, can usually be determined without difficulty. Of these, the only ones which need be now mentioned are the three frontal, 1st, 2nd and 3rd; the general direction of which is parallel to the longitudinal fissure and the two central gyri which bound the fissure of Rolando on either side.

In the typical brain the main fissures are unconnected with each other; thus the fissure of Rolando is isolated and does not

unite with the Sylvian fissure below, or the ascending frontal or ascending parietal sulci on either side. The Sylvian fissure does not join with any of the sulci above or below it.

Prof. Benedikt of Vienna has made a special study of the brains of criminals,* and believes that he has met with peculiarities sufficiently marked to warrant the following proposition: "*The brains of criminals exhibit a deviation from the normal type, and criminals are to be viewed as an anthropological variety of their species, at least amongst the cultured races.*"

The two peculiarities on which he lays stress are (1st) the confluence of many of the primary fissures and (2nd) the existence of four horizontal frontal gyri. He proposes to establish a confluent fissure type of brain, and he illustrates its most important characteristic by saying, "that if we imagine the fissures to be water-courses, it might be said that a body floating in any one of them could enter almost all the others." This, of course, means the absence of numerous bridges of nerve matter which normally separate the fissures—defects, marking an inferior development of the brain. Between the normal type with isolated fissures and the type with confluent fissures there will naturally be transitions, but he calls attention to the number and variety of the connections in his series of the brains of 22 criminals as supporting the truth of his proposition. He states that the brains of individuals in the lower grades of society approach nearer to the 2nd type, and it is probable, though, as yet, full data are wanting, that the brains of the inferior races of men also conform more closely to this than to the type with isolated fissures. Let us see now how far he has been able to establish the truth of this view. Of 38 hemispheres from the 22 criminals the following were some of the most interesting points:—

I. The *fissure of Rolando* communicated with:

- (a) *fis. Syl.* completely in 18, incompletely in 6.
- (b) with *3rd* or *ascending frontal*, complete in 11, incomplete in 2.

* On the Brains of Criminals, Vienna, 1879. Translated by Dr. Fowler. (Wood & Co., New York, 1881. *Cent. f.d. med. Wissenschaften*, 1876, and No. 46, 1880.

(c) with the 1st or *superior frontal sulcus*, complete in 9, incomplete in 1.

(d) with *inter-parietalis*, complete in 7, incomplete in 4.

Of the 19 brains there was not one in which the *fissure of Rolando* had not on one side a connection with some other fissure. Altogether there were 58 connections, 35 on the left and 23 on the right side.

II. The *Sylvian fissure* communicated with :

(a) *fis. R.* in 18 completely, in 6 incompletely.

(b) with *frontal sulci* in 18, incomplete in 7.

In 7 brains it existed on both sides ; only absent on both sides in 3.

(c) with *fis. inter-parietalis* in 22, incomplete in 6.

(d) with 1st *temporal* in 18, incompletely in 4.

III. The *fis. inter-parietalis* communicated with :

(a) *fis. R.* complete in 7, incomplete 4.

(b) *fis. Sylv.* complete 22, incomplete 7.

(c) 1st *T.* complete 19, incomplete 6.

In the 38 hemispheres there were 51 complete and 16 shallow connections of the *inter-parietalis*.

IV. The *scissura hippocampi* communicated with :
parieto-occipital, complete 17, incomplete 2.

V. The *calloso-marginal fissure* :
with *parieto-occipital*, complete 8.

VI. The *parieto-occipital* :
with *inter-parietalis* and *horizontal occipital*, complete 21,
incomplete 6.

These were the most important connections ; the others I shall not refer to.

The second peculiarity which Prof. Benedikt has noted in the brains of criminals is the existence of 4 horizontal gyri springing from the ascending frontal or anterior central convolution. This he regards as an animal similarity, and a reversion, so to speak, to the typical four primitive gyri of the brains of carnivora. The fourth gyrus is formed by the splitting, by a deep fissure, of either the 1st or 2nd convolution. In his latest communication

on this point,* the results are given of the examination of 87 hemispheres (from 44 criminals), of which only 42 presented the normal type of frontal convolutions, and 27 showed four gyri. In these the additional gyrus resulted in 8 from the splitting of the superior; in 16 from the division of the middle convolution. In 13 there was an imperfect division into four gyri. In two hemispheres there were five frontal convolutions.

Through the courtesy of Dr. Desmarteau, Jail Surgeon, I was present at the autopsy, and secured the brain of the man Hayvern who was executed for the murder of a fellow-convict; and the Department of Justice permitted me to secure the brain of Moreau, who was executed at Rimouski.

I.—Hayvern, aged 28, was a medium-sized man, of no trade; Irish descent; parents living, and respectable; no insanity, inebriety or neurotic disease in the family. He had been a hard drinker, and as a child was stated to have had fits. There is no evidence of the recurrence of these in adult life. He was serving a term in the Penitentiary, having been sentenced for highway robbery in 1879. He had previously been in jail more than twenty times, and may be taken as a good representative of the criminal class. The details of the murder show deliberation, and there was no evidence to show that the act was performed during a paroxysm of epileptic mania.

The skull was somewhat ovoid in shape, dolicho-cephalic; the forehead rather low and retreating. The calvaria was of moderate thickness; no signs of injury, old or recent.

Brain, last organ examined. Pl. I.—Vessels were empty; drained of blood by the opening of the vessels of the neck, both in front and behind. Membranes were normal. Weight of organ, 1326 grammes (46½ ozs.) Cerebellum completely covered by cerebrum. I obtained the left hemisphere for special study, and the details of its structure are as follows:—

Antero-posterior diameter.....	16.5	cm.
Hemispheric arch.....	24.8	"
Anterior curve (tip of Fr. lobe to Fis. Rol.).....	14	"
Middle curve (from Fis. Rol. to Par.-occip. Fis.).....	6.2	"
Posterior curve (from Par.-oc. to tip of Occip. lobe) ..	4.8	"

* *Centraltb. f.d. med. Wissenschaftl.*, No. 46, 1880.

Sylvian fissure (Fig. 1), in addition to the normal *ascending* and *horizontal* rami, presents a radial branch which passes into the *frontal gyri* (*a*), a short radial extension into the *asc. parietal* (*b*), and a shallow communication with *retro-central sulcus* (*c*).

The *fissure of Rolando* (F.R.) or *central sulcus* is separated from the F.S. by a very narrow bridge of brain substance. It has no other connections.

There are four well-marked *frontal gyri* [1, 2, 3 and 4]; the extra one (2) appears to be formed by the splitting of the *superior* or *1st gyrus*, though its base, where it joins the *asc. front. gyrus*, is in the position of the *middle* or *2nd. fr. gyr.* As can be seen in the plate, there are two radial sulci which pass from a point just behind *asc. ramus of fis. Sylv.* and ascend almost to the *long. fis.* They are deep, and the hinder one has a crucial extension in the position of the *2nd fr. sul.*

The *sulcus inter-parietalis* presents a well-marked radial portion which passes up behind the ascending parietal convolution in its whole length (*asc. pariet.* or *retro-central sulcus*); the sagittal part passes back into the parietal lobe and divides into two branches, one of which (*d*) curves round the *supra-marginal gyrus* and unites with the *1st temporal fis.*; the other (*e*) ascends to the median border, and is continuous with a sulcus which joins the *parieto-occipital*.

The *asc. par. gyrus* (*retro-central*) is well developed, as are also the *angularis* and *supra-marginal*.

The *horizontal* (or *sup.*) *occipital sulcus* is well developed; it does not join the *par. occip.*, but sends branches into the *gy. cuneus*. It appears to join the *2nd temp. sulcus*, but the brain is lacerated at this point, and it is difficult to make out the connection.

The *1st temporal sulcus* is strongly marked, passes up and joins the *inter-parietal*. The *2nd temp.* cannot be well made out on account of the laceration.

On the median surface (Fig. 2), the *calloso-marginal sulcus* is strongly developed, presents numerous perpendicular branches, and terminates by two, one of which (*f*) ascends to the usual position behind the *retro-central gyrus*, the other (*g*) curves

round and divides the *gyrus fornicatus* from the *pre-cuneus* (or quadrilateral), extending to within a short distance of the calcarine fissure, and uniting with the *fis. cruciata*.

The *gyrus fornicatus*, in the anterior half of its extent, presents a well-marked sulcus running along its centre.

The *parieto-occipital* is deep and well marked; it has a branch (*h*) which curves over the border and unites with the *inter-parietal*. The *calcarine* fissure unites with the *par. occip.*, and the conjoined sulcus communicates with the *scissura hippocampi* by a wide groove (*i*).

The *sulcus collateralis* joins the *calcarine* by a large fissure (*j*), which ends just at the handle of the fork of the *par.-occip.* and *calcarine*. Another sulcus (*k*) passes from it round the under surface of the occipital lobe, dividing the *temporal gyri* from the *occipital*.

The *orbital gyri* are separated from the frontal anteriorly, by a well-marked fissure (fronto-marginal of Wernicke).

The convolutions of the *insula*, normal.

According to Benedikt's views, this hemisphere is a-typical in the following particulars:—

(*a*) The union of the *Sylvian* with the 1st *frontal sulcus*.

(*b*) The junction of the *inter-parietal* with the *parieto-occipital* and with the 1st *temporal*.

(*c*) The extension of the *calcarine* fissure into the *scissura hippocampi*.

(*d*) The extension of the *calloso-marginal* fissure between the *gyrus fornicatus* and the *pre-cuneus*.

(*e*) The union of the *collateral* and *calcarine* fissures.

(*f*) The fission of the 1st frontal convolution into two parts, so that there appear to be four frontal gyri—a condition which Benedikt lays great stress upon as a marked *animal similarity* in the human brain.

II.—Moreau, a small farmer in the county of Rimouski, aged 40, French-Canadian, murdered his wife last summer, and was executed on the 13th of January. He was a short, very powerfully-built man, uneducated, and of a morose disposition; was temperate, and had never before been convicted of any crime.

He had not lived happily with his wife, and quarrels had been frequent; one day, when in the woods together, he cut her head open with an axe. The deed was apparently premeditated, as it came out in evidence that he had offered money to a man to do it for him. After the act and during the trial he maintained his usual stolidity, and did not appear to take a very deep interest in the proceedings. Indeed, it is stated that he was unaware, until some time after the sentence, that he was to be hanged. The autopsy was performed, about an hour after his death, by Dr. Belleau, and the brain was secured by H. V. Ogden, B.A., and brought to me in excellent condition for examination.

Organ large, weighed about 1587 grms. (56 ozs). [Pl. II.] The hemispheres, though large, did not completely cover the cerebellum. Membranes were normal; vessels of the pia mater and the subjacent grey matter deeply engorged.

Left hemisphere (Pl. II., fig. 3).—*Fis. Sylv.* is separated from ascending *parietal* by a very narrow and grooved gyrus, and joins the *inf. front.* by a shallow sulcus (*a*).

Fis. Rolando sends a deep fissure (*b*) across the upper end of *asc. par. gyr.*, which curves round the margin and unites with *fis. cruciata* of the *pre-cuneus*. There is not a well-marked *asc.* or *3rd front. sul.* The *1st fr. sul.* has a short vertical branch, and only extends for 2.5 cm. from *asc. front. gyr.*, when the 1st and 2nd convolutions fuse, but beyond this it is again apparent. *2nd front. sul.* has a short vertical branch, and joins the *fis. Sylv.* by a narrow groove. Its anterior extension is well developed. The *3rd front. gyr.* is large in comparison with the 1st and 2nd. The *asc. front. gyr.* is large.

The *asc. par. sul.* (retro-central), which is usually united with the inter-parietal, and called its radial portion, is isolated, and only joins the *fis. Sylv.* by a shallow furrow (*c*). The *asc. par. gyr.* is narrow.

The *inter-parietal fis.* runs almost parallel to the *asc. par.* and *fis. Rol.*, being separated from the former by a narrow convolution which joins the *sup. parietal lobule*. Below it joins the *1st temp. sul.* (*d*); above it does not extend to the margin. Gyri of parietal lobe well developed.

The 1st *temp. sul.* is crossed in two places by bridging gyri uniting the 1st and 2nd *convolutions*. Posteriorly this sulcus has two branches—one which joins the *i. par.*, the other the *inf. occip.* The 2nd *temp. sul.* is not well marked.

The *sup. occip. sul.* joins the *par. occip.*; the *inf. occip. sul.* the 1st *temp.*

On median surface, *par. occip. fis.* unites with *sup. occip.*, and by a shallow sulcus with *fis. cruciata* of *pre-cuneus*.

Calcarine fis. normal; *cuneus* small.

Fis. collateralis long, and sends numerous fissures into *gyri lingualis* and *fusiformis*.

Sul. calloso-marg. has many fissures entering the 1st *front. gyr.* *Gyr. fornicatus* is fissured longitudinally. *Orbital gyri* normal; well marked *frontal marginal sul.* No external orbital fissure. *Insula* well developed, and has 9 gyri.

Right hemisphere (Pl. II., fig. 4).—*Fis. Sylv.* joins 3rd or *asc. front. sul.* (a), and the *asc. par.* (b) (retro-central) by shallow furrows. *Fis. Rol.* unites with 1st *front.* (c) and *asc. par.* (d) sulci by narrow grooves.

The *asc. front. sul.* arises by a shallow fissure from the *fis. Sylv.*, and then at the base of the 2nd *front. gyr.* joins the 2nd *front. sul.* 1st, 2nd and 3rd *frontal gyri* are well developed and distinct posteriorly. Anteriorly they are fused and crossed by many secondary sulci. *Asc. frontal gyr.* is very narrow in its centre.

Inter-parietal fis. has a well marked radial portion (the *asc. par.* or retro-central). The sagittal part passes back and presents three divisions—one (e) enters the *sup. par. lobule*, a second (f) passes directly back and joins a fissure in the position of *inf. occip.*, which reaches to the tip of *occip. lobe*, and the third (g) part passes vertically down and unites with 1st *temp. sul.* and has a branch which crosses the 2nd *temp. gyr.*

Asc.-par. convolution is large below, narrow above. The *angular, supra-marginal* and *sup. par. lobule* are much fissured.

1st *temp. sul.* joins *i.-par.*; the 2nd is not marked. Several oblique sulci cross the 2nd and 3rd *temp. gyr.* *Sup occip. sul.* joins *par. occip.*

On the median surface, *par. occip. fis.* joins *sup. occip.*; the *calcarine* enters *scissura hippocampi* and joins the *fis. collateralis* by a shallow groove. *Fis. collateralis* large and deep.

The *cuneus* is small; *pre-cuneus* (lob. quad.) is large and its anterior boundary ill-defined.

Calloso-marginal fis. extends to level of base of 1st frontal, and then curves up to the margin of the hemisphere, being interrupted by a broad annectant uniting the *gyr. fornicat.* with 1st front. Beyond this there is a short extension which joins a complex series of sulci in the *pre-cuneus*.

Orbital gyri normal. There is a narrow *fronto-marginal sul.* There is a well-marked *external orbital fissure*.

The chief points to be noted are:—

1. The absence of complete covering of cerebellum by cerebrum.
2. On both sides the *pre* and *retro-central fissures* were separated from *fis. of Sylvius* by very narrow and grooved gyri.

3. The left *fis. Rolando* joins *fis. cruciata* of *pre-cuneus*, and on the right side it is imperfectly separated from 1st front, and *asc. par. sulci*.

4. The *inter-parietal*, on both sides, joins the 1st temp. sul., and on the right side is much more developed and joins the *occipital*.

5. On the median surface the *calcarine* on the right side enters the *scissura hippocampi*.

There remain two questions for consideration: first, to what extent does Professor Benedikt's confluent fissure type of brain prevail among ordinary members of the community, and how far is it reliable as an indication of defective development?

With a view of ascertaining how far the confluent fissure type of brain exists among the lower classes in this community, I have examined carefully 63 hemispheres from 34 individuals, all of whom were patients in, and died at, the General Hospital. Most of these were preserved by Giacomini's method, and as no special note exists as to the social standing or character of any of the individuals from whom they were obtained, the results are of value only so far as they show to what extent confluence of fissure occurs in that class from which the Hospital wards are recruited.

1. The Fissure of Rolando communicated with—
 - a. *Fissure of Sylvius*, in 3 completely, in 7 incompletely.
 - b. *Frontal sulci*, complete in 12; incomplete, 9.
 - c. *Inter-parietal sulci*, complete in 7; incomplete, 9.
2. The Fissure of Sylvius joined—
 - a. The *F. R.* [see above.]
 - b. The *frontal* in 20.
 - c. The *inter-parietal*, complete in 26; incomplete, 8.
 - d. The *1st temporal*, in 15.
3. The Inter-parietal united with—
 - a. The *F. R.* [see above].
 - b. The *F. S.* [see above].
 - c. The *parieto-occipital* in 18.
 - d. The *horizontal* or *sup. occipital* in 14.
 - e. The *1st temporal* in 19.
4. The *Calcarine* entered the *scissura hippocampi* in 25.
5. The *calloso-marginal* joined the *par.-occipital* in 1.
6. The *parieto-occipital* joined—
 - a. The *inter-parietal* in 18.
 - b. The *horizontal occipital* in 3.

From these limited observations we may conclude—

1. That a considerable proportion of the brains of Hospital cases are of the confluent fissure type.

2. The chief difference to be noted between Prof. Benedikt's series of criminals' brains and those which I have just gone over is the somewhat greater number of unions between typical fissures, more particularly between the *fis. Rol.* and contiguous ones. Thus in his set this fissure connected, completely or incompletely, with the *fis. Syl.* in 24 instances; in my series in only 10. In the other fissures the disproportion is not nearly so great.

3. Considering the number of brains of ordinary Hospital patients which present in some degree the confluent fissure type, it would seem more reasonable not to assign as yet any special significance to it until we have fuller information about the arrangement of the convolutions in the various races, and until a much larger number of the brains of criminals of all countries have been examined.

Professor Benedikt's cases were nearly all Slavonians or Hungarians, and though Betz of Kieff, a leading authority, acknowledged the atypic of his specimens, it would have been more satisfactory to have had a comparison between these specimens and an equal number taken from law-abiding members of the same races. It may be urged that in Hospital patients the brains should conform in considerable numbers to this 2nd or confluent fissure type, as many of them are individuals in the lower ranks of life, and not a few belong to the criminal class. This applies, however, much more forcibly to dissecting-room material, which, as Dr. Benedikt says, "consists of the remains of those who have suffered complete shipwreck in life through low grade of intelligence, imperfect motor development, or through crimes and vice." In the series of brains which I examined, there were no dissecting-room specimens, and it did not include the brain of any notorious criminal so far as I am aware.

As to how far confluence of fissures is indicative of a low type of cerebral organization we also want fuller information. When existing in high degree, there is certainly an absence of many important annectants or bridging areas of brain substance, but when we consider the variable size of convolutions bounding the typical fissures, it is easy to see that defect in one part might be more than compensated for by excess in another part, and even a neighbouring part. In several of the brains which I examined, notably No. 10, the confluent fissure type existed in an organ with a rich convolution system. In the brain of Moreau, the retro-central fissure on the left side was separated from the inter-parietal by a distinct gyrus, which might as well be regarded as an excess, as absence of an annectant and confluence of two fissures might be considered a defect.

With reference to the type of four frontal convolutions which Prof. Benedikt has found in such a large number of his specimens, I will only say that in 10 of the hemispheres examined it was observed in a greater or less degree of development. Nowhere was it better seen than in the brain of Hayvern. To enter upon the anatomical significance of this would be beside the question on this occasion.

Professor Benedikt's conclusions are those of a thorough-going somatist, who would bring all human conduct within the range of organic action. "The constitutional criminal," he says, "is a burdened individual, and has the same relation to crime as his next of blood kin, the epileptic, and his cousin, the idiot, have to their encephalopathic conditions." And again, "the essential ground of abnormal action of the brain" (*i.e.*, I take it, bad conduct,) "is abnormal brain structure. His 44 criminals were what they were because of defects in the organization of their hemispheres: they belonged to the *criminal variety* of the *genus homo*. No wonder he says "that this proposition is likely to create a veritable revolution in ethics, psychology, jurisprudence and criminalities." He wisely adds that it should not yet serve as a premise, and should not, for the present, leave the hands of the anatomists, since it must be repeatedly proven before it can finally rank as an undoubted addition to human science.

Crime is commonly regarded as the result of yielding to an evil impulse which could have been controlled; and this element of *possible control* is what, in the eyes of the law, separates the responsible criminal from the irresponsible lunatic. The belief in a criminal *psychosis* is spreading, and is the outcome of sounder views of the relation of mind to brain; and these investigations of Prof. Benedikt, to which I have so frequently referred, may serve as a foundation to a natural history of crime. But if this is the case, how are we to regard our criminals? What degree of responsibility can be attached to the actions of a man with a defective cerebral organization? Where is there scope to eschew the evil and to do the good, when men are "villains by necessity, fools by heavenly compulsion, knaves, thieves and treachers by spherical predominance." Any one who believes that with all our mental and moral processes there is an unbroken material succession, must consistently be a *determinist*, and hold, with Spinoza, that "in the mind there is no such thing as absolute or free will, but the mind is determined to will this or that by a cause which is determined by another cause, this by yet another, and so on to infinity." For a long time to come, how-

ever, the majority of individuals—including some who are inconsistent in so doing—will continue to hold the *intuitionist* view, nowhere better expressed than by Shakespeare, when he puts into the mouth of that arch-criminal, Iago, the words: “’Tis in ourselves that we are thus and thus. Our bodies are our gardens to the which our wills are gardeners; so that if we will plant nettles or sow lettuce, set hyssop and weed up thyme, supply it with one gender of herbs or distract it with many, either to have it sterile with idleness or manured with industry, why, the power and corrigible authority of this lies in our will.”

“Theft and murder,” as Huxley well says, “would be none the less objectionable were it possible to prove that they were the result of the activity of special theft and murder cells in the grey pulp.” One thing is certain, that, as society is at present constituted, it cannot afford to have a class of *criminal automata*, and to have every rascal pleading faulty grey matter in extenuation of some crime. The law should continue to be a “terror to evil-doers,” and to let this anthropological variety (as Benedikt calls criminals) know positively that punishment will follow the commission of certain acts, should prove an effectual deterrent in many cases, just as with our dogs, the fear of the whip exercises a restraining influence—immediate as well as prospective—on the commission of canine crimes.

REMARKS ON THE CAUSES OF DEATH IN DIPHTHERIA AND THE TREATMENT.

By FRANCIS E. SHERRIFF, M.D., L.R.C.S.E., HUNTINGDON, P.Q.

Notwithstanding the continued and general prevalence of diphtheria, much diversity of opinion still prevails regarding its nature and treatment. Many believe that it is only a disease of the throat, while more, I think, contend that it is a disease of the system and governed by fixed laws like scarlatina and other zymotic diseases. I am of opinion that like other similar affections, an individual who has been ill of the disease is not liable to take it again, or at least for a long period. During the past four years I have followed one course of treatment with very gratifying success. My system was published

in the CANADA MEDICAL AND SURGICAL JOURNAL in February, 1878. There are four causes of death which have to be guarded against. The first is a rapid and often sudden sinking, like syncope, which is apt to occur on the third, fourth and fifth days. The second cause arises from putrefaction of the false membrane causing septicaemia and hæmorrhage. The third is a diphtheritic croup, and the fourth is paralysis, sometimes taking place five or six weeks after apparent recovery. During the first two days of the attack the temperature often reaches 105°, although more frequently it is less. This can be speedily reduced by the free use of the salicylate and acetate of ammonia combined, also by the application of cold water to the throat under the chin and sponging with tepid water. As soon as the membrane is formed antiseptics must be applied either by a soft brush, atomizer or syringe. I do not believe it makes much difference what antiseptic is used as they are all good, such as brine, alcohol, iodine, sulphurous, salicylic, boracic or benzoic acids. The swabbing mixture I have always used is composed of Acid Carbolie, Tinct. Ferri Mur. Chlorat. Potass. Glycerine and Sulphurous acid. It has been my practice in severe cases to swab the throat every three hours, but lately I have learned that so frequent swabbing is unnecessary, and I am glad such is the case, as the operation causes a good deal of trouble both to the operator and patient. Three or four times a day is often enough. After the fever has been reduced I give every two hours a mixture composed of Chlorat. Potass., Tinc. Mur. Ferri, Sulphurous acid, Glycerine and water. This mixture acts as a powerful antiseptic and ought to be continued for two weeks after recovery, but only three times a day. If symptoms of sinking come on I give aromatic spirits of ammonia. The cold water application to the neck ought to be continued until all swelling of the throat internally or externally are dispersed. By attending carefully to these directions putrefaction of the membrane is almost certain to be prevented and thus obviating the second cause of death. It is doubtful if anything can be done to prevent croupal symptoms than by carefully attending to the first stage of the disease. Paralysis, I

think, may be prevented by making the patient take medicine for at least two weeks after apparent recovery. This practice I have tried to pursue with all my patients, whether slight or severe, and I have seen only one fatal case of paralysis. As soon as the membrane has nearly disappeared I use a solution of salicylic acid, and borax and glycerine, both internally and by injection of the nostrils. Many writers insist on the necessity of supporting the strength by stimulants and nourishing food. This practice I have never followed, and only give such nourishment as the patient will take without much coaxing. Pure milk is probably the best.

THE USE AND ABUSE OF ALCOHOLIC DRINKS.

To the Editor of the CANADA MEDICAL & SURGICAL JOURNAL.

SIR,—In the *Canada Medical Record* for December I find a paper on the “*Use of Alcohol in Health*,” by Professor Casey A. Wood, of Bishop’s College, in which he criticises at length an address given by me to the medical society in this city, on the “*Use and Abuse of Alcoholic Drinks*,” and subsequently published in the CANADA MEDICAL AND SURGICAL JOURNAL.

All must acknowledge the ability and ingenuity exhibited in Dr. Wood’s paper; from his “standpoint,” he has left little to be added. While I feel flattered and pleased at the notice taken of my address, for discussion often exposes the weak points on both sides of the question, Dr. Wood must pardon me if I feel that he has been hypercritical. I will not say that his arguments are “absurd.” The word so often used by him not being an elegant one, should be expunged from discussions of this kind, though I fail to see the force of many of them. And making due allowance for the exuberant zeal so often displayed by speakers and writers upon this subject, I fear Dr. Wood perused my paper with a prejudiced eye when he classed me as an “*advocate*” of the use of alcoholic drinks.

Every well-wisher of his race should hold up both hands in favor of any means that would lessen the shocking evil of intemperance, and I have no doubt Dr. Wood is one of them,

consequently we are in accord upon that point, both wishing to arrive at the same goal. The issue between us lies in the fact that he takes one road I another, mine, I freely grant, possessing many obstructions, his—as acknowledged by himself—being impassable. Knowing that restrictions and prohibitory laws have effected little or nothing towards lessening the gigantic evil of intemperance, I was induced to write an address urging upon my professional brethren the propriety of exercising the influence they possess towards educating the “masses” upon the “*use and the abuse of alcoholic liquors.*” In it I portrayed in as strong language as I could command the disastrous consequences of the *abuse* of them; that the great majority of persons are better without them; that they are not necessary aids in promoting health and vigor of body and mind; that, unlike other articles of diet, a dangerous craving is created by the continued and unseasonable use of them, and that the evils consequent upon the *abuse* preponderate over the benefits derived from them. I also cautioned my professional brethren when prescribing them medicinally to be particularly careful and avoid bringing the system into a habit of dependence upon the stimulus. I further stated that “the exhilarating effect of alcoholic beverages is so universally felt that the *use* of them has become a ‘social habit,’ and one so engrafted upon the human mind that no amount of persuasion or exertion can eradicate it.” As well might we attempt to prevent the tide from rising as to prevent the production and consumption of them; therefore the efforts of the philanthropist should be directed towards the *possible*, not the *impossible*. I also stated that the “social use” often leads to abuse. “But if we are unable to combat the *use*, let us attack the *abuse*; let us teach those who use them how to do so with comparative safety, and how to avoid the danger.” This, in the eye of Dr. Wood, is the language of an “*advocate*” of moderate drinking. As well might I be accused of wishing a patient to die because I said that his symptoms were such as to make his case hopeless.

The mind must be weak indeed that believes the word “abstain” possesses such magic power as to induce the millions

of human beings who till the millions of acres in the cultivation of the grape in various parts of the world to abandon their occupation, or could this be accomplished, that alcoholic stimulants would not be produced from other substances in the vegetable kingdom *so long as the appetite for the stimulus exists*. Dr. Wood does not possess this belief, for he distinctly tells us (I quote his words), that "no amount of prohibition will prevent *in toto* the sale of liquor, that we are certain to have drunkards in spite of all coercive measures." Again he says, "I have no hope that our children's children will see drinking habits done away with, though all moderate drinkers were to join the ranks of teetotalism, nor even if the education and general amelioration of the condition of the masses (the real effective combatants of vice) were to be brought about; but drunkenness will always reign while the way is paved to it by the 'good intentions' of the so-called *use* of alcohol as a drink." A grave responsibility placed upon the shoulders of the men with "good intentions" by Dr. Wood; but he forgets that should all moderate drinkers join the ranks of teetotalism, there would be little need for his prohibitory laws. He also says, "*yet agitation for prohibitory laws is the necessary outcome of the truth that alcoholic drinking is an injurious nuisance*." It may be the necessary outcome. But Dr. Wood has rightly told us that "we will have drunkards in spite of all coercive measures." Then why agitate for laws which, if passed, will not produce the desired effect, and which must leave a large minority disapproving of them, whose ingenuity will be stimulated to evade them by every possible means, thus engendering deception, disregard for the sanctity of an oath, and moral degradation? And it may be asked why not agitate for something more practical and capable of being accomplished? For while all praise is due to "abstainers," who, by practice and precept, have doubtless saved many an individual from the horrors of intemperance, still it must be acknowledged that notwithstanding their efforts the drinking habit has increased with the increase of population, particularly in northern districts. If such is the case, and I think it will not be denied, then why find fault with a proposal

to appeal to the understanding and the fears of the masses in favour of temperance? It is better to look facts in the face than to theorize about the abuse of over-eating, excessive bathing, swallowing too much camphor, &c. Every school boy should know that if he takes too much pudding it may make him sick. An individual eats a moderate dinner and feels well after it; he takes a glass of wine, and feels better, or thinks he does; but let him take too much of either, he pays the penalty. Hence, the necessity for exercising that self-control which is implanted in every individual, and which should be fostered and encouraged by all means, ennobling as it does the man who brings it to bear upon his acts and degrading him who declines to be governed by it.

Dr. Wood has taken exception to my remark that "every nation has its stimulant of some kind, that kind Providence has permitted the use of them, and that if they are abused evil consequences follow," and he enters into a lengthy argument to prove that the Mahommedans did not make use of a stimulant that will compare with alcohol. I did not say that all nations did, yet the Doctor acknowledges that the Mahommedans got drunk sometimes "on the forbidden juice of the grape." He concludes with the remark that "if it be stated that Providence really does approve of and sanction the employment of alcohol in health, I should neither agree nor disagree with the statement, for I do not know anything about it; but if He does approve of its use, there can be no shadow of a doubt but that He sanctions (on Dr. Bayard's own shewing) the employment of a very bad thing, and that the sooner He puts His veto on it, the sooner will He deserve the adjective with which Dr. Bayard qualifies His name." This argument is as pointless as it is blasphemous. I did not say that the Almighty *approved* of or sanctioned the use of alcohol. I said that he *permitted* its use. He permits sin. Possibly Dr. Wood may construe His permission to mean approval and sanction. Dr. Wood endeavours to prove upon hygienic and physiological grounds that the taking of "one drop" of alcohol is an *abuse*. So it would be if it could be proved that the drop produced intoxication and was in-

jurious to health. He says that alcohol having "no *locus standi* in the human economy, it is no excuse whatever for drinking a daily glass of beer or wine to say that a dozen glasses of gin per diem will probably sooner or later produce cirrhosis of the liver." What does this mean? Who said that it did afford an excuse? Dr. Wood further says that "if it be illegal to explode fire-crackers within the city limits, surely the illegality begins with the explosion of the first cracker, not after the firing of the third." Certainly the illegality commences with the first act contrary to law. But is Dr. Wood credulous enough to believe that a law could be enacted to prohibit the use of "one drop" of alcohol, or that such a law could be enforced? I shall next expect him to urge that Lucifer matches should not be used, because by improper use of them they might set fire to a house.

Dr. Wood charges me with admitting that a goodly number of moderate drinkers must of necessity be kept on the tenter-hooks of eternal watchfulness. I acknowledge the correctness of the charge, believing that in spite of all coercive and prohibitory laws that can or ever will be enacted or enforced, there must and will be a "goodly number of moderate drinkers." I accept the inevitable rather than follow a shadow, and would have every individual kept on the "tenter-hooks of eternal watchfulness." As they would pray for forgiveness of sin, so let them guard themselves and exercise all the self-control they can command against the fascination of over-indulgence in the use of alcoholic liquors. And to aid this precept I would teach all who *will* make use of them how to do so with comparative safety and how to avoid the danger. And I would have my professional brethren aid in this work. Dr. Wood acknowledges that education is one of the effective combatants against vice. And so it is. The drinking habit is a vice, therefore let us educate upon it; let us instill into the minds of the "masses" the injurious consequences following the use of stimulants at *improper times*, in *improper quantities* and *without food*.

In conclusion, let me say to Dr. Wood that, while all praise is due to him and his co-workers in a good cause, still if he exercised the ability he evidently possesses towards educating

the "masses" upon this point and towards urging upon philanthropists the necessity for comfortable and cheerful homes for the destitute, he would accomplish more good for his cause than by denouncing those who differ from him as encouraging drunkenness.

W. BAYARD, M.D.

St. John, N.B., January 26, 1882.

Hospital Reports.

MEDICAL AND SURGICAL CASES OCCURRING IN THE PRACTICE OF THE MONTREAL GENERAL HOSPITAL.

Two Cases of Cancer of the Stomach.—(Reported by Dr. J. A. MACDONALD, House Physician.)

CASE NO. I. UNDER THE CARE OF DR. GEORGE ROSS.

CASE I.—S. M., female, aged 73; admitted into Hospital Dec. 14th, 1881, to be treated for pain behind lower part of sternum and vomiting. No family history of cancer. Married at 20; husband only lived 10 months; no children. Has been a very hard drinker, especially last ten years; was a healthy woman till present trouble began. No history of any pain or vomiting previously. Eighteen months ago began to suffer from pain behind the lower part of sternum after eating; pain was not very severe, and after an hour or so would disappear. Two months ago she says she began to vomit; pain generally relieved by vomiting; has been losing flesh all this time; at present, patient is greatly emaciated, and is very feeble; requires help to get out of bed. The pain complained of is just behind ensiform cartilage, is of a burning character, and shoots through to the back. When food is taken she swallows without any forcing efforts, but experiences a sensation as if the food stopped just above cardiac end of stomach, and the pain begins at once. After a short interval, one to three minutes, the food begins to come up again; is simply regurgitated in mouthfuls; no effort at retching. After the food has been regurgitated the pain is usually relieved. This regurgitation was what she referred to when she spoke of vomiting before admission. At intervals between taking food spits up a quantity of glairy mucus. The abdomen is very

empty, walls very lax; no tumour found on exploration of abdomen, epigastric region being specially examined. Liver extends two inches below ribs, and on its edge are two rounded irregularities; spleen not enlarged; heart and lungs normal; no albumen in urine.

Dec. 20th.—Since the patient has been under observation no marked change from the above symptoms observed. The amount of food kept down, if any, must be very small, as any taken is invariably regurgitated at once, always mixed with a quantity of mucus. The pain is not always relieved by the ejection of the food, especially towards night, but pain is never severe. Bowels are constipated; an enema caused a small movement of the bowels. An œsophageal bougie passed without difficulty 17 inches, and met with a permanent obstruction.

Dec. 27th.—Bougie has been passed several times, but always meets an obstruction about 16 inches, evidently about cardiac end of stomach. Patient takes nothing but a little brandy and soda and small quantities of milk and lime water, but these are never retained. Is getting very feeble; speaks in a whisper. Pulse, 80; very weak.

Jan. 12th.—Enemata of beef-tea and brandy tried several times, but were not retained, and patient absolutely refused to have anything more done for her. Is wasting slowly.

From this till date of death the symptoms remained about the same. Regurgitation of anything taken continued; towards the last would only take small quantities of soda water. For some days before death there was great dryness of skin, with blueish tinge of extremities, and a marked cadaveric odour. Death occurred Jan. 21st, 1882, about 19 months after first symptoms of pain, or three after vomiting set in.

Autopsy.—Body extremely emaciated. In abdomen, stomach very small and occupies the left hypochondriac region. Pharynx, œsophagus and stomach removed together. The gullet was dilated, fusiform; mucosa opaque; muscular coats thickened. Just above the cardia the walls were infiltrated and hard, but the mucous membrane was intact. In the stomach a flat cancerous ulcer, with smooth base, hard, sharp edges, occupied the cardia

and the lesser curve, in an area about half the size of the palm. Great narrowing of the cardiac orifice was caused by the infiltrated state of the walls. Nothing special in the other organs, except the gall bladder, which was very large, contained about a dozen calculi, and attached to the upper wall was a large, flat, cancerous mass, confined entirely to the bladder, not involving the adjacent liver substance.

CASE NO. II. UNDER THE CARE OF DR. MOLSON.

CASE II.—L. F., aged 62, admitted into Hospital Jan. 17th, 1882, to be treated for indefinite pains in abdomen, constipation of bowels, and very rapid loss of flesh. Has been a healthy labouring man and a moderate drinker. No history of syphilis. No family history of cancer. Patient says he has suffered from a gnawing pain in abdomen for two months. The pain is not definitely located to any part; when asked where the pain is, he runs his hand over the abdomen without indicating any spot in particular. Pain has never been severe. Bowels very much constipated; says he frequently passes four or five days without going to stool, and then has to use purgatives. Loss of flesh is very rapid and marked. The pain, constipation and loss of flesh date back two months only. No vomiting or pain after eating. Is a pale, flabby man, decidedly cachectic. Arteries atheromatous. Last autumn weighed 168 lbs.; now weighs 128. Is able to walk about, but says he is getting feeble. Abdomen is very flaccid, so that a good examination is easily made. No tenderness; no tumour. Nothing found on examination of rectum; no albumen in urine. Liver extends slightly below ribs. Heart and lungs normal. Temperature normal; pulse 90, small and weak.

Jan. 20th.—Patient's bowels moved freely several times since admission by mild purgatives or enemata. Appetite is very poor. No pain or vomiting after eating. Nothing further made out. 23rd—Patient had been doing about as usual till this morning, when he vomited for the first time; vomited matter decidedly stercoraceous. Bowels moved daily; stools thin and very offensive. Pain is always present, but is slight, and not

sufficient to prevent sleep at night. Is getting weaker. Refuses stimulants. 25th—Bowels moved daily by teaspoonful doses of the compound liquorice powder. No further vomiting till this morning, when he vomited several times; vomited matter of same character as on previous occasions. Takes no nourishment but a little milk; is losing flesh very rapidly, and now makes no attempt to get out of bed. Temperature never goes above 98°F.; pulse 90, and very feeble.

From this time till his death, Jan. 31st, he vomited a little daily, never excessively; bowels moved naturally, but stools always thin and offensive. Death was slow, and resulted from pure exhaustion; patient much emaciated.

Autopsy.—Moderate emaciation; abdomen retracted. On inspection of intestines terminal part of duodenum is adherent to mesocolon and to the stomach, the parts being matted together and injected. Several greyish-white nodular masses in anterior wall of stomach. *Stomach.*—Opened along its anterior border. An enormous cancerous ulcer, with an irregular, sloughing base, occupies the mid-zone, almost encircling the organ. It measures 19 x 8 c. m. The edges are swollen and infiltrated; soft and greyish-white in color, evidently cancerous. The cardia and pylorus are not involved. At the base of the cancerous mass there are two large orifices of communication—one with the duodenum, which admits the index finger; the other with the colon, near the splenic flexure, admits the thumb, and has thickened edges. There are no secondary masses. Heart, lungs and other organs presented nothing of special note.

Correspondence.

To the Editor of THE CANADA MEDICAL & SURGICAL JOURNAL.

DEAR SIR,—The late tariff of medical fees in the Province of Quebec, is, I understand, to be revised during the coming session of Parliament. No mention of fees to be allowed in judicial cases was introduced into that tariff. It would be well to have this settled also whilst the tariff is being made. At present a physician appearing to give evidence is only allowed by an

order in council a small fee over and above the amount payable to an ordinary witness as established by law, who has first to swear that he is poor and needy, having done which, he may be allowed the extra fee ordered in Council.

I hold that in all ordinary cases a physician attending a case is bound to give evidence as to what may come to his knowledge in that connection as any ordinary witness as to fact of any subject coming under his notice in the practice of his daily occupation; but when a medical man is called to give an opinion on the evidence as produced, or when he is called to give an opinion on some branch of the medical profession or scientific knowledge generally, he should be paid accordingly as an expert of these branches. He is called because his opinion is valued, and should be paid a fee commensurate with his position and experience. The use of the microscope and chemistry are the most frequently called into use, but anatomy or any other branch may be occasionally required, and a tariff should embrace these fees, both in the town and at a distance from home, and the fee for the examination separate, and according to time occupied.

I think that a representation made by the different medical societies to the College of Physicians and Surgeons of Quebec to secure their action in concert with the Government would be advisable.

Yours very truly, G. P. GIRDWOOD.

Reviews and Notices of Books.

A Manual of Ophthalmic Practice.—By HENRY S. SCHELL, M.D., Surgeon to Wills Eye Hospital, and Aural Surgeon to the Children's Hospital. With fifty-three illustrations. Philadelphia: D. G. Brinton.

This is a manual of handy dimensions, and appears to have been very carefully compiled. It contains a brief description of the anatomy and physiology of the eye, followed by chapters in systematic order upon the diseases of the various portions of the ocular apparatus. Special sections are devoted to the ophthalmoscope, and minute directions for its proper employment and

the results which can be obtained with it. The anomalies of refraction and accommodation also receive the attention which their importance demands. The book is one intended specially for the assistance and guidance of the student of ophthalmology from the very commencement of his studies. It is well and clearly written, and seems to be thoroughly reliable. It can be strongly recommended to practitioners and to those following courses of instruction in this special branch in our hospitals.

Epilepsy and other Chronic Convulsive Diseases: their causes, symptoms and treatment.—By W. R. GOWERS, M.D., F.R.C.P., Assistant Professor of Clinical Medicine in University College, Senior Assistant Physician to University College Hospital, Physician to the National Hospital for the Paralysed and Epileptic. London: J. & A. Churchill.

This last work of Dr. Gowers is a complete monograph upon this common and dreaded disease. It is based entirely upon his own original investigations, carried on with reference to a very large number of patients at the well-known National Hospital of Queen's Square. The etiology; symptoms, pathology and treatment of epilepsy are all exhaustively treated of and amply illustrated by the relation of numerous cases. Epilepsy is one of those affections which require for its successful management an accurate knowledge of the physiology of the nervous system and an extensive acquaintance with pathological facts which have a bearing upon it. A perusal of this treatise will furnish the reader with all the latest developments and the best founded theories of the disease, and the means which have proved most successful in arresting it, or, at any rate, lessening the violence and frequency of the attacks. The treatment by bromide of course receives considerable attention. Dr. Gowers' plan is somewhat different from that usually adopted. It is what he calls the method of *maximum dose treatment*. "The object is to give the nervous system, as it were, a series of blows with bromide in order to facilitate the occurrence of the condition which bromide produces in patients who are cured of epilepsy by its use. The method I usually adopt is to begin with doses of two or three

drachms of bromide every second or third morning, and increase the dose to four drachms every fourth morning, and six drachms or an ounce every fifth morning." "It is only suitable in cases in which the attacks are influenced in a marked degree by bromide." "It has seemed to me to be of distinct value."

In addition to Epilepsy proper, Hysteroid-convulsions and Hystero-Epilepsy are also considered, with especial reference to their alliance with the former disease.

From the high reputation already enjoyed by Dr. Gowers as a writer upon nervous diseases, we need hardly say that this work is characterized by the scientific accuracy, the profound research, close reasoning and lucid exposition of every point, which we are led to look for in the products of his pen. It forms the most valuable original treatise on this obscure complaint which has appeared of recent years, and we cordially recommend it to the notice of the Canadian profession.

The Opium-habit and Alcoholism.—A treatise on the habits of Opium and its Compounds—Alcohol, Chloral Hydrate, Chloroform, Bromide Potassium, and Cannabis Indica,—including their therapeutical indications. With suggestions for treating various painful complications. By Dr. FRED. HEMAN HUBBARD. New York: A. S. Barnes & Co.

This book treats of some very important subjects—subjects which are very frequently brought to the notice of the family physician—viz., the inordinate use (or rather the abuse) of certain stimulating and narcotic drugs. The opium-habit is specially dilated upon, and the details are given of a large number of cases treated by the author with more or less success. Many useful points are brought out with reference to the management of these very troublesome cases, but we do not find anything essentially different from the general rules which have been laid down by various previous writers. The treatise would have been more valuable to scientific physicians if these reports of cases had been put into more technical form, with definite descriptions of the exact nervous and other symptoms presented by the patients, for they are decidedly sketchy and rather popularly written. We must, moreover, take exception to

several statements which we think are devoid of the scientific accuracy we should rightly expect. For instance, it is stated that the practice of using chloroform in accouchements is the cause of many persons acquiring the habit of the persistent use of the drug by inhalation, and then the cure recommended is the addition of turpentine and nitrite of amyl to the chloroform. It is said to have been *demonstrated* that the turpentine protects from the dangers of collapse or syncope. We would be glad to think that this had been demonstrated; on the contrary, a death from this very mixture was reported in this country last year. The writer condemns the use of chloroform in midwifery. He declares that it is quite possible to so mitigate the pains of labor that it will not be required. His panacea for this purpose is diet. He proposes to put the mothers upon a non-calcareous diet, so that "the framework of the foetus may be yielding and pliable," thus "enabling it to glide through the pelvis easily." After these rather cartilaginous infants are born, the mothers are to have plenty of phosphates and harden their bones for them. It is also stated that by adopting this dietary, "puerperal fever and phlegmasia are entirely avoided, as the diet has facilitated the free elimination of those humors that excite inflammatory action during the puerperal state." We don't like the pathology, and cannot recommend the therapeusis based upon it.

The treatment recommended for alcoholism is the persistent impregnation during several days of every article of food by a mixture composed of nearly all the known varieties of alcoholic drinks. Great results are promised from the disgust thus excited in the patient's mind. We cannot feel the confidence here expressed in this plan. A singular admission is made with reference to the drinking habits of our grandfathers. Drinking in the mornings, in the degenerate people of the present day, is specially condemned, but in our ancestors it is said to have "had a salutary effect and to have been conducive to longevity." We know not what proof there is of this strange assertion, and cannot but think that, if the truth were known, toppers in the old days produced diseases of their livers and kidneys just as they do in our own times.

We cannot recommend the adoption of all the author's sug-

gestions, but, at the same time, we must say that any one interested in this subject will find in his cases much that will illustrate the many phases of the disorders induced in these victims to narcotics, and that will repay perusal.

On Spermatorrhœa : its Pathology, Results and Complications.

—By J. L. MILTON, Senior Surgeon to St. John's Hospital for Diseases of the Skin. Eleventh edition. London: H. Renshaw. 1881.

The fact that this work is now in its eleventh edition is a proof that it has been distributed widely, if not read widely. The book has been ostensibly written for medical men, but we certainly think it has not been bought by them to the extent of eleven editions. That large class of the youthful community known as "sexual hypochondriacs" have no doubt greatly aided in swelling the number of editions. The first chapter opens with a brief history of the disease, tracing it back as far as the period where men became transformed from hunters and shepherds to citizens. Why the history did not extend back to the *monkey* period of mankind it is difficult to say, especially as it is well known that monkeys, of all beings, are most addicted to the practices which lead to the disease treated of in the book before us. Hercules is made to contribute his quota to the history, and his name mingles familiarly with the names of Moses, Hippocrates, Celsus, and Horace. A long interval, in which history is silent about this disease, is passed over, and then the genius of the great John Hunter is invoked to grapple with the hydra-headed monster. In this connection Sir E. Home is quite unnecessarily, and without the least proof, accused of stealing his nitrate of silver treatment from Hunter. Mr. Milton then places on the roll of glory the names of Lallemand, Curling and Phillips for having "first elevated spermatorrhœa to its true position of a special and independent disorder." After a few remarks on the present state of professional opinion on the subject, he calls on the leaders of the profession "openly to recognize the disease and to devote more attention to its pathology and treatment," and relates how it reduces "hundreds, if not thousands, to impotence, weariness of life, insanity, &c."

In the second chapter the author treats of the pathology, results and complications of spermatorrhœa, and defines it as "all discharges which result from morbid states of testicles and excretory passages, producing greater expulsion of semen than is compatible with a healthy condition of the genital organs." Mr. Milton classes under this head every case of involuntary emission. If such symptoms constitute spermatorrhœa, how many men arrive at the age of twenty-five without having had an attack! Not many. Mr. Milton tells us that he has been abused for giving an overdrawn statement of the effects of spermatorrhœa, but he points the finger of scorn at his revilers and says, "I have not compiled my statements, but have taken them directly from the statements of patients." Now of all patients, with the exception of hysterical ones, those suffering from sexual hypochondriasis are most apt to exaggerate, and if the practitioner takes all that is told him, without the grain of salt, he will, indeed, make mountains out of mole-hills. It seems to us that true spermatorrhœa is one of the rarest of diseases. We do not recollect ever having met with but one genuine case; but young men who suffer from nocturnal emissions are common enough. Their fears are, as a rule, allayed by judicious counsel, together with advice as to diet, hygiene, &c. The only cases difficult to treat are those who have not entirely given up the vile habit of masturbation, and those whose disease is more mental than sexual. Full occupation is a great help in treatment, taking up certain hobbies, &c. Sir James Paget says that as men grow older they often get over this hypochondriacal state, because they have something more important to think of than their sexual organs. Mr. Milton, in support of his assertion as to the reality of spermatorrhœa, asserts that it is very common in members of our own profession, many of whom he has treated, and who always prefer therapeutic measures to moral instruction and advice. Well, medical men are constituted, mentally, much as other men, have quite as irritable spinal cords, and are not any more free from emotional conditions. Sexual hypochondriasis is the hysteria of males, and in the majority of cases the condition of the genital organs has about as much to do with the one as the uterus has to do with the other.

Mr. Milton, after all that he has said about the pathology of the disease, and after all his urgent appeals to the leaders of the profession to investigate, concludes that spermatorrhœa is "due to an irritable state of testicles, vasa deferentia, and common seminal and ejaculatory ducts." Very simple pathology, truly. The most fearful result of spermatorrhœa is impotence, and a chapter is devoted to *its* pathology. All attention is directed to the conditions of the sexual organs themselves as a cause for (so-called) spermatorrhœa and impotence, but nothing is said of the state of the nervous system, the irritability of the cord, or the emotional temperament of the individuals. Numbers of cases are given, all of which, of course, were cured; in some, the patients were startled by the author telling them that in another year they would have been *impotent*, but he, of course, was able to snatch them from that valley of the shadow of death.

The first 73 pages are devoted to the pathology of the disease, and the last 100 pages to its treatment. One thing may be said of the treatment, viz., that there is plenty of it. The patients are well "worked over," and get the worth of their money. The variety of treatment vies with that of many other specialties, as, for example, that devoted to the cure of the various flexions and curves of the uterus. Of course, the usual tonics are prescribed, as quinine, iron, strychnia, &c., also bromide of potassium, digitalis, lupulin, ergot of rye, &c. Seven pages are devoted to extolling the merits of the tincture of the sesquichloride of iron, given in heroic doses of a drachm to a drachm and a-half three times a day. Cold bathing and "sleeping cool" is advised; also discarding clothing, "especially in the shape of that rubbish which is known by the inappropriate name of underclothing." Blistering, cauterization of the urethra, injections, galvanism, diet, &c., are among the remedies recommended.

Some marvellous instruments are figured to prevent nocturnal emissions, as, for example, several instruments of torture called urethral rings, which look like spiked dog collars, with the spikes worn inside. There is one specially novel instrument which is worthy of this progressive and inventive age. It is called the *Electric Alarum*, and is made somewhat on the principle of the

burglar's alarm, and, after the connections are made, is placed under the patient's pillow. A wire cage with a padlock is recommended for those who practice masturbation when half awake and half asleep. Mr. Milton recognizes, in common with other specialists, the production of stricture due to the irritation set up by emissions. We have never happened to meet with such strictures, but Dr. Gross, jr., of Philadelphia, says they can be detected with a No. 22 sound, and Mr. Milton informs us that they occur. According to Mr. M., they are easily amenable to treatment, especially after cauterization with nitrate of silver and the use of his screw dilator. The nature of the stricture is not mentioned; if it does exist, it is probably spasmodic.

In conclusion, we may say that the book recommends itself in one particular, viz., it is quite free from the disgusting details so often seen in works on this subject. The letterpress is good and typographical errors are few, if we except the leaving out of the capital in such words as Italian, English, &c. Appropriate quotations are interspersed, both from the ancient and modern classics, which, doubtless, will prove attractive to lay readers. We are of opinion that the book under consideration might be compressed into a much smaller compass by leaving out long quotations from other medical authors, and by the author himself being less prolix; the book would be quite as valuable and take less time to read. We are also of opinion that both lay and medical readers would be much more benefitted by the perusal of Sir James Paget's classical essay on Sexual Hypochondriasis.

Antiseptic Surgery: The Principles, Modes of Application, and Results of the Lister Dressing.—By Dr. JUST LUCAS-CHAMPIONNIÈRE. Translated from the second and completely revised French edition, and edited by FREDERICK HENRY GERRISH, A.M., M.D. 8vo., pp. 239. Portland: Loring, Short & Harmon.

This book supplies a want long felt by the English-speaking portion of the profession everywhere. Hitherto it has been necessary for those who attempted to practice Listerism to obtain the information desired from scattered articles on the subject in

the various medical journals of the day, and these were often found to be indifferent guides. Dr. Gerrish deserves, then, the thanks of English and American surgeons for having put this important subject so neatly and concisely before them.

Dr. Championnière is undoubtedly the pioneer of antiseptic surgery in France. He has been a close follower of Lister since 1867, and kept the system constantly before his colleagues until he succeeded in convincing such men as Guyon and Vermeuil of its immense value. In 1875 he spent some months with Lister in Edinburgh, and at the time of writing the second edition of his book, Championnière appears to have had a very extended and remarkable experience of the method. In his introduction he says, "Whatever I state, I have tried and observed. I have educated myself upon all points, and, confident of success, I have fearlessly performed operations which formerly one could scarcely have ventured on." To those who are faithful to the method he promises the following: "The disappearance of wound accidents even in the worst circumstances. A regularity of repair hitherto unknown. Surgery without suppuration; union by first intention habitually and without danger. Such rapidity of healing as to surpass all anticipation. The possibility and safety of operations hitherto considered dangerous and even unjustifiable." All imitations or so-called modifications of Listerism are strongly condemned, and justly, too, as in this way much discredit has been brought upon the method. Doubtless the results of the surgery of all these imitators are vastly improved, but they must be still very uncertain and unsatisfactory. However, even they cannot afford to be without this book, because it is well known that, in order to produce a good counterfeit, the imitator must have some knowledge of the chief characteristics of the genuine article.

The two first chapters are devoted to the history of antiseptics and to the theoretical views on which the practice is based. The author is, of course, as indeed are all the true antiseptic surgeons, a disciple of his clever countryman, Pasteur. He tells how Lister had struggled ceaselessly and in every possible way with the insalubrity of the Glasgow Infirmary, and was constantly

vanquished by its fatal influences; how, in 1865, he became a convert to the doctrines of the eminent French chemist, and made for himself numerous experiments which demonstrated the presence of germs in the atmosphere and their influence upon fermentation and putrefaction, and how he then proposed to enter into a struggle with these disturbing elements.

The subsequent chapters are devoted to an exhaustive and very truthful description of the antiseptic apparatus generally, with the influence of the method on the phenomena of repair, &c. Particular operations and dressings are also fully described, and one chapter is devoted to "objections to the antiseptic method." These are all well answered, but especially so is that frequently raised objection—the cost of material. On this point the author says: "I am prepared to assert that this is a remarkable exaggeration, and I have good reason for knowing, as during the first six months I dressed at my own expense all the patients on whom I operated. I privately imported from Edinburgh all the materials, when, too, they were very high-priced. I found the expense of the pieces necessary for the seven dressings, after an amputation of the leg at the upper third, to be about two dollars and forty cents. This patient was healed in twenty-four days, and was able to leave the hospital on the thirtieth. In Nussbaum's excellent work I find an estimate of the pieces of dressing which he considers necessary in a thigh amputation, and reckoning on the same basis, fifteen dressings would cost about five dollars."

A portion of Chapter XX. is devoted to "Listerian Midwifery." In the author's service at the Cochin Hospital, where antiseptic precautions are taken in all obstetrical cases, the statistics have been admirable: In 1878 there were 778 deliveries, serious operations being performed in a good number of them, and only two deaths are recorded from puerperal disease. In a series of 1,455 cases there were only six deaths from all causes, showing a mortality of about 0.41 per cent.

It is to be regretted that the work is not more fully illustrated. It is, however, elegantly printed, and for the convenience of those not familiar with the metric system, the translator has appended a table of equivalents.

Society Proceedings.

MEDICO-CHIRURGICAL SOCIETY OF MONTREAL.

Stated Meeting, December 23rd, 1881.

GEORGE ROSS, M.D., PRESIDENT, IN THE CHAIR.

Acute Tuberculosis.—Dr. McConnell read a paper on “A case of Acute Tuberculosis in an Infant.”

The discussion following was confined principally to the subject of tubercular meningitis as to recovery.

Dr. Mills, who had made the *post-mortem* in this case, said he looked specially for tuberculosis in the dura mater, but in this, as in eight other cases he had examined, tubercles there are rare. Enlarged glands pressing on the bronchus would occasion the pneumonia found in the left lung.

Dr. Geo. Ross said that as regarded the attacks of distinctly asthmatic respiration, these, in his experience, were rather suggestive of obstruction by pressure upon a bronchus rather than pressure upon the recurrent nerve, which will cause suffocative attacks from spasm of the glottis. He had recently been observing three cases, in all of which there was respiratory disturbance from pressure on the main tubes; in two of these the trouble arose from secondary cancerous nodules, and in the third from aneurism. In one of the former the attacks of asthma were exactly similar to those of the ordinary spasmodic disorder arising without any local organic change. Had recently had two cases of tubercular meningitis in adults. (These have since been published amongst the Hospital reports in this journal for 15th January.) In the first there had existed an old pleuritic disorder, from which the system became contaminated; in the other there was suppurating disease of the kidney, from which the acute brain trouble was developed.

Dr. Mills asked the opinion of members for prognosis in these cases of tubercular meningitis. He found that Drs. Stephen McKenzie, Sutton and Hughlings-Jackson had a case in which all agreed it to be tubercular meningitis, and this case recovered with the treatment of pot. iod. Cases seen in London were treated with pot. iod. and mercury.

Dr. F. W. Campbell, some years ago, had a case of tubercular meningitis in a boy aged 15; was comatose for from 3 to 5 days; was seen in consultation with Dr. Godfrey, and both concluded that patient would die, but he rallied and lived for two years, and died of phthisis. Treatment was large doses of pot. iod.

Dr. Cameron said some five years ago he saw a case which he thought to be tubercular meningitis in a child aged 4, who died. Two years later, a younger sister, when arriving at the same age, developed similar symptoms; was seen in consultation with Dr. Roddick, and unfavorable prognosis given, but under pot. iod. and brom. and a little calomel, the child recovered. A third child, when arriving at the same age, evinced similar symptoms, and under treatment recovered. The family history was markedly phthisical.

Dr. Wood said he saw a case lately in which tubercular meningitis was diagnosed, and the child recovered.

Dr. Mills related a case of recovery in a girl aged 19, brought into the hospital at Hamilton, with all the symptoms of meningitis. She continued unconscious for four weeks, and then became convalescent in six weeks. During that time the syphon tubing with ice-cold water was used, and whenever the tubing was removed, the temperature rose.

Dr. F. W. Campbell mentioned a case of a patient, mother of a large family, who, 10 years ago, had all the symptoms of phthisis, and was attended by her father and another physician. Two years ago extensive disease in the left lung was found, and her appearance indicated fatal issue, but she recovered. Lately the right lung showed decided pneumonic symptoms, and now the left lung appears sound. There is no phthisical history. Treatment last spring was 10 grs. doses of quinine at bed-time and Hydroleine, and subsequently Trommer's Ext. of Malt; now taking 1-120th gr. of atropia in pill and oxymel scillæ to relieve cough.

Stated Meeting, January 6th, 1882.

GEORGE ROSS, M.D., PRESIDENT, IN THE CHAIR.

Pneumonia, Diphtheritic Gastritis.—Dr. Osler exhibited the

specimens, which were taken from a man aged 66, who was admitted to the General Hospital with great shortness of breath and prostration, and died in six hours. He was sent in from the House of Refuge, and the surgeon in charge, Dr. Burland, stated that he had noticed the man two days before walking about looking very blue and short of breath. He sent him to bed, and on examination the next day the signs of pneumonia were evident, and he sent him to the Hospital. At the autopsy the stomach and duodenum were enormously distended with gas, the diaphragm on the left side was pushed up in front to a level with the second intercostal space. In the thorax the heart was displaced upwards and to the right, the apex being under the sternum. The right lung was universally adherent; the left was free, but pushed up and compressed by the distended stomach. The right lung was in a state of grey hepatization; the only crepitant parts were a small area at the apex and part of the lower lobe. The left lung was small, compressed, but feebly crepitant. The stomach presented an area of diphtheritic inflammation $12 + 10$ cm., just to the left of the cardiac orifice. The mucosa of this region was deeply injected and covered with a closely-adherent greyish-white false membrane, from 1 to 2 mm. in thickness. When stripped off, the membrane beneath was deeply congested and rough. In the centre of the patch was a spot from which it had been removed. In the vicinity of the large area were other small bits of false membrane on congested bases. Oesophagus and duodenum normal. Dr. Bristowe, of St. Thomas's Hospital, was the first to describe diphtheritic inflammation of the alimentary canal in pneumonia; he met with it in the colon in 2 out of 30 secondary, and in 4 out of 16 primary, pneumonias. Dr. Osler, in about 50 autopsies in primary pneumonia, had met with five instances of croupous or diphtheritic colitis. This was the first specimen in which the stomach was affected. In connection with this, he called attention to the frequency of the so-called diphtheritic endocarditis in pneumonia; thirty-eight per cent. of the cases which he had analyzed occurred with inflammation of the lungs. The extreme distention of the stomach has probably taken place during life and in connection with the gastritis; it doubtless

assisted in bringing about the fatal termination by embarrassing the heart and compressing the healthy lung.

The President remarked on the latency of pneumonia in old men, and on the special liability of these cases to sudden death from heart failure.

Mitral and Tricuspid Stenosis.—Dr. Molson related the case—a woman aged 39, who died in the Hospital after a residence of four days. She had had rheumatic fever when nine years of age, and ever since had been troubled with short breath and cough on exertion. The chief symptoms on admission were dyspnoea, extreme rapidity and irregularity of the heart, scanty urine, albuminous, and with granular casts. There was no dropsy. Nothing positive could be determined as to the character of the murmurs; under an aggravation of the symptoms, the woman sank on the fourth day. Dr. Osler presented the specimens. The heart showed extreme mitral stenosis, with great thickening of the fused segments; left ventricle small, walls of average thickness; left auricle dilated and hypertrophied. The tricuspid orifice admitted the index-finger, the segments of the valves had united, and the edges were thickened. The right ventricle was dilated and hypertrophied; the right auricle much dilated. The lungs were universally adherent: pleura at left apex very thick, and for an inch or more the lung tissue beneath it was cirrhused, and had dilated bronchi and fibrous bands passing through it. The lungs were in a state of brown induration, but not congested. The kidneys were slightly reduced in size, granular and rough on the surface, and in a state of tolerably advanced cirrhosis. Dr. Osler, in reply to a question by Dr. T. W. Mills, stated that he thought the condition of the kidneys might have been the outcome of the chronic valve disease, and represented a later stage of the large indurated organs commonly met with. There was not extensive arterial disease or hypertrophy of the left ventricle.

The Brains of Criminals.—Dr. Osler read a paper on this subject, and recorded the results of an examination of the brain of the murderer Hayvern, who was executed at Montreal on 11th Dec., 1881. (See page 385.) He first referred to the observations

of Benedikt of Vienna, who, in 87 hemispheres from 44 criminals, has found certain peculiarities which he regards as indicative of a lower type of cerebral organization. The points upon which he most dwells are the confluence of many of the principal fissures, and the existence in a considerable proportion (27 of the 87) of four frontal gyri, the fourth being formed by the splitting of the first or second gyrus. This is regarded as an animal similarity. Hayvern was a low, dissolute fellow, addicted to drink, with no special neurosis in his family, who, on June 29, stabbed a fellow-convict. The brain weighed $46\frac{1}{2}$ ozs., and was fairly well formed; the cerebellum was completely covered by the cerebrum. On examination it was found to conform in many respects to Benedikt's cases, and was atypical, according to his views, in the following particulars: The union of the Sylvian fissure with the first frontal gyrus; the junction of the inter-parietal with the parieto-occipital and first temporal fissures; the extension of the calcarine fissure into the scissura hippocampi; the union of the collateral and calcarine sulci, and in the fusion of the first frontal gyrus, so that there appeared to be four frontal convolutions arising from the ascending frontal or anterior central gyrus. To ascertain how far these peculiarities existed in the brains of hospital patients, Dr. Osler examined 43 hemispheres from 24 individuals, and found that a very considerable proportion were of the confluent fissure type. Thus, the Sylvian fissure joined the fissure of Rolando in 8 hemispheres, the frontal sulci in 18, the interparietal in 19, and the first temporal in 12. The chief difference between Benedikt's series of brains of criminals and those examined was a greater number of unions between the typical fissures, more particularly the fissure of Rolando, which in the former joined contiguous sulci in 24 instances. In 9 of the 43 hemispheres there were four more or less distinct frontal gyri. He thought that much fuller information was needed about the arrangement of the sulci in the different races, and many more criminals would have to be examined before any positive result was arrived at as to the constant atypical character of the brain in members of this class. Speaking of Benedikt's conclusions, he questioned whether it was wise to speak of criminals

as an anthropological variety of their species. On his views there is no place left for responsibility ; but society cannot afford to have a class of criminal automata, and every rascal pleading faulty gray matter in extenuation of his crimes.

Dr. Henry Howard (Med. Supt. Longue Pointe Asylum) asked if it were known how many of the brains of the series of hospital cases were from criminals, and whether a larger proportion presented abnormalities than could be reasonably thought to belong to this class. He believed in a criminal class as distinct as a mercantile class, and regarded the mental and moral condition of the individuals belonging to it as dependent absolutely on their physical organization. Hayvern was not responsible for his act ; it was not premeditated, but performed under the influence of an uncontrollable impulse ; and he thought that there was evidence to show that it may have been connected with the epileptic neurosis.

Dr. Hingston wanted to know how it was, if viciousness and crime were the product of defective cerebral organization, that some notoriously wicked men had reformed and lived sober and honourable lives ? Was it probable that with such a change there was any alteration in the structure of the brain ?

Dr. Cameron thought that, for Benedikt's conclusions to have any value, it must be shown that criminals have invariably atypical brains and all other people normal ones. Most criminals have some degree of control over their actions, and the law is an effectual deterrent in many instances, particularly where the penalty enacted touches the person. He illustrated the rapid abolition of garroting by the introduction of the lash, and quoted facts to show the good effects of capital punishment.

Dr. Shepherd remarked that it was somewhat difficult to say what was the typical brain. The majority of observations were upon the lower classes ; we lacked data as to the arrangement of the fissures and convolutions in a large number of the intellectual members of society. He had frequently seen brains of the confluent fissure type in the dissecting-room.

Dr. Mills said that, with reference to the series of brains from hospital patients examined by Dr. Osler, the question arises as to how far such patients belong to the criminal class. In about

one thousand patients that he had observed closely, he did not think that many of them ranked in this class.

Dr. Osler, in reply to Dr. Howard's question, stated that the series of brains which he had examined were nearly all preserved by Giacomini's method, and no data existed from which the social status of the individuals could be ascertained. In the 43 hemispheres (19 perfect brains and 5 halves), 19 presented one or more atypical-features.

Dr. Hingston then showed an instrument, lately made by Tiemann, for facilitating the finding of the urethral canal when a number of false passages existed.

Foreign Bodies in the Windpipe.—Dr. Hingston narrated two cases. *False tooth in the trachea for over three months, tracheotomy, removal.* The patient, an elderly lady, who had worn a false incisor tooth for over 40 years, and had never been in the habit of removing it at night, noticed one morning that she could not find it. After searching in vain for some time, her attention was directed to a suspicious cough, and she began to think she might have swallowed it; though she had not been disturbed during the night, and had no remembrance of its dropping into the throat. When she consulted the doctor there was very little inconvenience, no difficulty of breathing; but while in his house a violent paroxysm of coughing came on, and she appeared to be choking. Brunelle's method of inversion was at once practised, and she was relieved. An operation was urged and consented to, but the following day she felt so well that she refused to submit. Dr. H. heard nothing more of her for several weeks, when she came again, the cough having become troublesome. She again refused operative measures. After consulting several other medical men, all of whom assured her that the tooth was in the windpipe and must be removed, she returned to Dr. H., and finally decided to have the operation performed. On November 1st the trachea was opened, and with a pair of slightly curved laryngeal forceps the offending tooth was readily grasped, being situated in the neighbourhood of the orifice of the right bronchus. It was a small incisor, with a flat gold plate and two lateral extensions to fasten it to the contiguous

teeth. It was coated with dark mucous. In the operation, he adopted a device which answered admirably. After a long incision through the skin and superficial fascia, he made a transverse incision just below the cricoid, inserted the director upon the trachea and tore down, with the greatest ease and without any bleeding, the tissues covering the first five or six rings. The remarkable feature about the case was the length of time the foreign body existed without producing very serious inconvenience. Dr. H. stated, in response to a question from the President, that he thought there was some little difficulty to the entrance of air into the right lung. The second case was that of a young boy, son of a farmer in New York State, who had had a *pin in the windpipe for eleven months*. A day or so after swallowing it, the child was brought to Dr. H., but, as there were no special symptoms, an operation was not deemed advisable. The child subsequently suffered a great deal from cough, fever and expectoration. He would be better at times, and then severe fits of coughing would come on. One day, after riding on a comrade's neck, he had an unusually hard coughing spell, and ran to his mother, who put him across her knees and struck his back forcibly. Shortly after he went out to the doorstep, and, while coughing, put his finger down the throat and drew out the pin. He has since been quite well.

Chloral Poisoning.—Dr. Cameron reported a case of a lady who took 160 grains of chloral hydrate at a single dose, for suicidal purposes. When seen three hours after, the pulse was 18, pupils contracted, and features pale. Believing that the chief indication was to support the failing heart, sulphuric ether, η xxx, was injected subcutaneously every half-hour for four doses, with marked improvement of the pulse and general symptoms. Emetics were employed, but very little came up in the vomiting. The patient made a good recovery.

Dr. Proudfoot mentioned that in Boston, when chloral first came into use, he gave sixty grains an hour, for six hours, to a man with *delirium tremens*. No dangerous symptoms followed; so far as he knew, the drug was good, having been imported from Germany.

Extracts from British and Foreign Journals.

Unless otherwise stated the translations are made specially for this Journal.

Chyluria.—The members of the London Pathological Society a few days since enjoyed the rare opportunity of seeing the *filaria sanguinis hominis* in the living state from a patient in the London Hospital, suffering from hemato-chyluria, under the care of Dr. Stephen Mackenzie. Briefly, the facts known about the blood-worm and their bearing on the pathology of obscure lymphatic disease are as follows: The parasite presents an example of the alternation of generations, requiring two hosts for its complete development. The minute, almost structureless worms found in the blood of the human subject in such vast numbers are the embryonic forms of the filaria, which requires the musquito in which to develop into the sexually-mature worm. The musquito, feeding on the blood at night, when the filaria are generally alone to be found, becomes gorged with them. Their growth in the musquito has been traced by Lewis and Manson, and it is presumed that they are only liberated from the body of their host by its death in the water, to which it always finally resorts. The hematoid is thus set free, and probably undergoes further development; for the mature worm measures some three inches in length. Its passage into the human body is easily explained, and the analogy in this respect with the guinea-worm is one which Dr. Vandyke Carter ably illustrated. Once within the human body, the worm lodges in the tissues; but as to its migrations, and, indeed, its ultimate resting-place, but little is known. It seems, however, to have a peculiar aptitude for selecting the lymph-channels for its habitat—a selective power not more remarkable than that which urges the trichina to select the muscular tissues. This is further borne out by the fact that its embryos—the *filaria sanguinis hominis*—are met with in the blood and urine of the subjects of chyluria and nevoid (or lymphatic) elephantiasis. The precise mechanism of chyluria still requires to be explained, and until it is elucidated an important part of the subject will remain obscure. Dr. Mackenzie hardly touched upon the pathology, limiting himself to the state-

ment of the facts observed in his case, the most important in connection with the urine being that besides having all the chylous properties, it invariably contained more or less blood, that passed by day containing more blood and filaria, that passed by night being more milky; and that filaria were found in it, especially in connection with blood-coagula. The most remarkable feature of the whole case lay in the periodicity shown by the filaria in the time of their appearance in the blood. During the whole period of the man's stay in hospital his blood had been examined regularly every three hours, with the constant result that by night the filaria abounded, by day were entirely absent. It is certainly singular that the time selected by the mosquito should correspond with the presence of the parasite in the blood-stream, and the connection of these two facts is not the least wonderful in the life-history of the parasite. Dr. Mackenzie found that the ingestion of food bears no relation to the presence of the parasite in the blood, but that the time of rest and sleep does; for when the patient was up all night and slept during the day, the period of filarial migration was similarly inverted. Dr. Mackenzie did not venture to speculate on these curious points; he wisely contented himself with laying the facts he had observed before the Pathological Society; and we may congratulate the Society upon having had the advantage of this valuable demonstration upon a class of diseases seldom met with in England, it is true, but the study of which may throw light on other obscure affections, and enlarge our conceptions not only of the manner in which parasites may infest the human organism, but of the remote effects their presence is capable of producing.—*American Practitioner.*

Tobacco Poisoning.—Dr. J. M. Bigelow reports the case of a young man who had been suddenly seized, on the street, with a convulsion, of which there was no premonition. Found him pallid; countenance pinched and contorted; pulse variable, being for a few seconds 136 to the minute, then 38, and intermittent. Heart action was very irregular, the sounds muffled and running into each other. Temperature was normal.

Eyes were staring, pupils dilated. He had severe pain and distress in the left side, especially over the heart. Dyspnoea was marked; respiration sighing; hiccough; cold perspiration and great prostration. Convulsions rapidly succeeded, with great agitation of the extremities, without loss of consciousness, and at their termination, anaesthesia, especially of the left side, with uncontrollable nervous tremor. After the transit of the convulsions a cataleptic condition was observed. This passed off, and was succeeded directly by hysterical tremors, convulsive twitching of the flexor muscles of the whole body, with agonized apprehension of approaching catastrophe and death. He would clutch the arm of a by-stander and beseech him to save his life, to relieve him of the great precordial distress and threatening suffocation. Conversation or any violent motion of the attendants provoked these spasmodic attacks. It was learned that this was his third attack within a year. He was an excessive tobacco smoker, sometimes consuming ten cigars a day; he had begun its use at the age of twelve. He had little appetite most of the time, was pale and cadaverous, enfeebled, restless, starting in his sleep, and his disposition had become irritable. There was no family history of nervous disease; his own health, aside from this, had been good. Morphia was given hypodermically and bromide of potassium and carbonate of ammonium internally, and in a few days iron, quinine and strychnia: tobacco was interdicted. The latter injunction was disregarded, and four days later he had another even more violent convulsion; he then gave up tobacco, and has since been in good health.—*Med. Annals*, Nov., 1881.

In the *Revue Scientifique* for Nov. 19, 1881, there is a paper by M. Thoreus on this subject, in which attention is particularly directed to tobacco poisoning as productive of symptoms closely allied to those of angina-pectoris, particularly when the tobacco smoke is inhaled.

A New Method of Detecting Small Stones in the Bladder.—Dr. S. Cuthbertson Duncan has used for about three years the following method of

detecting stone when small or in fragments. He takes a nickel-plated sound, such as is commonly used for that purpose, and holds it over the flame of an ordinary lamp or candle until the point is covered with a thin black film. After it has become quite cool, it is dipped in a solution of collodion and allowed to dry. He then oils it with castor-oil, and introduces it a short distance in the urethra and withdraws it, to see if it be injured. If not, he proceeds to explore the floor of the bladder with a sweeping lateral movement. If there be a stone or any fragments left after lithotrity, its black covering will be removed in patches, and the bright metal will show through. The author thinks this more delicate than Mr. Napier's indicator, the point of which is made of lead, blackened by chemical agents; and this very method does not impair the conducting power of the sound in any degree. A short beaked solid steel sound is preferred, with a round handle, which has a flat disk about two inches from the end, at right angles to the curve of the beak, to serve as a guide for the direction of the point. The round handle allows it to be rotated between the index-finger and thumb, the most sensitive part of the hand—two things necessary for rapid and delicate manipulation.—*Brit. Med. Jour.*, Nov. 12, 1881.

Milk Indigestion in Young Children.—

Dr. Eustace Smith (*Brit. Med. Jour.*) says that when indigestion is due to catarrh of the stomach it is readily amenable to treatment. All that is necessary is to put a stop to the milk for a day or two, and to clear away the curd by a full dose of castor-oil. If, however, the fault be in the milk, and not in the digestive organs of the child, some change in the method of feeding is indispensable. In one case, where curdling took place, with resultant griping and indigestion, and where various remedies had failed, Dr. Smith at last adopted the plan of giving the child barley-water from a bottle immediately before he took the breast, in the hope that by this means the milk might be diluted directly it reached the stomach. This method succeeded perfectly, and the child had no further unpleasant symptoms. In

cases of gastric catarrh, when the complaint is acute and severe, vomiting is usually the most prominent symptom. Under such circumstances milk becomes a positive poison, and no hope of alleviating the symptoms can be entertained while this diet is persisted in. In the case of an infant two months old, brought up by hand, and fed upon milk and barley-water, uncontrollable vomiting and diarrhoea had reduced it to the last extremity. Dr. Smith directed a weak mustard poultice to the epigastrium. The milk was stopped, and the child fed with weak veal broth and thin barley-water, mixed together in equal proportions, and given cold at intervals with a teaspoon. A few drops of brandy were given occasionally, as seemed desirable. As a result of this treatment, the vomiting stopped at once, and the child, when seen three days afterwards, was found to be much improved, and was cured by the end of a few days' further treatment. The most important part of the treatment in this case was the substitution of veal broth for milk. Directly the supply of fermentable matter was stopped, fermentation ceased, acid was no longer formed, and the digestive organs returned to a healthy condition. Here the derangement was acute.

Psoriasis from Borax.—Among the cutaneous eruptions which may result from the administration of drugs, psoriasis has not, according to Dr. W. R. Gowers (*London Lancet*), been hitherto included. The following facts which he narrates show that an eruption of characteristic psoriasis may result from an internal administration of borax. The facts have been met with in the use of borax in the treatment of obstinate cases of epilepsy in which bromide fails. The first instance was in the case of a man who had taken borax for nearly two years in doses of first fifteen grains and then a scruple three times daily. An eruption of psoriasis made its appearance on his limbs and trunk, developing to a considerable extent in the course of a few weeks. Five minims of arsenical solution were added to each dose of borax, and the eruption rapidly disappeared. Shortly afterward Dr. Spencer, of Clifton, in mentioning to me a case of epilepsy in which he had given borax with advantage, inquired

if I had met with any inconvenience from its use. I told him of this case, in which I thought it possible that the psoriasis was produced by the borax, and he informed me that in his patient the same eruption had just appeared. In this case also the rash rapidly cleared away under the influence of arsenic, and a few weeks later Dr. Spencer wrote to me, "I have not the slightest doubt that the borax caused the psoriasis or that the arsenic cured it." A third instance has lately come under my notice. The patient was a young man who had suffered from epilepsy since infancy, and who was always rendered worse by bromide, so that he was brought to me with the request that bromide might on no account be given. He took borax, first fifteen grains and then a scruple three times a day, with greater benefit than had resulted from any previous treatment, and after eight months an eruption of psoriasis appeared. Arsenic was added, but the result of treatment has not yet been ascertained. The eruption in these cases occurred on the trunk, arms and legs, but more on the arms than elsewhere. The face was free. It was located on both the flexor and extensor aspects. The patches varied in size, up to an inch and a half in diameter. Their appearance is quite characteristic, but the scales were not quite so thick as they sometimes are in ordinary psoriasis. In no case was there a history of syphilis, and in Dr. Spencer's patient syphilis could with certainty be excluded.

Extractum Carnis and Urine as Medicinal Agents.—Mr. G. F. Masterman has already by several analyses shown that the ordinary Liebig's extract has very much the composition of urine, except that it contains less urea and uric acid. Beef-tea, as ordinarily made, does not contain, including alkaline salts, more than from 1.5 to 2.25 per cent. of solid matters. These solids are chiefly urea, creatine, creatinine, isoline, and decomposed hæmatin—exactly the animal constituents of urine, except that there is but a trace of urea. Dr. Richard Neale, in the *Practitioner*, comments upon the above facts, and says that the real value of beef-tea as a nutriment is still not appreciated, especially among the laity. Even

some physicians are apt to class it as of almost equal value to milk. Dr. Francis Sibson has shown how detrimental beef-tea may be to persons who are suffering from Bright's disease, where the kidneys are already taxed to their utmost to throw off metamorphosed matters. The addition of the nitrogenous metabolites of the cow cannot but be dangerous. Frequently, says Dr. Neale, beef-tea is recommended by practical physicians in diarrhoea, dysentery, and during diarrhoea of typhoid fever. This he considers a very dangerous practice, and looks upon beef-tea in such cases as little better than a poison. Dr. Lauder Brunton is also quoted as raising the question whether beef-tea is not actually injurious. After thus emphasizing the fact of the non-nutritive, but stimulating properties of beef-tea, Dr. Neale states that similar properties have long been known as pertaining to urine. In South America urine is a common vehicle for medicine, and the urine of little boys is spoken highly of as a stimulant in malignant small-pox. Among the Chinese and Malays of Batavia, urine is freely used. One of the worst cases of epistaxis ceased after a pint of fresh urine was drunk, although it had for thirty-six hours or more resisted every form of European medicine. This was by no means an unusual result of the use of urine, as Dr. Neale was informed by the natives. As a stimulant and general pick-up, he had frequently seen a glass of a child's or young girl's urine tossed off with great gusto and apparent benefit. In some parts of England the use of urine as a medicinal agent is not unknown. In 1852 Bauer recommended the external use of urate of ammonia in lepra, morphea, and other obstinate skin diseases. In 1862 Dr. Hastings made a report on the value of the excreta of reptiles in the treatment of phthisis.

The Pre-Cancerous Stage of Cancer, and the importance of Early Operations.

—GENTLEMEN: The patient who has just left the theatre is the subject of cancer of the tongue in an advanced stage. As I demonstrated to you, the lymphatic glands are already enlarged. It is hopeless to think of an operation, and there is nothing before him but death, preceded and produced by a few months of great and continuous suffering. His case, I am sorry to say, is but an

example of what is very common. Not a month passes but a case of cancer of the tongue presents itself in this condition. The cases which come whilst the disease is still restricted to the tongue itself are comparatively few; nor does this remark apply only to the tongue. "Too late! Too late!" is the sentence written but too legibly on three-fourths of the cases of external cancer concerning which the operating surgeon is consulted. It is a most lamentable pity that it should be so; and the bitterest reflection of all is, that usually a considerable part of the precious time which has been wasted has been passed under professional observation and illusory treatment. In the present instance, the poor fellow has been three months in a large hospital and a month under private care. I feel free, gentlemen, to speak openly on this matter, because my conscience is clear that I have never failed when opportunity offered, both here and elsewhere, to enforce the doctrine of the local origin of most forms of external or surgical cancer, and the paramount importance of early operation. I have tried every form of phraseology that I could devise, as likely to impress this lesson. Nearly twenty years ago, I spoke to your predecessors in this theatre concerning the "successful cultivation of cancer"; telling them how, if they wished their patients to die miserably of this disease, they could easily bring it about. The suggestion was, that all suspicious sores should be considered to be syphilitic, and treated internally by iodide of potassium, and locally by caustics, until the diagnosis became clear. More recently, I have often explained and enforced the doctrine of a pre-cancerous stage of cancer, in the hope that, by its aid, a better comprehension of the importance of adequate and early treatment might be obtained. According to this doctrine, in most cases of cancer of the penis, lip, tongue, skin, etc., there is a stage—often a long one—during which a condition of chronic inflammation only is present, and upon this the cancerous process becomes engrafted. I feel quite sure that the fact is so. Phimosis and the consequent balanitis lead to cancer of the penis; the soot-wart becomes cancer of the scrotum; the pipe-sore passes into cancer of the lip; and the syphilitic leucoma of the tongue, which has existed in a quiet state for years, at length,

in more advanced life, takes on cancerous growth. The frequency with which old syphilitic sores become cancerous is very remarkable; on the tongue, in particular, cancer is almost always preceded by syphilis, and hence one of the commonest causes of error in diagnosis and procrastination in treatment. The surgeon diagnoses syphilis, the patient admits the charge, and iodide of potassium seems to do good; and thus months are allowed to slip by in a state of fool's paradise. The diagnosis, which was right at first, becomes in the end a fatal blunder, for the disease which was its subject has changed its nature. I repeat that it is not possible to exaggerate the clinical and social importance of this doctrine. A general acceptance of the belief that cancer usually has a pre-cancerous stage, and that this stage is the one in which operations ought to be performed, would save many hundreds of lives every year. It would lead to the excision of all portions of epithelial or epidermic structure which have passed into a suspicious condition. Instead of looking on whilst the fire smouldered, and waiting till it blazed up, we should stamp it out on the first suspicion. What is a man the worse if you have cut away a warty sore on his lip, and, when you come to put sections under the microscope, you find no nested cells? If you have removed a painful, hard-based ulcer of the tongue, and with it perhaps an eighth part of the organ; and, when all is done, and the sore healed, a zealous pathological friend demonstrates to you that the ulcer is not cancerous, need your conscience be troubled? You have operated in the pre-cancerous stage, and you have probably effected a permanent cure of what would soon have become an incurable disease. I do not wish to offer any apology for carelessness, but I have not in this matter any fear of it.—JONATHAN HUTCHINSON in *Brit. Med. Jour.*

Darwin on Worms.—The habits of worms and the purpose they fulfil in the economy of nature do not at first sight appear to be very promising subjects of inquiry, nor likely to lead to interesting results; yet the work which has just been published by Mr. Darwin, "On the Formation of Vegetable Mould through the Action of Worms," shows how the facts ac-

cumulated by a careful and accomplished observer may render an uninviting subject extremely interesting, and serve as a basis on which theories having an important relation to geology may rest. It is remarkable, that, notwithstanding their common occurrence, no monograph of the British species has been written. It is probable, however, that there are about eight species. All of them are probably terrestrial, though they resemble other annelids in being able to live for a considerable period under water. Salt or brackish water proves rapidly fatal to them, as was demonstrated not long ago on the occasion of a high tide overflowing the banks of the Medway at Rochester, when many thousands of worms might be seen lying dead on the surface. Worms are nocturnal in their habits, and only exceptionally leave their burrows by day; those that are found wandering on the surface are, Mr. Darwin thinks, sick individuals affected by the parasitic larvæ of a fly. They do not, however, bury themselves deeply except in very hot or very cold weather, but lie with their heads near the surface, partly perhaps for warmth, but more probably for respiratory purposes. The senses of worms, with the exception of that of touch, appear to be very feebly developed. Their sensitiveness to light varies remarkably, the sudden admission and shutting off of a bright light concentrated on the head sometimes producing no effect, whilst at others it induces a rapid retreat of the animal into its burrow. Both Mr. Darwin and Hofmeister agree in thinking that light affects worms by its duration as well as its intensity, the light of a candle even causing them to withdraw or preventing them from issuing from their holes at night. They do not appear to possess any sense of hearing, remaining quiet both when a shrill metal whistle and a bassoon were sounded near them. The faculty of smell, again, seems to be only developed so far as to enable them to distinguish the proximity of the favorite objects of food, for they remained unexcited by many odors, though they soon discovered and carried off fragments of onion and cabbage. Their sensitiveness to contact, on the other hand, is very acute, and the slightest vibration, or even the impression produced by a feeble puff of air, is sufficient to induce rapid movement. They

are omnivorous; they like particles of meat and fat, and do not refuse the dead body of another worm. Their digestive fluids are found to resemble the pancreatic juice, and to digest albumen, fats and starch. Everyone must have been struck with the leaves and petioles of leaves, that are so frequently found standing nearly vertically in the soil. These are probably often thought to be merely accidentally imbedded, but it is well known that they are objects seized by worms and dragged into their burrows, partly for food and partly to close the orifice; the latter object being demonstrated by the fact that small stones are gathered together and similarly placed. Mr. Darwin's observations on this point are very interesting. He describes the mode in which they seize such objects, showing that it is partly by the lips and partly by suction, and that they evince a certain amount of intelligence in the mode in which they, if the expression may be allowed, manipulate them, so that they are always dragged to their holes with the least expenditure of force. The mode in which worms form their burrows has engaged Mr. Darwin's attention, and he thinks it partly effected by a wedge-like cleaving process, and partly by swallowing the earth immediately in front of them. They penetrate sometimes to a depth of five or six feet, and there form chambers, where many hibernate, rolled together in a ball. He does not think Hensen's estimate of 53,767 worms to an acre too high an estimate, and this number would weigh 356 lbs., whilst their castings reached the surprising amount in one instance of 7.56 tons per acre, and in another of 16.1 tons per acre—an amount that, considering all this had passed through the bodies of the worms, is sufficient to show how important a part these animals play in the economy of Nature.—*Lancet*.

Communication of Syphilis by Skin-grafting.—At a recent meeting of the Société Médicale Hôpitaux de Paris, M. Féréol related the following curious instance of the above:—A man, aged 49, suffered from gangrenous erysipelas of the upper third of the left thigh, which left a large obstinate ulcerating surface. On March 7th, M.

Doubel, the surgeon in charge, applied forty-five pieces of skin taken from five different persons to the outer part of the sore. Thirty-three of the grafts adhered. On March 18th, twenty-eight grafts taken from the buccal mucous membrane of a rabbit were applied, but all failed. On March 23rd forty grafts supplied by seven persons were placed on the internal portion of the ulcerated surface. Thirty of these were successful, and cicatrization was proceeding rapidly, when, on April 5th, a greyish ulcer appeared at the site of the first grafting; other similar ulcers quickly followed, and in three days involved the whole of the cicatrix. About ten weeks after the first series of grafts had been applied (May 19th), a copious roseolar rash appeared, and was soon followed by crusts on the hairy scalp and mucous patches in the mouth. About this time the son of the patient, who had furnished part of the grafts on both occasions, consulted M. Doubel, who subsequently discovered that the young man had had a chancre eighteen months before, which had not been attended to.—*Med. News.*

Hysterical Affections of the Larynx.—

Some observations of Dr. Thaon have been translated for the *Edinburgh Medical Journal* as follows:—

Hysterical Aphonia is caused by paralysis of the muscles of the larynx. The muscles most commonly seized are the vocal muscles. Nevertheless, paralysis of the posterior crico-arytenoids is not absolutely rare, and we have known a case of this kind in which a hysterical female has been twice tracheotomized. A primary symptom of hysterical paralysis is that it is frequently bilateral, or else the paralysis is one-sided, but complicated with paresis or contraction of the opposite muscle. Thus hysterical aphonia is often complete. It is, besides, a common enough occurrence, this diffusion of hysteria in organs which are impaired, and which are not symmetrical, as the ovaries. A second symptom of hysterical aphonia is that it frequently gives a laryngoscopic image differing the one day from the other. A third characteristic is to leave the cough intact, which even gains in intensity and breaks forth into roaring. We have even seen some

cases of hysterical aphonia where the patient could sing, and some who could speak in their dreams.

Spasm of the Larynx.—The hysterical laryngeal spasm has its characteristics which distinguish it from the spasm of infancy, from the spasm from an irritation of the vagus nerve or of the recurrent, and from the spasm from the introduction of a foreign body into the larynx. This spasm is expiratory or inspiratory. The expiratory spasm is nothing else than the whimsical cough of the hysterical, a symptom common to nearly every hysteric, but one the most painful. In a boy 14 years of age we have counted as many as twenty-five coughs per minute during weeks. This child was cured by a heavy rain which overtook him during a walk, and to which he was exposed for two hours. At other times the hysterical cough is cured by the intercurrent affection which has been its primary cause. We know the fortunate consequences of the cure of uterine maladies from the hysterical cough. This hysteric cough was the cause of many errors being made before the laryngoscope had unveiled the exact state of the larynx. When it is met with in young girls associated with supplementary hemoptysis, it gives rise to a prognosis of which the gravity is only apparent.

Laryngeal Hyperesthesia.—Hysterical laryngeal hyperesthesia is very common. It is perhaps the most frequent manifestation of hysteria in the larynx. It is sometimes diffuse, and manifests itself by various sensations—sensations of burning, tearing, pulling, going from the throat to the sternum, sensations of a foreign body. Who does not remember being called out in great haste to see a woman who had swallowed a pin, a fish-bone, etc., and who was in the greatest agony. After a conscientious examination, we find that the patient has been mistaken by a false sensation, and that we ourselves have been the victim of a false alarm. But it is not always easy to convince these same subjects that it is not a rare thing to find among them veritable cases of laryngeal hypochondriasis.

Laryngeal Anesthesia.—The result of our inquiry on this subject is that only in one-sixth of hysteric patients we have met with more or less complete anesthesia of the epiglottis. It is

the epiglottis which is frequently attacked by anesthesia, and frequently to the exclusion of every other part. Anesthesia may have completely mastered the whole of the larynx, and be absolute. Generally it is bilateral, and is not limited to any well-defined nervous territory. This characteristic sometimes sufficiently distinguishes it from other anesthetics, which are as extensive as one of the areas of one of the superior laryngeal nerves, such as diphtheritic anesthesia. Another important and special characteristic of this anesthesia is that it is frequently associated with a cutaneous patch of anesthesia on the front of the neck, a peculiarity already noticed with reference to hysteric aphonia. The simple introduction of the mirror is sufficient to cause many of these anesthetics to disappear.

Treatment of Hydrocele and Serous Cysts in general by the Injection of Carbolic Acid.—

Dr. Levis states that he has been experimenting with a view of determining what substance may best secure the obliteration of the secreting surface and the adhesion of the walls of the cyst with the most certainty and the greatest freedom from suffering and danger. Having selected carbolic acid as an agent which would provoke simply a plastic inflammation, he injected one drachm of the deliquesced crystals into the sac of a large hydrocele. The new procedure was entirely painless. A sense of numbness alone was experienced, and no inconvenience was felt until, on the next day, the desired inflammatory process developed. A nine years' hospital and private experience leads the author to believe that this method is the most satisfactory for the object. For the purpose of injection, crystallized carbolic acid is maintained in a liquified state by a five to ten per cent. solution of either water or glycerine; the crystals are to be reduced to the fluid state with no more dilution than may be necessary for this. After the usual tapping, he injects the liquified crystals with a syringe having a nozzle sufficiently slender and long enough to reach entirely through the canula. He has never been able to detect any general toxic effects upon the system, but believes that the action of strong carbolic acid on surfaces secreting albuminous fluids is to seal

them, to shut them off from the system in such a manner that absorption cannot readily take place. The occluding influence of strong carbolic acid he regards as an important surgical resource in certain cases of compound fracture, destructively lacerated wounds, and ulcerating surfaces, where septic infection is inevitable. All forms of serous cysts which are usually subjected to any form of operative treatment, on the principle of producing plastic adhesion of their walls, may be deemed amenable to the treatment indicated.—*Medical Record*.

Oil of Wintergreen as an Effective Salicylate in Rheumatism.—An able chemist, namely, Mr. P. Casamajor, of Brooklyn, informs the writer of this paragraph, that, arguing from a purely chemical position, he expected to obtain better results in acute or subacute rheumatism, and perhaps in chronic rheumatism also, from the use of Oil of Gaultheria, or Wintergreen. This oil is mainly Methyl Salicylate, and was among the earliest sources of Salicylic Acid. Mr. Casamajor supposes that this salt of Salicylic Acid would be easily appropriated in the economy, and would prove more effective than other salicylates of more fixed character. Carrying out his ideas, he had treated himself and several friends who had been subjected to rather sharp attacks of rheumatism with Oil of Wintergreen, and with somewhat marked benefit in every case tried. He takes and gives the oil in doses of ten drops dropped on sugar, and the sugar then mixed with a little water and swallowed about every two hours until the pain is relieved. This simple procedure is well worthy of extended trial and closer observation.—*Ephemeris of Mat. Medica*.

Bilious Headache with Flatulence.—

℞	Magnes. sulphate	- - -	5	vj
	Magnes. carbonat.	- - -	3	j
	Tinct. lavand. co.	- - -	3	ijj
	Aquæ menth. pip.	- - ad	3	vijj

M. Sig. A six part to be taken early in the morning, and repeated as may be necessary.

CANADA.

Medical and Surgical Journal.

MONTREAL, FEBRUARY, 1882.

PROVINCIAL HEALTH BILL.

At the meeting of the Canada Medical Association, held in August last at Halifax, the Hon. Dr. Parker, in introducing the report of the committee on Public Health, said:—"Law-making on sanitary matters should begin with the separate provinces, each for itself, and the whole should be consolidated under some Act governing the entire Dominion, and passed by the House of Commons. Sir John Macdonald used formerly to say that all matters connected with statistics belonged to the Provincial Legislatures, but he has seen reason to change this opinion, and would be ready to admit the control of the general Government over statistics and such like matters which are necessarily intimately connected with sanitary legislation." The opinion that the initiative should be taken by separate provinces, and that consolidation under a Central Board should remain a matter for future consideration, was very generally entertained. The plan is entirely feasible, and it is encouraging to find indications that the profession are alive to the importance of lending their assistance for the immediate prosecution of this important work. Exertions are already being made in Ontario for developing suitable legislation on public health, and the Province of Nova Scotia has also been moving in the matter. We in Quebec have not been idle. For several months past Dr. Larocque (the Health Officer of Montreal), with the assistance of the City Attorney and other civic officials of experience, has been preparing a Bill to be submitted to the Provincial Legislature during the coming session. The provisions of the Bill have received

much careful thought at their hands, and is based upon a consideration and comparison of the laws in existence in Great Britain and in many of the United States. When sufficient progress had been made, and a draft of the clauses had been printed, the matter was brought to the notice of the Medical Societies of this city, and committees were appointed therefrom to confer with the Health Officer and make suggestions. These committees had several meetings, and went over the separate clauses with care. This done, a joint meeting was held of the Board of Health and the Medical Committees. A further careful revision was had, and many important alterations made. The attendance at these meetings was large, and much interest was taken in the proceedings. The Bill is now in the hands of the City Attorney for final preparation. The Attorney-General of the Province, Hon. Mr. Loranger, has expressed his entire approval of the proceedings thus far, and has promised that if, on examination, he is satisfied with the provisions asked for, he will have the matter taken up and introduced as a Government measure. There is, therefore, a reasonable expectation that before another year a regular scheme for the supervision of the public health of the Province will be in operation. The principal features of the Bill as at present drafted are as follows:—A Provincial Board of Health is to be organized, composed of certain members of the Ministry *ex officio*, medical men of experience and standing, and lay members; these to be selected by the Lieutenant-Governor in Council. In all matters affecting the sanitary condition of all districts of the Province this Board shall be supreme. It shall institute enquiries and investigations into the prevalence, mortality and causes, of all epidemic and infectious diseases. It will also have the supervision of the Provincial system of registration of births, marriages and deaths, and also of the registration of infectious diseases. It will have power to examine into and abate nuisances not attended to by the local Boards. It will advise and direct all local Boards, and see to uniformity of action amongst them. If a municipality neglect to organize a local Health Board, the Provincial Board will have power to appoint suitable persons to act in that capacity.

The second portion of the Bill provides for the establishment of local or municipal Boards of Health throughout the Province. Thus the Mayor and Aldermen in each locality, assisted by physicians, are empowered to assume the functions of a local Board, and each such Board is to appoint a local Health Officer, who will have the usual executive powers of such an official, and will report annually to the Provincial Board. The provisions which occupy the following clauses give the necessary authority to these Boards to regulate sanitary matters in their own districts. These need not be particularized. They resemble closely those under which the Board of Health of this city has been acting, giving them, however, even more ample powers with reference to the compulsory isolation and quarantining of persons afflicted with infectious diseases. It is made the duty of householders to report cases of infectious disease to the Board. The third and last division of the Bill is that to provide for "the collection of vital statistics in the Province of Quebec by means of the registers now being kept, or by civil registration." The scheme here proposed is that the statistics shall be obtained in the first place from all "persons authorized to keep a register of the Acts of the Civil Status," and in the second place by compulsory legislation in all cases unprovided for as above. It is also proposed to make stringent regulations concerning death certificates. In the absence of the regular certificate from the attending physician of a deceased person, the Coroner must be notified, and it must then rest with him to say whether any further investigation is requisite. Such is the general scheme of the proposed Bill. It appears well suited to our wants. We shall watch with interest for its appearance at Quebec, and trust that before long it may, with any suitable amendments, become law.

A MEDICAL MAYOR.

It is publicly announced that Dr. J. L. Leprohon has consented to become a candidate for the Mayoralty of the city of Montreal. We cannot but congratulate Dr. Leprohon upon this mark of the esteem and respect entertained for him by his fellow-

citizens. A better selection could not have been made. The Doctor possesses the courtesy, dignity, tact and experience of public matters, which are requisite to a proper fulfilment of the important duties of this office. He has for many years past devoted much attention to the subject of sanitary science, and will thus become a valuable practical member of the Board of Health. He bears the highest character as a professional man, and will therefore be a most proper person to do the honors of our city to the delegations of scientists who will next summer attend the meeting of the American Association for the Advancement of Science. We have no doubt that Dr. Leprohon will receive the unanimous support of his *confrères* during the election, and we hope to have the pleasure, on a future occasion, of announcing that he has been successfully returned.

THE HAYVERN CASE.

The evidence in this now celebrated case is reviewed at length in the last number of the *Journal of Mental Science* (January, 1882.) Our readers are well aware, through the general press and through the controversy carried on in the columns of some of our medical contemporaries, of the wide divergence between the opinions held by the medical experts for the prosecution and defence respectively. They know that Dr. Henry Howard took very strong ground in asserting Hayvern's insanity, and that his evidence was entirely overborne by the conjoint statements to the contrary of several others who have given the subject of mental disease some attention, and the man was executed. It will, therefore, interest them to hear the result arrived at by the *Journal of Mental Science*, after a review of the whole case. It says:—

“ Legal opinion in regard to the test of insanity does not appear to have made so much progress in Canada as in some of the States of America, where the test of knowledge of right and wrong has been departed from in a marked manner. Dr. Howard, who has had long experience of the insane, has done good service by ventilating more advanced views on the subject. We hesitate to express a decided opinion on the irresponsibility of

this particular prisoner, seeing that several physicians on the spot differed from the conclusion arrived at by Dr. Howard, that he was insane and unaccountable. At the same time the history of the case strongly suggests epilepsy, and the intemperate habits were probably symptoms rather than causes of the low mental condition present. The absence of motive for the crime is a striking feature of the case, as well as the prisoner's indifference to the verdict pronounced upon him."

THE Illustrated Quarterly of Medicine and Surgery.—We have just received the announcement and the first number of the journal bearing the above title. It is edited by Geo. Henry Fox and Fred. R. Sturgis, and is intended to contain articles upon all the departments of medicine and surgery. The great feature of the work will be the illustrations. These are of large size, and executed in the very best artistic style. Of these there are no less than twenty in the first number. We shall pay this excellent new work some attention in our next issue.

Obituary.

DR. KENNETH REID.—Few of our readers who were acquainted with the deceased could have read without painful emotion the announcement of the sudden death of Dr. Kenneth Reid, of New York. It is eighteen years since Dr. Reid left Montreal for a wider sphere of action, and his career in the commercial metropolis has always been watched with interest by his Canadian friends. Dr. Reid was but 42 years of age at the time of his death. He was born at Huntingdon in 1840; received his education at the Academy there, became an articled pupil of Dr. Hingston, and graduated at McGill University in 1864 with distinction. He then went to Europe, where he spent two years, devoting his time chiefly to diseases of the eye. On his return he had charge of an emigrant vessel, and his report on the health of the passengers was of a nature to attract the notice of the officer of quarantine, Dr. Swinburne, who at once offered him a position on the staff, which, with some hesitation,

he accepted. He continued in that office during the remainder of Dr. Swinburne's term of office, and until that of Dr. Carnochan, was brought to an abrupt termination. He then commenced practice in New York, and while brilliant success was not his, he was, in the opinion of those most competent to judge, laying the foundation of a solid and permanent reputation. Dr. Reid's zeal was untiring, with great capacity for labour. His memory was most retentive, rarely forgetting anything he had ever read. But what most endeared him to those around him was a modest demeanour, a mild and gentle manner, and a delicate appreciation and practice of what was right and honorable. A widow and one child survive him.

Medical Items.

PERSONAL.—W. R. Sutherland, M.D., has been appointed curator of the museum of the Medical Faculty McGill University.

—A vigorous effort is being made by Oliver Wendell Holmes and others to secure an endowment for Harvard Medical School. \$500,000 is the amount named. The effort will doubtless be successful. The regular course of four years will then be made obligatory upon all its graduates.

A WAIST LARGER THAN LIFE :

“ Still she strains the aching clasp,
That binds her virgin zone ;
I know it hurts her, though she looks
As cheerful as she can—
Her waist is larger than her life,
For life is but a span.”

—*Dr. O. W. Holmes.*

—An Evangelical of Hobart, Australia, it is said, refused to permit his child to be vaccinated, because the virus came from a member of the family of a Ritualist. He indignantly declared that his child should not be inoculated with Ritualism. “ On the vaccination theory,” says the *Independent*, “ he did not act wisely. If the child had been inoculated, he could have only a very mild attack of Ritualism, a sort of religious varioloid.”

CONVERSATION FOR A HOSPITAL.

Why has the powder which I have just taken such an exceedingly pungent and bitter taste ?

Now that I examine the paper containing the powder, I find a card attached to it, stating it to be "Poison." Is this the usual designation for Quinine ?

If there is no special place set apart for medicines, I should be obliged if you would kindly *not* mix mine with the morphia, aconite, laudanum, and oxalic acid powders in the basket now lying on the table.

If neither the Sister, the Nurse, the House Physician, or the Dispenser are responsible for the proper medicines being administered to me, would you have me removed at once to my own house for further treatment ?

Why does the Hospital Dispenser put his Poisons and his Medicines in precisely similar Wrappings ?

The Doctor and the pretty Sister seem to be discussing my symptoms at considerable length.

I wonder if the Nurse is doing right in bandaging the artisan's broken head with brown paper soaked in solution of turpentine, without consulting the doctor ?

Supposing I am killed in this Hospital, will a Jury bring in a verdict of Manslaughter against anybody ?

Now that I have swallowed five grains of Prussic Acid, given to me by mistake for Quinine Powder, perhaps you will kindly have my Executors communicated with, and tell me the name of a good Undertaker in this neighbourhood.—*Punch*.

MALTINE AS A CONSTRUCTIVE—BY L. P. YANDELL, M.D.—

"Maltine in its different forms is the only malt preparation I now employ, being so palatable, digestible, and easily assimilated. Of its efficiency in appropriate cases there is no more doubt in my mind than there is of the curative power of quinine, cod liver oil, the bromides and the iodides. It deserves to stand in the front rank of constructives; and the constructives, by their preventive, corrective and curative power, are probably the most widely useful therapeutical agents that we possess."—*Louisville Medical News*.