Thesis for M.D degree at the University of Edinburgh 1887.

Some cases of Injuries and Lesions of the Head, with notes on treatment.

It has long been said of Head Injuries, that however trifling they may appear they ought never to be lightly regarded, however severe they may seem should never be despised of.

The truth of this has been impressed upon me by cases which have been under my care or observation since receiving the degree of M.B. & M.R. of Edinburgh University in 1884.

This was especially so impressed upon me during the time that I was Assistant Medical Officer at the Life & Severed Dynman Asylum Capar a House Surgeon to Mr. A. G. Miller in the Edinburgh Royal Infirmury.

The important advances which have recently been made in cranio-cerebral surgery emphasize I think, the
The general truth of this Aphorism.
I therefore propose to give an account of some of these cases which have been under my care or observation and to add some notes on present day treatment of such cases, and on the advances in our knowledge which have rendered this treatment possible.
I will treat of the cases in Chronological Order: first taking those cases which were actually under my care.

**Case I**
Epilepsy
Insanity
Social Stigma
Death
Infirmity

Admission: October 12th, 1881.

Death: October 24th, 1881.

Epileptic patient was an Epileptic of 40 years' delusional for some months. Opinions equal, regular, sensitive to light. Subject to Epilepsy. Motor functions otherwise normal. Patient is a lad of enfeebled intellect and deficient in self control. Cheerful, Contented. Has no delusions, struts about with a most Consequent air. Bodily health good. October 13th Slept well last night. Good food well, 1st. Has had no fits since admission works in garden or farm.

1882 June 23rd No improvement patient still suffers from fits at irregular intervals.

October 24th Still has occasional fits as usual.
Helpful for a day or two but otherwise is quite well, works hard the "a trifle obtuse at times.


December 1st (1883) the remaining notes in his case were taken by myself. An Epileptic, sensible of willing to work to a degree when he has not had a fit just going to have a fit, or series of fits. Slighty dull stupid usually when fit is impending sometimes however fits come on without any warning as he gets altogether again very soon and goes on with what work or occupation (strictly speaking) he was doing. When fits begin he always runs towards anyone near他 falls down at their feet sometimes shouting out & wringing hands with sort of motion as if he had been stung by a bee or stung.

1885 January 15th. 7 days ago began to have a series of fits, slight but following quickly one after another one every 5 minutes for several hours, then none for some hours, but dull & stupid & semi-conscious all the time. He continued thus with series of fits alternating with periods of dulness for two days or three nights; the fits gradually getting less frequent but he getting more conscious.
Conscious. On examination: His bowels were relieved several times by enemata and last night his abdomen being much distended with flatus, a catheter was passed into
reclaim a gas allowed to come off: Bladder also got very much distended: another catheter was
passed and about 30 ounces of urine drawn off. He vomited several times a dark black fluid,
guilty unlike that of haematemesis. Up to
the last he had occasional fits which were
noticed to be of a special character, the same
being limited to his head & neck he always
turned his face towards left shoulder, his eyes
also turning upwards & to the left during the
fit: the right pupil has been dilated for
last two days: He died this morning at 3.30 A.M.
His temperature had reached 103.6° during the
last few days. From the character of the fits
which pointed to cerebral congestion (which
he undoubtedly had from his symptoms) and to
organic disease of brain (gross lesion) which I
mentioned as probably existing before he died.
January 18th 1 P.M. Turned to clay at 11 A.M. Slight
recent pleurisy at left apex, recent more
extensive pleurisy with 10 ounces of purulent matter
at right basal lobe: Both lungs congested and
and adenators: Heart & aorta small, white clot in right auricle.

dark clot in aorta: Right side of heart distended with blood, left firmly contracted. Valves, surfaces normal.

liver rather pale & fatty. Kidneys normal though pale.

Bladder contained urine (about 5 oz. drawn off 6 hours before death). This "pot water" urine contained much albumen and epithelial debris. Stomach contained dark blood fluid & several hard white lumps like cord, covered with dark staining outside. Stomach & cæcalculi of hemorrhagic spots at cardia end.

Head: Pure water firm glistening, congested, no fluid in cærachnoid cavity. Ova water much congested but brain stripped off easily.

Brain: whole surface dry, much congested.

white matter also congested, but not so much as meninges: lateral ventricles not dilated but whole brain looked as if it had been subjected to internal pressure. Convolutions showed no atrophy externally. There was a hard nodule in temporosphenoidal lobe on right side; which appeared like a sclerosis or grey matter in area around this quite white & hard. Right papilla only slightly dilated.

Weights of Organs: Brain 69 oz. 

The right temporo-sphenoidal lobe on section was found to be harden in formalin acid solution, but unfortunately has been misplaced so that I am unable to give results of microscopical examination as I should like to do. Situation of this tumour was however noted by me at operation, a diagram of its situation made. A copy of this I send.

This tumour was of about size of a large small walnut. Gelber not, though limits of tumour were not to be exactly growing in substance into surrounding brain mass out, as it seemed, infiltrating white matter heavily grey matter.

Case 2. Fracture Bone of Skull with Peron Death Necessary.

William Taylor at 35 admitted into Ward 114 of Royal Infirmary Edinburgh on June 22nd 1885. He was quite insensible on admission. Information as to nature of accident was not forthcoming but it had evidently been severe, probably a fall on his head onto pavement or other hard substance. There was no doubt as to nature of injury which was fracture of base of skull. He had all the symptoms necessary for a complete diagnosis of this, i.e. extensive bruising & ecchymosis, insensibility escape of blood from left ear and from nose of cerebro spinal fluid from left ear. The usual treatment was applied, i.e. shaving head, application of ice bags & slight mercury purge. However he never regained consciousness & died next morning. I append the note of Post Mortem made the same day of June 23rd 1885.

P.M. Post Mortem made the same day of June 23rd 1885. Old Anchyrosis of left joint & curvature of spine. Both eyes surrounded times ecchymosed, a well marked abrasion & cut 1½ inch in length above left eyebrow extending upwards and outwards. Extensive extravasation into tissues of scalp, skull cap thin. Large extravasation between bone & dura mater, just above left ear. Both hemispheres but esp. right covered with thin layer of blood. Weight of brain 3 lb 6 oz. Slight superficial contusion of
Case 2. Continued.

of right frontal & temporo-sphenoidal lobes. Very extensive fracture of skull. Though left temporal bone across tympanum, across body of sphenoid, through orbital plate of frontal bone the cavities of orbits being exposed with fractured orbital plate projecting into cranium. Fracture also extended across body of sphenoid on the right side. Sinuses & venels appeared normal.

John Cairn aged 30 admitted into Ward XVI Edinburgh Royal Infirmary under care of Dr Miller. August 15th 1885. 10.30 A.M. He was kicked by a horse in Col. Ketts Stables at Liberton. was attended to by Dr Forbes who sent him into Infirmary. On admission he was found to have a compound fracture of frontal & zygomatic bones on left side. Left Shoulder scars were bruised. Dr Forbes had removed a piece of bone, which was fracture of superior margin of left orbit. Shewn smooth surface of frontal sinus & also of surface of orbit, it was about this shape. Sinus cavitin aspect.

Several other small pieces of bone from inner superior angle of orbit were removed by
by Dr. Miller, the fracture thus was through the supra orbital margin of frontal x\ual bone, opening into orbit x frontal sinuses: at inner angle of orbit or rather just above it there was a cavity which was seen to be about large enough to hold the last phalanx of th\beard. This was chiefly the cavity of frontal sinuses but when filled with lot\ion palpation was observed so probably the inner cranial dura mater portion of frontal bone behind frontal sinus was also fractured.

This wound was washed out with corrosive sublimate lotion to remove any of blood which was present some ceased: edges of wound stitched together except at outer inner angles of orbit where drainage tubes were inserted: it was o\element, then dressed with iodoform, a protective put over this & then covered with iodoform x sublimated cotton wool.

There was considerable ecchymosis of both eyes. He had slight headache & uncomfortable feeling at seat of injury for two days: wound being cleaned daily as above described, irrigation being employed as method of antiseptic protection: Mint of wound healed by first intention & all of it had healed in ten days;
Case 3 continued:

He was allowed to get up in 12 days from date of injury. I was discharged "Well" in September 17th being told to come back of his own accord, as he had some interesting symptoms of local anaesthesia. This he did in October 13th when I made the following notes with diagrams attached, of which I give here.

See diagram: In pressing on any of the points marked thus: x a sharp pain is felt. In pressing on x 3 is at inner angle of orbit pain is felt to run from x 3 past eyebrow towards x 4, x 5 on to x 5.

Area on left side of forehead going as far back as line drawn over vertex from ear to ear (auditory meatus) which is shaded in diagram is anaesthetic. He can feel the points of the compass put down on his forehead but cannot tell if touched by one or both, even when points are widely separated: He cannot feel a light touch at all. This area of anaesthesia gradually shades into surrounding parts. Sensibility is perfect about ½ inch from it.

On opposite forehead he can distinguish the points of compass as two, when they are
are a distance of 15 millimetres (=inch) apart.

Left eye looks to be at a lower level than right
and its axis of vision is directed slightly upwards
when head is straight so right eye looking directly
forwards. He sees quite normally when looking
at an object in front of him, but when it is held
slightly far to his left side he sees double, seeing with
his left eye an image which appears to him
more to the left than real object is situated.
This is due to his inability to turn his left
eye more than a certain degree outwards so
to his left side, therefore image of object falls
on a more internal part of retina of left eye
than it should do; he therefore sees image more
to outside & more to left:
His acuteness of vision in left
eye is much diminished, he
being only able to distinguish
the army test dots for 50 feet at a distance of 10 feet
& acuteness of vision is only $\frac{1}{3}$ of $\frac{5}{2}$.
He cannot
read & therefore it is impossible to test his
eyesight by letters; sight in right eye
is practically normal.

He has since 1885 gone back to his work
as groom in Col. Hooper's stables and things.
through the kindness of Dr. Forbes I am able to give following details of Brown's condition on April 22nd 1883 to which he sends me in answer to 8 questions I wrote a week or two ago.

1. Is cicatrice still healed? There was a very slight discharge from a point near inner angle of orbit, which has left a slight depression, but at present and for some time past the cicatrice has been perfectly healed.

2. Any headaches? "Occasionally he suffers from headache which is influenced to some extent by the state of the weather. Has no pain in region of cicatrice unless his head on that side is pressed upon."

3. Any anaesthesia? "On left side of head formerly anaesthetic he now suffers from hyperesthesia. Cannot even bear the pressure of a Comb."

4. Painful spots? "When pressure exerted on left side of head he states that he then feels pretty severe pain in region of cicatrice. Has no particularly painful spots the pain being pretty general in pressure."

5. Level of eye? "Left eye is still in lower level than right."

6. Double vision? "His sight is gradually
gradually improving but he still sees double when looking at objects directly to his left side but thinks that this is not so well marked as formerly.

7. Acuity of vision? "Still diminished acuity of vision of left eye"

8. Any epileptic fits? "Has never had any fits or anything of that description."

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This case seems to me to be of such interest that I give notes taken (at time) by myself in full:

Peter Mc Dermott, age 17, was carried into General Waiting Room of Royal Infirmary in August 23rd at 5.15 PM. He was sitting or lying on the grass in the Queen's Park (Edinburgh) at the bottom of a slope near St. Anthony's Chapel in a part where slope is steep. In some way a large stone, described as a flat smooth stone about 1\frac{1}{2} feet square x 3 inches thick, was dislodged from the top of this slope (probably by some boys or men amusing themselves). This stone rolled swiftly down the slope and hit Peter Mc Dermott in the head, stunned him. He was then conveyed to a cab and brought to the...
the Royal Infirmary. When I first saw him, he was lying in the general waiting room on a stretcher. He seemed to be unconscious but when roused slightly spoken to be answered quite well and coherently. He looked pale. In removing the bandage which was tied around his head, blood was seen matting his hair. There was also lying among his hair but quite separate from the scalp, a portion of soft white substance about size of a small horse bean, this was evidently hair substance (proved afterwards by microscope to be so). Some saline wool was applied over his head and lightly bandaged on. He was immediately conveyed upstairs to ward XVI and put to bed. As he was being moved in to the bed, twitching and jerking movements of fingers of left hand were noticed; these jerking clamping movements of left hand increased so their forearm and whole arm began to jerk. He continued to do so, until he was put under Chloroform. He was also quite unable to move his left hand or arm voluntarily; when asked he said he felt pain beginning in tips of the fingers of his left hand going up to his wrist. Pupils were normal reacted readily to light. He was quite
quite conscious answered questions well, though he seemed somewhat lethargic. Pulse fairly good, regular. He seemed to have sustained no other injury except that to his head. Mr. Miller was present in the ward when he was brought in. His hair was cut off all round a long curved wound (3 inches long) through the scalp, which was found to extend from near middle line near vertex downward and backward to the right. Mr. Miller began to make an incision at right angles to the wound as the patient said he would rather try it without chloroform, but he moved so much that chloroform had to be administered. He struggled somewhat while going under, but did not move left arm which however he did quietly. Then an incision was made at right angles to scalp wound. Thus was the portion of brain in hair seen to be quite detached from wound, lay matted in with the hair about 3 inches from the wound.

Several small arteries in scalp tied sharply until ligatured. The Pericranium was torn through in same way as other parts of scalp: depressed
Depressed fracture of bone was then seen situated about middle of the wound a slightly below its right side of it (showing stroke had hit head obliquely).

This fracture was about 2 inches long and at centre of it anterior portion of bone was depressed about 1/2 of an inch (i.e. not more than 1/3rd of whole thickness of skull) & not even a sharp probe could be inserted between two sides of fracture (the portion of brain substance found outside must therefore have been projected out during actual impact of stone, while bone was momentarily depressed further than fracture it so to speak, spring back to). After washing well with isotonic solution the bladder trimmed in centre of fracture. Thus put into a circular piece of bone. After coming through inside with trephine or then using trephine as an elevator piece of bone

rotated slightly. Outer table of posterior portion came off, but whole circular piece was detached with much difficulty. A small portion of internal plate was seen not to have been completely torn through. Edges of trephine wound well rendered smooth with a gouge. A wound was seen in Dura Mater running in same direction as fracture. There was some venous oozing though this for a little while. Brain.
Brain substance was seen to protrude slightly through this wound of Dura Mater. A blunt probe passed easily without least opposition into cranial cavity about 1½ inch. No bone or any foreign body being felt. Wound was well irrigated with corrosive soda & 3 fragments making up about ⅔ of fractured portion were replaced (as whole anterior ⅔ and external table of fractured part) and fascia cruris stitched in a few places with catgut. Scalp wound stitched with catgut & horsehair. Two drainage tubes inserted at ends of wound. Then cleaned with Iodoform, protective and 'Iodoformed' Sublimated wool.

When patient had got over effects of anaesthesia he became quite conscious & spoke coherently. No jerking movements of hand or arm returned but left arm was paralyzed. He could only move left leg slightly and with difficulty. He was unable to feel slight touches or stockings of the skin of left arm or leg, but felt a slightly heavier touch. He thought once that a touch on his thumb was on his middle finger. Reflex normal. Temperature 97.6° Rectal Pulse normal. He was given 20 minims Sulphuric Ether immediately after
Friday, July 12, 1946

12 pm: Tidewater escort at anchor, 1:00 pm loosed. Escort

8:30 pm all boats and personnel aboard. Escort never

head got detached by wind or sea. 10:00 pm all aboard.

All clear for embarkation, 1:00 am. Escort

Claytor WB, bound.

W. H. Brand a Caravel at 8.00 pm. 11:00 pm

00.00 .

Crew effort: 70.00. Escort

Crew effort: 50.00. Escort

MMR, 9.00. Escort

QM 9.00. Escort

A. B. Brand.

A. B. Brand.

A. B. Brand.

A. B. Brand.
Aug 29th. Patient in much the same condition. About
midday he was a little disturbed by the admission
of another patient into the room he occupied (side
bed of no XIV). His face was observed to flush no
other bad symptom, however, was observed.
During the evening up until midnight there
was a good deal of noise in convalescent room
close by, caused by intoxicated outpatients (Saturday night).
He seemed disturbed by noise especially when it would
stop. The boy in the room with him also who also
had a fractured skull, also disturbed him by his
cries. Temp. 9pm 98.40, midnight 98.20.

Aug 30th. (Sunday) at the night visit at 1AM nothing
special was observed. Patient being quite quiet
and conscious as usual. At 2 AM however, the
special nurse observed a change. He became
slightly unconscious, twitchings began on the
left side of face chiefly but also in the
right side. Both eyes were drawn over to
left side but pupils were equal reacted to
light being of anything rather contracted. These
twitchings increased and by 2.30 his left arm
as a whole and also the fingers twitched sharply
Clonic Spasms ensuing. Temperature at 2AM
was 98.0. The other patient was moved to the
The general wound: at 2.30 am the dressings were taken off. Wound looking quite healthy, there being apparently no tension or pent up discharge. By 2.40 the twitchings had still more increased the whole head jerking & facial muscles twitching with increasing of Dr. Carmichael, I opened up the wound of the scalp (which was found to have practically healed) by inserting a director after cutting the stitches. Two stitches in pericranium were also taken out. The trephined wound exposed: the three portions of temporal bone which removed had been replaced in the wound were sticking up on edge with a portion of soft brain substance protruding past them. The pieces of bone were removed (anterior portion had become adherent to pericranium) and the depressed portion of original fractured bone was attempted to be lifted up into its place by a periosteum detacher inserted under the edge between it & dura mater & lifted upwardly. Two small portions of the protruding brain substance, which was soft & diffuse, were stripped off by scissors as they were hanging quite loose. There was no bleeding from this protruded substance when cut. Therefore it did not consist of granulation tissue. The wound was washed out with corrosive sublimate solution. The
The whole operation was performed under the slings 
irrigation: one loose stitch was put in the face. 
Of two rather loose stitches in the scalp. Two drainage 
tubes inserted & at a dressing of iodoform & wool 
was applied. By 3 A.M. the twitchings seemed 
to be slightly less marked. Four leeches were applied 
behind the right ear & a flenttee to wale of neck. 
Patient seemed to feel bite of the leeches. Twitchings 
continued decreasing until 5 o'clock A.M. when they 
gradually diminished & ceased for about a quarter of an 
hour. They began again in face & left arm. They 
again gradually diminished & ceased altogether 
by 8:45 A.M. Patient gradually regained consciousness 
during the night. So in the morning quite sensible 
& coherent. Temperature at 7 A.M. 99.6°C. Pulse quite regular. 
Now (about 60) fairly strong. 6 A.M. Temp 99.4°C. Out 
9:30 A.M. it was 98. At this time patient said he 
felt "fine" & did not know what he had been through 
in night, but said he knew he had not been quite 
well. Lee bags continued all through. Drilled at 
Monday, very little discharge. Quite quiet over all 
day wanting to sit up but not allowed to do so. 
He has since him quite quiet & well as before this 
time still fastened but he could move his left leg more freely 
& disturbance last night. Monday 31st Lee bags stopped. 
is gradually returning more quickly than that of the arm.

September 17th: Wound perfectly healed, spray and dressings discontinued. Patient has now quite regained the use of his legs; his mental faculties are as before quite good. He could move his arm but it is not yet perfectly recovered from the paralytic.

October 6th: Discharged cured his arm now being quite well.

Through the kindness of Miss Webster I am able to state that on April 14th 1887, Peter McDermott came up to Infirmary and said he had never troubled him or he never had any fits nor any thing else to trouble him since his discharge 18 months before.

I am able also through the great kindness of Mr. C. W. Cathcart to give tracing of exact size of Peter McDermott's head and measurements made by him on April 19th 1887. Combined with my own measurements I think I can make file of wound: a trephine wound in this outline. Also by following rules laid down by Prof. Smith of University College London a Dr. Stare of Edinburgh for marking out on Skull the
Position of Trauma of Rolando: with help of a cardboard model of Peter McDermott's skull over motor area, to mark out the position of trauma of Rolando in his skull in relation to trephine wound. Note: I adjorn outlines of Peter McDermott's head made for me by Dr. Cathcart. On this I will mark position of wound, of fracture of trephine wound, and of trauma of Rolando. I do this keeping in mind fact that angle from middle line of head on a globe will not be the same angle if represented on a flat surface. Therefore have made measurements on cardboard model to then project positions so obtained as to flat outline of head as accurately as possible; see next page.

From this it will be seen that trephine wound was situated over trauma of Rolando and not the anterior part to it than posterior and part of bone cleaved ran across trauma of Rolando extending, over ascending frontal convolution about junction of upper and third with lower two thirds of over ascending parietal convolution about its middle.

(See diagram of Forei's areas further on.)
Exact size of circumference of Head of Peter McDermott (19/4/83) from above eyebrows passing above auricles & touching occipital protuberance.

Sagittal: Taken by skilled of lead & blacklead.

Inner line next head.

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A = Level of meatus & line at right angles to this menial incision.

B = Centre depression of t;aphine around the fringe to regret of this front B.

N/B: The line joining meatus as well may only be made to vary in its position so choice may not give much of a result.
Case 5.

Small round wound over eyebrow from a fall in passage in Royal Infirmary. No symptoms.

On August 29th the Saturday after admission of Peter McDermott, Ebenezer Whitelaw helped an acquaintance of his with a cut scalp wound into our Patient room of ward XVII. His acquaintance made one of a whole series of Saturday Night "Drink and Cut Head" cases which I attended to that evening. While lowering his friend's head Ebenezer Whitelaw sat on sofa waiting for about a minute then got up and went outside into passage where almost immediately afterwards I heard someone fall heavily on running out I found Ebenezer Whitelaw lying half stunned "spread eagle" with face downwards on stone floor of passage. Lifting him over I found he had got a small cut an inch long over outer angle of left orbit which had just been made by impact of sharp edge of orbital ridge on stone floor. In a moment or two he became quite conscious I said he had felt dazed or was then helped into our Patient room where he seemed faint was made to lie down with his head resting on a sofa; and the Cut Patient Clerk washed his wound with carbolic lotion while I finished sewing up his friend's wound. His friend (sic) would not stay but went off leaving Whitelaw to be attended to by us as he felt better he could afterwards. I then stitched up small
such wound leaving a cut just above it covered it.

The patient could be felt lying first in a small
with a piece of "poultice" in usual ways. Shevnever Whittaker
had apparently been drinking to some extent though
not actually drunk when he walked in, but as
of full seemed to have brought drunkenness on, so
he still felt faint he was given some volatile
a made to lie down in sofa for another in half
alhosk he wished to go after his acquaintance.
After this hour and half he got up & walked down,
prying with him, to General accident ward as
he still seemed a little too dazed. Apparently
drunk he was told to lie down there until he
felt better. There was nothing more to notice in
him than this small scalp wound - the slight
stupidity symptoms of a drunk man who had
recently been a little stunned. Indeed he seemed
better than several case of "drunk & cut head"
which I had attended to that evening only as
accident occurred in hospital unlike one's very rare
so to speak I perhaps paid a little more attention
stood more notice of him than unusually I
did of the others.

At 3.30 AM after attending to Peter Mc Dermott
so described under his case, I went down to the
accident ward expecting to find that Whittaker
Whiteman had departed; but he was still there, he being still rather stupid upon the ward VI. For the night, he himself walking with help along the long passage to it.

Next morning or rather at 10 A.M. on same morning a 6 hours later he seemed quite well and was sitting up in bed, talking cheerfully. I told us his name which we had not known before. His wound was washed out with carbolic lotion and redressed. So there were a few beds vacant he was not made an outpatient. There was nothing particular observed about him during that day but on Monday Morning Aug 31st I was called to see him about 8 A.M. Found him very ill indeed in an unconscious state & it quickly became apparent that meningitis was coming on. His head was shaved, ice bags applied. Wound redressed. Appeared quite healthy & showed signs of healing.

He then also showed slight ecchymosis of conjunctive of inner angle of both eyes, as well as general “black eye” which was apparent on Sunday Morning.

Dr Wylie happened at a little later in the day to be passing thru the Ward & I pointed out Whiteman to him, & he said “Surgical”. [3oo}
surplus is nothing to do with me." but added, "I believe he has fracture of orbital plate of sinusoid bone," as he remembered seeing a similar case in Post Mortem room: Dr. Miller to whom I told this said very possibly but that there was very little to go upon for such a diagnosis.

He gradually went with symptoms of acute Meningitis & died on Tuesday, Sept 7th, about Midnight.

At Post Mortem on Sept 3rd, following notes were made:

Length 6 feet 3 inches; circumference around shoulders 42 inches

Pupils dilated equal, rigidity strong, lividity considerable

Subcutaneous commencing over abdomen. A recent incised wound about 1 inch long at outer angle of left orbit, some oozing blood into conjunctiva around orbit.

A small fracture measuring about 1½ inches in length just on left side of body of sinusoid running left from before backwards. General purulent Meningitis. Any motion of scalp longitudinal sinuses admitted of veins opening into it, adherent in parts to walls of veins which had apparently been inflamed.

A thin layer of extravasated blood over the right occipital sphenoidal fissures at point of contra-coup but no fracture behind.
Case 6: Convulsive Fit caused by fright. 

George Herriott, admitted into Ward XVI. on August 29th, 1885. That is on the same day (15th June) as 
Ebeneyer Whitehall received same room as Peter McDermott. 

Of this case I propose to give only notes of any 
Special interest in case not full notes. 

George Herriott, aged 11, was knocked down five 
minutes to adniession, by his father falling off a 
chair backwards on to him, as he was handing 
the pendulum of a clock. He was stunned 
by fall. He remained dazed for some little time 
but appeared rather better they said, although very lethargic 
and drowsy, until 28th. is day before admission when 
he began to be feverish, irritable. He was sent 
to consulting doctor on 29th. to admission at noon 
he was very lethargic, drowsy but quite able 
to answer questions when roused. He then 
though he seemed to distend heany talked to 
immediately lapsed back into lethargic state 
again. Temperature 31.5 F. was 102. 

His father on being asked said he had noticed 
bleeding come from both his ears and noticed 
bleeding clotted in earholes. He had a large 
swell behind his above right ear, this is his 
general symptoms indicated some fracture 
of bone of skull with meningitis supervening.
Pianoverning: His head was shaved and ice bags applied. i Colonel凸 gave him: He remained seemed a great deal was very restless, so disturbing. After the incontinence he was moved to general ward. few hours after went to the ward of Mrs. V. He continued in much same state temperature remaying up to 101°-102° until early morning of Tuesday. Left out when temperature began to go up very high & he became extremely delirious. at 7.30 am when I saw him his temperature had reached 105°. See chart.

He was of course quite unconscious and twitchings of all limbs but no regular shivers; pupils reacted to light but were dilated to about 10. There was no squint of right eye but photograph of it: a peculiar grayish film was seen covering lower part of pupil of right eye. This body was bedded was washed at intervals with a sponge with a hot and cold water on a blister applied to back of neck. Under this treatment his temperature rapidly fell to 103.6° going up to 104° again next morning.

In September 8th the following note was made. The striations of right eye was actually paralyzed. There was marked twitching of left at momentary intervals. there was a spastic condition of right arm's irregular contractions.
<table>
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<th>Temperature</th>
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<td>100.0°F</td>
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<td>1/2/1911</td>
<td>10:00</td>
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Note: Temperature readings were taken at 10:00 AM each day.
Contractions and relaxation of muscles of both legs

He graduallygot weakness, went to bed in the early morning of September 28th.

At Post Mortem on Sept 5th following notes were made: length body 67½ inches; circumference around shoulder 24 inches. Left pupil rather larger than right. Rigidity very slight. Posterior parietal. Cranium: head shaved, a bullet mark in right pectoral. Extravasation into tissue of scalp over a space 3 inches in diameter above behind right ear. A small clot about size of half crown between these marks. Skull eviscerated and opened. At same spot a about 2 inches above a rather behind right ear. Evidences of recent hemorrhage. Both men vertebrae cut bone of skull brain.

A very extensive fracture of the base extending through petrosal portion of each temporal bone. Across middle line, dividing bones of base of skull into two separate halves (anterior and posterior) of the case concludes cases actually under my care.

Case 7.

Peter Greive

Afflicted with

Palsy, Herniated

Thrombosis.

Death.

The next case was one which I had the opportunity of observing several times while at Edinburgh Royal Infirmary. This is the case of Peter Greive, who was under the care of Prof. Fraser some time after Affluence ete. who was eventually thrombosed by Prof. Chirrie, which operation I had the
and giddiness when walking. Eight weeks before admission he fell through a trap-door into a cellar, and received a severe blow on the left side of the forehead. He lay stunned for some minutes, and was then once or twice quite unconscious. The left frontal region was much bruised, and there was an incised wound over the left eyebrow. He did not speak, although he was conscious, till the following day, when he was able to give a clear account of the accident, but his speech was indistinct. On the second day after the fall he was able to walk out, but returned home unable to speak a word, and he vomited his dinner. The following day he could speak, and complained of headache and giddiness. During the next seven weeks he suffered frequently from pain in the left side of the forehead, and had many attacks of sudden faintness and giddiness, frequently vomited after meals, and his speech was often indistinct. During this time his memory for words became greatly impaired. He had been strong and healthy up to the time of the accident. There was no history of syphilis. Occasional alcoholic excesses were acknowledged. An acquaintance states that he was very particular at times.

Stated on admission.—The patient is a stout, well-developed man of average intelligence. Walks quite well and shows no signs of any impairment of muscular power. He complains of slight pain in the left frontal region, and pressure at the postero-lateral part of this region elicits distinct tenderness. There is an indistinct linear cicatricisation just above and behind the left eyebrow. Temperature on admission 98°. He understands everything said to him and answers sensibly. He can recite intelligibly his memory for the names of things is very defective. On being shown various articles, such as knives, pens, chairs, &c., he is quite unable to name them, but recognises the names immediately when the article is spoken. He can write, but his spelling is entirely at fault. Thus he calls a knife a “nib,” and then writes it “sobna.” When asked to write down “I will come,” he wrote: “If hay good, then stop to kick his head and said it was wrong. The same sentence was then written down and he copied it quite correctly. He cannot read aloud at all correctly, but can evidently understand written language; thus when shown the word “pen” he immediately points to a pen.

Sept. 29th.—Ordered five grains of iodide of potassium three times a day.

Oct. 4th.—Complains of more pain in the head, and giddiness. Speech getting more confused and indistinct, and he seems stupid and dazed. Tongue very tremulous when protruded.

6th.—Kept his bed to-day. Distinct impairment of power in right arm and leg. Can hardly raise right arm at shoulder-joint. Line of “pins and needles” in right hand. Temperature 97.5°.

8th.—Much more dazed and confused. Memory for names quite absent. Can hardly speak an intelligible sentence. Right arm and leg more powerless. Right plantar reflex more exaggerated. No reflexes lost. No difference. Decided impairment of movements of right side of face; wrinkles less marked on right side. No nystagmus. Patient yawns frequently.

9th.—Speech almost entirely lost. When asked his name, mutters unintelligibly. Hemiplegia almost complete. Marked ankle clonus easily obtained in both legs. Mouth drawn to left. Both optic discs very pale, but no other change in them.

10th.—Is now passing urine involuntarily. Right patellar and plantar reflexes much increased. Well marked bicipital reflex obtainable in right arm.

11th.—Temperature 97°; pulse 64; respiration 20. More drowsy. Sighs and yawns frequently. Pupils are now passed involuntarily; right the larger. Marked contracture of flexors of right elbow. Complete aphasia.—11 p.m.: Lies in a semi-comatose condition, and can hardly be roused.

12th.—At 1.30 A.M. the patient was put under chloroform and trachein by Professor Chienne at a point opposite the left inferior frontal convolution. On the inner table being perforated by the trachein there was free hemorrhage from the middle meningeal artery, which ceased when the disc of bone was removed. On opening the dura mater nothing abnormal could be seen, no signs of inflammation of the membranes, and no accumulation of pus or other fluid. On the upper aspect of the inner table of the left parietal bone a fine cataract-knife was introduced into the brain substance in three directions, but no pus was found. The wound was
This case was that of a lady under the care of my partner here in Dublin, who died last August. My partner (Dr. C. O'Kelly M.C.S) has kindly given me the following notes of her case, during life, of Dr. Manton. 

Mrs. C. D. at 36 married with 6 children. Has spent several years in India where her health was good; lived in this country about 1½ years before her decease. During the six months preceding death she complained of attacks of headache lasting a few hours, attributed to migraine, not usually accompanied by vomiting. Her health gradually deteriorated. She complained of inability to take much exercise or walking much fatigued her. She became anxious, nervous and a month before death looked ill, yet was able to take nourishment fairly well and did not lose flesh. The headache in her head was bitterly always referred to the vertex which pain she tried to relieve by firm pressure on vertex. A few days before death she probably had a slight fit, but did not seek for medical aid. A few days later when I called hurriedly to see her I found her dead having just had a severe epileptic fit, seizure following a dreadful pain on vertex, of several
Several hours duration. A few hours before death she ate a mutton chop. She had not had any of ordinary symptoms of intracranial pressure except headaches. Neither albumen nor sugar had ever been found in her urine, no had there been any paralysis or other sign of brain pressure. At the autopsy the body was found well nourished. All the organs except the brain were intact and apparently quite healthy. The cerebral membranes were healthy. Convulsions were flattened. There was an increase of fluid in lateral ventricles. Lying in the fourth ventricle distending the for-e.-ce.- to-ad quartarum containing a yellowish fluid. Ventriculum was a thin walled cyst, about the size of a pigeon's egg but pear shaped. Massing the narrowed part extending along the stem into the III'.' ventricle it was blocking it up with a little softening of brain substance in the immediate neighborhood of cyst. Especially laterally, that was is of substance of Pons varolii and cerebellum but especially of Procerus a cerebello ad testes. The medulla itself did not seem softened. This cyst was quite unconnected with substance of brain walls of ventricle later and was easily removed.
removed from its situation without rupturing cyst wall, which however was very thin. Mr. Broad afterwards ruptured it to examine the contained fluid under microscope. It was quite clear except for suspended granules. Some little bodies shaped like this were observed under microscope being about 10 times the ordinary diameter of an hair corneal.

I had the opportunity of examining this cyst a few days later, found it same...
that the module was its head segment. There attach a diagrammatic view of it: also drawing
of two of sections as seen under the microscope
in one of these sections 8 is in another 6 little hooklets
and seen also sections through the four suckling
dents are seen
Stained with
section X about
50 diameters.
Dying dyes in much
colour here is much
too bright.
Also give drawing of one hooklet from
the other section which contains hooklets.

Case 9: was a patient in Lampas Asylum whom I
remember well & I have been able to through
handfuls of Dr. Turnbull & Whitchurc's also to get
notes of her case with death & Necropsy after I left
Asylum, so also to obtain cerebellum with tumor
of which I have
made sections for microscope.
I only give short notes of her case.
Elizabeth Debio at 60 20 when admitted life of
Lampas Asylum on Sept 4th 1875. Insane 9
months: Delusional insanity with recurrent
subacute Mania. Bodily health very good:
Dirty in habits etc. Nov 23rd 1878 Founded
coffee ground fluid evidently hematemesis:
Cysticercus cellulosae, enlarged diagrammatic view to their plane of sections, which are at right angles to surface of paper.

Circuit of Hooklets
Sucking discs
Head of scolex
Secondary Membrane
Fascial Section
Lines showing plane of sections.

I also gave drawing of one removed from the other section which contains hooklets.

Case 9: Was a patient in Leper Asylum whom I remember well. I have been able to get through kindness of Dr. Turnbull & Whitehead also to get notes of her case with death & necropsy after I left Asylum, so also to obtain cerebellum with tumour of which I have made sections for microscope.

Elizabette Dool at 40 20 when admitted to leper asylum on Sept. 4th 1875. Confirmation 9 months. Delusional insanity with recurrent subacute Mania. Bodily health very good. Dirty in habits etc. Nov 23rd 1878. Found coffee ground fluid evidently hematemesis.
1884. April 24th. Incoherent in speech. Has lately begun to pull out hair at back of her head, rather restless in her ways. Health fairly good. does house work well. April 26th. An inflammation. Everynal see on left side which was incised. April 28th. Very excited. Screaming and crying, apparently not recognizing anyone or knowing where she was. Settled down somewhat later in the day. April 29th. Very excited and does extraordinary things. Is standing door of bedroom open, covering herself up like a dead person.

1885. Everynal see which has been chronically inflamed was opened by myself (J. F. J.) under chloroform and buffed several times. This caused the formation of abscess, after about 3 weeks treatment.
June 26th. No change. She is extremely weak. Managed rather inclined to hide herself in corners with open mouth, etc.

1886. August 17th. Patient has been in bed for upwards of a week. Looking very nervous and stupid, not doing what she was asked to do. She became a little feverish, with quick and feeble pulse. Gradually sank and died on Aug 17th. The bravon also told me that for several days before she was put to bed. She hid away in corners
Came very much: It seemed to have a difficulty in walking & when she walked did so like a slightly drunk person. seemed inclined to fall down. She gapsed her way along a passage like a blind person would do. Post mortem was made 81 hours after death. Following notes made: had no delirium. Head slightly cold rather thin, but diploism present, congested at some parts. Dura mater not especially adherent to bone no thickened but congested. Had much congested, rather thick enough but stripped off brain, without adhesions. Convolutions appear flat as if from pressure. Very little atrophy. General softening of corpus callosum: vessels of base of brain healthy, but parts more wasted together than usual. Had below cerebellum more marked than above cloudy. In section of cerebellum was seen marked congestion of white matter, some dragging of vessels. Grey matter normal thickest with congestion in outer layer of it. Lateral ventricles much dilated with fluid, all parts around lateral ventricles showed general loss of consistency like corpus callosum but no deep localized softening. In cerebellum middle lobe was a tumour, size large hazel nut bit round greenish in colour, cheesy consistency. Also in middle fossa base of skull on left side a small
Small pedunculated tumour sized bean was seen growing from Dura mater. Pressing on under surface of left temporal lobe, looking like brain substance but quite distinct from brain. Sungs upper lobes had few spots of fibrillo-calcareous thickening. Right kidney congested, left pale. Cephalo-atrial off cavity. Heart had mural clot on left ventricle.

Weights: Brain 50 oz, tongue 14, kidneys 28, spleen 3, left kidney 4, right 3 ounces. Bent 10 ounces. The cerebellum with tumour in substance of middle lobe was kept for hardening for microscopic sections to be made. I found this tumour in situ in posterior part of upper surface central median lobe of cerebellum and occupying whole of portion of commissural sulcus of the superior vermal plane. This tumour was in brain substance but was easily able to be separated from it having a sort of limiting layer. In microscopic sections being made & examined this is found to consist of a tubercular mass, showing usual small round growth cells surrounding larger 'giant' cells which are very fairly abundant in this tumour. Many of these tubercular foci have become cavitated. I was unable to obtain the other tumour growing from Dura mater for microscopic examin.
I also have add the first written reports of following 4 cases who died in Edinburgh Royal Infirmary: as they have bearing on subject of this thesis:

10. William Drummond died March 30th 1881. 
Jessie Drummond at 61 died January 1st 1885. 

?ight surface of brain normal to noticed eye. 
Basal vessels: otherwise. 

- Section of brain a chocolate colored clot invading motor portion of internal capsule. 
- The adjacent basal ganglia is some atrophy. 
- Clot age signs of small eye. 

- Right hemisphere well marked secondary descending degeneration of motor tract. 
- A right side of brain. 

- Special cord viewed nothing special to noticed eye.

11. Charles Peters 37 died in St. Barnet April 24th 1885. 

- Abscess formation which was opened. 
- Symptoms of meningitis: 
  - Lethargy: Death. 
  - At Post mortem: Abscess cavity just above left orbit portion of frontal bone was observed. 
  - Small communication through which pus ascended into interior of cranial cavity. 
  - Skull thin: appeared normal. 
  - Pia mater fairly normal, externally, it bulged out on left more than right. 
  - A circular trephine opening surrounded by pus thus tore in left temporal region. 
  - This some brain tissue projected (bicornis cerebi). 
  - Occipital region in left groin. 
  - Surface of cerebrum covered with
with pus, most thickly so on left side. Convolutions of brain were depressed in neighborhood of pineal of Rolandic left hemisphere larger than right. Swelling most marked near Roland of left surrounding frontal convolutions. Right side grey matter measured at least half less in island of Reil than on left side. Grey matter much more anaemic in right (i.e. akin anaemia of right, a congestion of left.) Centricies seen in left groin.


History: Constant pain both of head with symptoms of internal pressure. Dr. Duncan was asked to operate but refused as condition not sufficiently localized. There was an indefinite history of something like picture of case described many years before. Sept 13th Left 15th Head prominent at vertex. But no thickening of calvarium corresponding to it. Calvarium irregularly thinned. Transmitting light easily in many places, markings not unlike convolutions seen. Surface of brain flattened bulging posteriorly on left side displacing the longitudinal sinus. This swelling was soft almost fluctuating. A small quantity of fluid blood in left side veins. Dura mater not adherent, large quantity of clear colourless fluid escaped on removing brain at portion of spinal body in a thin stream turning
Shortening out with considerable force: A tumour in Cerebellum in middle line above Pons A Medulla measuring 1 inch laterally & also anteroposteriorly; anterior part firm with brownish gelatinous look, posterior part is calcareous too hard to be cut into with a knife & contains some blood pigment. Behind this was a quantity of gelatinous like fluid. The 'Net' very much dilated about 3 inch in circumference. Two ventricles also much dilated: Heart flabby & dilated: The base of skull was excoriated for traces of old fracture but none found: Surface of both petrous bones had an eroded tooth & stripping off of the periosteum:

John McCarthy, age 22; died May 2nd 1885. noon to 1 P.M. under Chief House's care. Tumour of brain a lobulated tumour size of hen's egg apparently a chorion gravis sarcoma seen in a bone of brain immediately beneath temporal sphenoidal like in right side: on its free surface partly adherent to sufficiently shrinking from dura mater, sphenoid bone beneath was eroded: tumour appeared to invade into cavity of right orbit a little: it was softened & almost diffusent (P.M. 12 hours after death) This softening extended to posterior extremity of right lateral ventricle: Each after the size slightly swollen veins were pale: were had been worked in the muscles during life: both lateral ventricles dilated and the.
The lumbar Membrane of rapha thickened, infiltrated with the
new growth. A circumscribed nodule about 1/2 x 1/2, and between
milked contain positive sign of ecchymosis, over which muscle was
enlarged. Corneal clear, right pupil contracted left normal.

This completes the report of 13 cases which I
wish to consider. Of these the first 6 were actually
under my care, no. 7 I had been able to observe
of 8 to 9 I made sections, other observations in lesions
which caused death. (having seen a known no. 9. well
sometimes previous to death). The last three are
taken by me from A. M. register of cases of Royal
Edinburgh Infirmary by kind permission of Dr. Woodhead.

Analyzing these 13 cases, I find that eleven are
deaths due to various injuries and lesions of cranium
and its contents. Two are recovery from Compound
fractures of skull. Do not these eleven cases
of death seem to negative the second part
of our Commenting Affirmation? (i.e. however severe
injuries of head may seem they should never
be despised of). Let us look into this
by considering chief points of interest in each
case so see what questions they can legitimately
raise in our minds as to possibility of treatment
The consideration of these cases & questions they raised in my mind made me look shortly into the history of craniocerebral surgery & especially into records of what has been done lately & what is now being done in treatment of such cases. It will save time & space I think if I here give notes of short summary of these records before we consider each case separately as above suggested. In considering this I have not included under operations of head the treatment of wounds of scalp alone unless the proper treatment of these is important. Tapping of head for chronic hydrocephalus has occasionally been performed but as yet without much benefit. Excluding this operation in all other operations on cranium and its contents we have to deal with the bone of the cranium, either entirely or as part of operation. All operations on the bone may be classed under 2 names or headings 1 simple operations of elevation or removal of depressed and fractured or diseased bone pieces of bone or of a foreign body by such instruments as forceps or elevator or with knife fingers alone 2 Replaining which I shall use as meaning
meaning any operation in which a piece of bone is taken away from a skull by means of wholly or partly of a saw of whatever kind or by a chisel & hammer, is for whatever purpose. In this definition I follow lines of Dr. Walsham (see foot note page 216 (volume XVII of St Barmholder’s Hospital reports for 1882) in his valuable paper “On trephining the skull a dangerous operation per se.”

The old term trephining is I think now discarded, as used for modern operations at any rate, as all operations formerly called trephining can be included under above definition of trephining.

For earliest evidences of treatment of lead injuries we have to go back to the “Stone Age” of. I here append an article on this subject taken from Lancet of November 19th 1883. Also reference can be made to the Lancet of March 6th 1886 (page 560) which gives extracts from a lecture delivered at University College London by Mr. Victor Horsley: and also to British Medical Journal for March 12th 1887. For extracts from an address given by him at Royal Institution.

It will be seen that information on this subject
ON THE ANTIQUITY OF TREPHINING THE SKULL.

To the Editor of THE LANCAST.

Sir,—That many operations in surgery were practised in remote times is undoubtedly true, but I think few surgeons realise how very ancient indeed is the operation of trephining, or, as it was formerly called, trepanning, the skull. During recent years some curious discoveries have been made in France and elsewhere conclusively proving that trephining was practised by neolithic man, and, further, that the operation was sometimes successful. These later stone age men must have inhabited Europe several thousand years ago, and were of course excessively barbarous, ignorant, and superstitious. Indeed it was their very superstition which led them to trephine the skull—so Prof. Broca informs us, and he has given the subject his greatest attention. Trephined human skulls have been found by Dr. Prunieres of Toulouse in the cave of Homme Mort in the Department of Lizard, in the caves of La Marine and of Lordes, near Pau, in the Canary Isles, in Algeria, in Mexico, and in Peru. The operators had of course no better instruments than more or less perfectly sharpened flints, and with rude tools they performed their operation. First a V or T incision was made down to the bone, the flaps were retracted by assistants, and the bone was then persistently scraped until at length an opening was made sufficiently large to expose the brain and its membranes. This opening was a visceromotor or way of escape for the demons who had taken possession of the body and were causing the epilepsy or insanity, for such were the "cases" which were operated on.

Now, considering the class of case, the desperate nature of the operation, and the barbarous method of performing it, to say nothing of the after-consequences—a.g., hemmorhage, blood poisoning, erysipelas, the danger of injury to the brain, the want of proper nursing, and bad hygienic surroundings generally,—it is wonderful that any one patient should have recovered; and yet, incredible though it seems to be, Dr. Prunieres states that out of twenty skulls in his possession (all of which were trephined during life) nineteen of them exhibit indubitable signs of having recovered from the operation. This is shown by the fact of the edge of the bone having become smooth in consequence of the cells of the diploe having become covered by the newly formed bony tissue.

The discs of bone which were separated from the skull during the operation were looked upon as talismans possessing vast therapeutical power and capable of counteracting witchcraft, and of preserving the possessor from them and disease. These talismans were therefore worn round the neck as amulets, and were considered as a priceless value.

After the death of a patient who had survived the operation, it was considered "only fair" to give the original possessor of the piece of bone so highly prized, his own back to him once more. Prof. Broca tells us that this was done in order that the deceased might carry with him into the next world this talisman, and so be preserved from the torments of the evil spirits which had haunted him on earth. This, says Prof. Broca, is the earliest indication we have of a belief in a life beyond the grave. There is a touch of humanity to be discerned both in the operation itself and also in the restoration after death of the precious amulet to its rightful owner. This is the more remarkable when we consider what "unruled savages," if not cannibals, these neolithic men were.—Your obedient servant,

T. FRED. L. BLAVER, M.R.C.S.

Burgess Hill, Sussex, Nov. 1883.
Subject has chiefly been obtained from skulls found in France of which there are 60 in Broca Museum in Paris, and from an old manuscript of 15th century which describes method adopted by Stone age peoples was either by scraping drilling or searing the bone, the balance of evidence being in favor of last process. Mr. Victor Horsley also very kindly showed me some photographs of skulls so operated on. I pointed out that these primitive operations were all done on what we now know as Victor area of skull. He says that probably depressed fractures of skull were very common in those days when Stone arrow heads were used, so that these depressed fractures caused either immediately or after a longer period shams, so in many cases pain in one or more limbs at same time Neolithic Man would feel pain at seat of injury. Being superstitious would imagine that a spirit was causing this and that had resided in his head, so they opened skull to let this spirit or demon out. I should just like to ask following question here: how was it that so many as above stated (as in Welch's article), i.e., 19 out of 20 make at amputate a temporary recovery?
recovery and did not die of haemorrhage, blood
passing a phrysepalas, other consequences which
in later times until quite last few years followed most of these
operations? Is it not probable that haemorrhage
was prevented by necessarily slow scraping or
sawing of bone by stone implement so that even
if middle meningeal artery was wounded no
haemorrhage would occur as blood would have
clogged its limb internal coat of artery closed as happens
now in contused wound, operation with cecins.
As to septic paralytic and erythema is it
not possible that alloha some germs existed
the bacteria of sepsis and erythema had not
been yet evolved at that period of Earth history?
At any rate these bacteria must have been very
few so far between & universal purity of air
then, as in mad ocean now, rendered antisepsics
unnecessary. For information as to history
of sepsis I must refer to the exhaustive
bacteria on Subject lately published in Germany.
This is entitled "Antiseptik und Separation"
von. Dr. Med. H. Seydel (assistentzugeb. und
jurist-stagent an der universität Müncheh).
Reichard Winkle Mühlle: In this publication
Dr. Seydel traces history of sepsisin
records of it in one of the oldest works of Medicine
the "Papyrus Ebers," which was found in
the grave of one "Imant" in the Necropolis of Thebes
which was already referred to in the Magic
Books by Clemens of Alexandria, the contents
of which reach back to 3779 years before Christ.
Starting from this he traces records of trephining
or "Trephination" as he calls it: through Saviour
Period, Egyptian works, Greek works especially
those of Hippocrates as in one of his oldest works
"TI EPI TAVIY 

Hippocrates recommends "that all fractures of vault
ought to be trephined." Though works of
Celsus & Claudius Galen. Then through
middle ages when Chief trephiners were among
Barab's Persian Surgeons, then in Constantinople
by such as Rhazes in 8th, Paul von Regi notes in
9th Century: School of Salerno in 12th, Bologna
in 13th Century in Italy. Then with the foundation
of College St Étienne in XV Century, the surgery of France
led the van: then through works of Roger de
Berne, Rolando, Trotitus, Landenius, Guede de Cañiaco: to year 1497, to book by
Surgeon Cùlevy Moos: Then in 16th Century when such well
well known names occur as Gabriel Hellepitta, Ambrose Paré, Fabrices Hillanerz. In XVII Century with Peter Dionis, Cornelius van Ruysffge, Johann Schultze, Gottfried Harnemann and Weisman in England who was Surgeon to Kings James I and Charles I. In XVIII Century with Ludvig Petri de Bruyn, Louis: Sabatier, Choper, Bullein, Theselden, Percival Pott, Benjamin Bell, Abercroyh Morgagni, Valdastor, Richier & Hanelberg. Then in present Century with Surrey, Nelpairn who comes to conclusion that ekrhiping is indicated never by the wounds but by the accompanying phenomena.

It gives 12 conditions in which it should be undertaken or in which it is contraindicated: Thus William Du Fayfien, Malgagni, Ashley Cooper, Virgoff, Philipp von Waller, Lester, Chelius Klein, Stromeyer, Langamacke etc. up to the introduction of lustristics by Lester.

In this history he shows that in later centuries the ekrhiping was used very recklessly in 16th & 17th Centuries & then gradually fell into disrepute, so that Dr. Seydel says that at time just before introduction of lustristics “So as will sufficiently be seen
seen from previous headings (in his publication) "Reframing for the second time in its history had gone to the grave" (i.e. been buried) for some 10 years preceding. In the records of the hospitals as well as in the reports of the 88 field officers of this time we came across very few cases: so in the 'Schleswig-Holstein' war and in the battles of 1866 only one operation of reframing done in each (the first by Ross & the latter by Barrow). Nor yet in the Health Records of German Army in the years 1870-71 was there submitted to a case treated by operation. Also in the reports of the works of the Surgeons, which were given of each army corps singly, that of 3000 hospital corps no case of reframing was undertaken; and of both Bavarian army corps 38 regiments reframing was done once, and as we read in Wirts' report "Die Erschütterung der Schusswunden" that in the Austrian journals of the Straubing Military Hospitals 7 reframinys are found for bullet wounds of the head are found with fatal results. But not only in Germany, but also in France and England these operations were avoided. Le Fort writes
"But in 1867, that in the 10 preceding years in all France the operation had only four times been done. And even so stood the state of affairs in England, as Callender records in the St. Bartholomew's Hospital Reports for 1867, that in the statistics words of that hospital there had been no case of trephining for more than six years. He then goes on to say that Then 'mit einem Schlag' Lister's grosse Erfolge, the indications of all surgical operations were suddenly changed: and since that time very rapid advances have been made in cranio-cerebral surgery as will be seen presently. I now ask on what chief advances in our knowledge do the recent rapid advances in successful cranio-cerebral operations depend. I think they depend in advance of our knowledge in following seven directions.

1. The Systematizing of Anatomy of Brain and its Membranes.
2. Introduction of Anaesthetics.
3. Introduction of Antiseptics.
4. The counteracting in the minds of Surgeons
Suggests the prejudice against operation of
Deepening:
5. The localization of functions of Brain especially the localization of functions of Cortex of Brain:
6. Knowledge as to relations the different parts of Brain Cortex bear to outside of head:
7. Methods of arresting Hemorrhage during operations on Brain:

Let us take these singly

1. In the older records we find that idea was prevalent that the convolutions of Brain had no
   definite dispositions or relations that various parts of hemispheres were functionally equivalent: for
   instance Flourens held as results of his experiments
   in brains of lower classes of animals, that hemispheres
   were concerned purely with intelligence, a single
   indivisible faculty; so that each part of hemisphere
   possessed functions of the whole so that if parts were
   destroyed functional compensation might be affected
   by parts which remained: we doubt there is a
   great element of truth in this esp. in sensory regions.
   More recent anatomical investigations into topology
   Homologies of cerebral convolutions only.

2.

3.

4.
by Lecrel, Gratiolet, Beschoff, Arnold, Turner Scher and also by Huxley by whom see an interesting note in last edition of Darwin's "Descent of Man", on the Structure and development of brain in Man and Apes.
also more minute observations of structure by Gerlach, Donders, Charcot, Berty (French) Magendie, Boll, Frey, Ranzier, Kohlschützer, J. Betty, Tuke; (see Edinburgh Med. Journal Nov 1874, page 374) Prof Hamilton of Aberdeen.
also a host of observers at present day. These combined with Physiological investigation of origin of cranial nerves, a relation of different parts of tracts of brain with various columns in Spinal Cord, the researches of Dewere, Heubner on bilateral system of Cranium. All these I may have now combined to make the Anatomy of Human brain a fairly exact science, all this there is plenty of room for further advance even in anatomical details.

The exactness in nomenclature is necessary for intelligible observation & recording of cases of pathological lesions as well as for advance of subject of localization of functions. And this exactness of uniformity is gradually being reached.
2. Introduction of Anaesthetics applied to operations on head is to all other operations need not be especially considered here. Caution in the use
use of anaesthetics in operations on head is
necessary. Mr. Hector Horsley finds anaesthetics that
concerning Chloroform not so much is required for
head operations on substance of brain or whenever
.convex matter is opened.
3. Introduction of Antiseptics: As I have already
indicated this caused a revolution in Cranial
practically all. Should say
Surgery as it did in many other branches.
I think we shall find that application of
Pastors germ theories to Surgery by Lister
This introduction of Antiseptic treatment, we are
chiefly indebted for fact that Brain Surgery has
been able to advance at all. As we have
already seen (Antiseptics and Disinfection) that
a year preceding introduction of Antiseptics the
operation of Trephining had fallen into total
disrepute; comparatively few operations
were done in time that were attempted there
was a high Mortality, also in opinion of the
highest authorities at present cranial trephining
The very successful operations for removal of
tumours etc from brain would be quite impossible
without strict Antiseptic treatment. The previous
high Mortality of Trephining was due chiefly to
Septic Meningitis being set up, but by now
now this can altogether be prevented by proper use of antiseptics: For statistics as to mortality before and after introduction of antiseptics, refer to exhaustive tables in German works already quoted from "Antiseptics of Reformation" by Dr. Med. Seydel. In the summary of these statistics as to relative mortality with other statistics of trephining:

4 The getting over prejudice against trephining. This point though not perhaps an advance in our scientific knowledge yet is a very practical one. We must see that even after operation had begun to show a much less mortality, many leading surgeons especially in this country let their fear against it: This will be seen from discussion which followed the reading by Dr. West of a paper on "Trephining in Traumatic Epilepsy" at Medical Charities Society in 1879-1880: which is reported in British Medical Journal 1879 vol 1 page 865: Mr. T. Holmes then said that "in spite of antiseptics trephining was a most dangerous operation: I hel say quite agreed: Mr. Bryant said it was not safe. (It may be noted here that Dr. John Hunter believed in trephining could do us harm). We are indebted very greatly to Dr. Walsham who by his statistics and
and paper published in 1883 in St. Bartholomew's Hospital Reports vol. XVIII, entitled "To Deepening the Stomach a dangerous operation. Here he did more than anybody to remove this prejudice. In this paper, he collects a statistical analysis of Fitzge, Porogoff, Le Fort, Fritz, Bluhmen, Bergman and with his own cases after deducting the doubtful cases he collects 688 cases of deepening with 417 recoveries, 269 deaths, a mortality of 39.5 per cent. But taking only those cases of epilation, assistant pain in head etc. cases not in themselves threatening to life, in which no inflammatory lesion was discovered at time of operation, he finds that in 122 cases there were 109 recoveries, 13 deaths which equals a mortality of 10.6 per cent. These cases however include cases done between 1841 and 1882 that is before or after introduction of antisepsis. I have no doubt mortality of cases done under antisepsis is very much less, in fact Dr. Seydel points this out already mentioned. I think I can safely say that prejudice against deepening as an operation per se, has hardly exists now. Of course, there are still many differences of opinion existing with regard to cases in which it is advisable to use deepening.
5. Localisation of Function of Brain & Exp. of its Cortex. Probably earliest definite localisation was vaguely indicated by Boulland & Dare. definitely fixed by Broca, who found peptic association of aphasia with limited lesion of olent cerebra, namely, the posterior extremity of 3rd left frontal convolution behind this portion of olent as presiding over function of speech which are lost in aphasia—this is a real localisation. The clinical & pathological observations of Charcot, Estes, Headings, Jackson and their followers certainly as for instance Headings, Jacksons reference to causation of limited & unilateral convulsions were certainly important contributions to physiology & pathological material was so still small. But, unfortunately the amount of reliable clinical pathological material was so still small. But that much was learnt in this way is evidenced in Charcot's clinical lectures in "Localisation of cerebral & Spinal lesions". Current urges strongly the importance of Clinical Investigation & Pathological Anatomy, says they are capable of assisting greatly in elucidation of cerebral & spinal functions.

Furthermore he adds that Modern Anatomy, Physiology & Experiment are often out of harmony with pathological facts & require modification in consequence. However
however much this is true it is undoubtedly true
that Fitzgibbons and Ferrier's experimental researches on the
nervous system of lower animals, especially monkeys, have
indebted us much of our present knowledge of cerebral
localisation. Ferrier's work was published in
West Riding Asylum Medical Reports and in Proceedings
of Royal Society for 1874 etc. Also in his more recent
most valuable Book "Functions of Brain" these
observations of Ferrier laid down certain areas in brain of monkeys which had certain functions also
from analogy of Morphology corresponding areas
in human brain, especially so in Motor Region
which areas are commonly called Ferrier's Motor Areas.

Many observations have since followed on lines of
Fitzgibbons and Ferrier's work of a very minute hand has
lately been done by Dr. Bogen and Arnold Headley will
be found in Proceedings of Royal Society 1886 and
Philosophical Transactions 1887. They are of opinion
that in any given part of the cortex as minute as can
be examined experimentally there is represented an adequate
movement or combination of movements of a definite segment
or segments of one or both of opposite limbs, such movement
or combination of movements being the primary movement
as defined by W. J. de G. Gray by the Minimal Stimulation only.
and further that secondary movements are due to the subsequent invasion by the discharge of nervous energy of those portions of cortex which lie nearest to or in close relation to parts stimulated." In the International Journal of Medical Science for this Month April 1883, is a very important article on localisation by Mr. Victor Horsley. In this he combines results gained by his Dr. Reeser's experiments with knowledge gained by his recent successful cases of removal of nervous centres etc., of brain; 2 of recent clinical and pathological observations. I consider this article so important that I shall attach it and send it with this Theres it will help me greatly in what I am intending to say on localisation of lesions of two of my cases at least. Also most important articles are written by Dr. William Maclean of Glasgow in Heath's Dictionary of Surgery under titles Head, injuries of, where he sums up very curiously the knowledge of functions of brain which are of practical value in localising lesions of brain for surgical treatment. Also under heading of Encephalitis Necrotica (Abscess of Brain &c) with regard to relations of different parts of brain entire to outside of head something has been known for sometime but it is only quite recently that rules.
sides for exact or almost exact mapping out of chief
convolutions and sulci on outside of head have been made.
Investigations in this direction have been made by Broca,
Lucas-Championnière, Reid & Turner. The observations
of rotations of fissure of Rolando by Le Fort into the
Lucas-Championnière laid down rules for finding,
taking as their starting point a base line drawn
from root of nose to external auditory meatus and on
to occiput; other lines running are vault at
right angles to this base line. But measurements by
this method were found to be very difficult. Prof.
Theaume of University College London made observations at
portion of upper and of fissure of Rolando by taking
length of middle line of head from root of nose
to external occipital protuberance = balancing this
so obtaining centre of middle line of head.
The upper
and fissure of Rolando will be found in adults
to be situated half an inch behind this centre
point. Then Dr. Hare of Edinburgh has made very
successful observations, has found that angle that
was made by fissure of Rolando with middle line
of head varies very slightly so that an average
it made an angle of 67° with it. So by
suitable instrument or even a piece of cardboard
or stuff paper cut into shape with this angle (which
(which can easily be got by at any time by folding a rectangular piece of paper twice at then using 2/4 of this. Thus see small paper annulled: a. 90° ÷ 2 = 45° 2 2/2 = 22 1/2° 45 + 22 1/2 = 67.5° which is near our for practical purposes.) I apply in to head, the fissure may be marked in outside of the cranial head. Then Sylvian fissure can be localized a then the palatal sulcus has been determined from these as starting points the rest of sulci & convolutions at any rate in motor region can be marked out. See Dr. O. Horley’s paper in International Journal Medical science above referred to.

The fear of hemorrhage and want of knowledge as to methods of controlling it had probably a little to do in preventing surgeons attempting these cranio-vascular operations which entail interference with vessels with vessels in substance of brain as in excising a tumour. Hemorrhage could from the vessels of brain remove could be prevented by careful use of tinfoil or if artery or vein was injured or lacerated hemorrhage could often be stopped by ligature of vessel at once before them or, as both Dr. Horley & Dr. Dr. Stellman have pointed out, by pressure of finger against inside of vessel. The vessels of the brain, which come from in a fine network, bleed very freely but this can
can be arrested or prevented by careful ligature of them before cutting through their branches at the time of their occurrence. With hemorrhage from vessels of brain substance itself, this ligature cannot be done so other means must be resorted to. These vessels all at terminal stumps small in caliber, they run more or less at right angles to surface of brain coming up as they do through coronal radicles. Therefore by cutting into brain substance as in removal of a tumor, incision should also be made at right angles to surface. Moreover between Mecklenburg and Victor Horsley have found that pressure on the brain as if finger or clay charged on bleeding point on brain for a few moments is quite sufficient to arrest the hemorrhage. Also Victor Horsley has pointed out that administration of Morphine (about 1 grain) before operation, as is so often done in operations now, before administration of Chloroform, contracts the cerebral arteries 2 to 3 does away with any further means for stopping hemorrhage.

Note: it is interesting to note that this effect of Morphine is apparently directly in opposition to opinion of Dr. Cushing, who from his experiments on cerebral arteries of dogs placed in connection with a manometer while under influence of various drugs, states that Cushing & Morphine cause well marked congestion of brain. (See Revue de Therap. Medico-Chirurg. 1884, p. 468). However Morphine
Noddy by contracting cerebral arteries would probably increase blood pressure, although it would not cause congestion. Probably also the reason why hemorrhage here stops so easily is that the so-called "Blutplatten," which P. Woodruff's researches, show to consist of an active lecithin-prothrombin, occurs in comparatively large quantities in brain substance. (See British Med. Journ. 1886 vol. i. page 70.)

Let us now go on with our enquiry and see what operations are being performed on brain and its contents and with what success, at this present time, when the above detailed advances in our knowledge have been made. The questions which are now possible have been done and are advisable in suitable cases may be classified thus.

1. In Simple fractures - Contusions of Skull, as soon as diagnosis of intracranial hemorrhage, splitting of external table with irritation a compression of brain, is arrived at.

2. In Compound fractures with or without dephrenic, for purposes of rendering aseptic or for drainage, for elevation of deafening, for excision removal of portions of splintered bone either primarily or after a lapse of time.

3. For removal of foreign bodies, such as bullets when these be visible from outside or when their
within abnormal
their situation can with certainty be determined
4 In stoppage of intracranial hemorrhage or removal
of effused blood.
5 In abscess external to brain substance such as
Petio abscess.
6 In Abscess of Brain itself
7 In removal of diseased bone within skull
when Conservative treatment is no longer tenable
8 In Epilepsy caused by chronic or depression of
base.
9 In Epilepsy when convulsions develop point to
a localized focus of irritation or to a lesion with no
external ascertainable sign of lesion.
10 In removal of intracranial Tumours, including
those in substance of brain itself.
11 In exploratory diagnostic purposes and
also perhaps for relief of general intracranial tension
and for localized Encephalitis - Diplostomiasis.
To justify this statement that operations are
advisable in suitable cases of above 11 conditions.
I will take these headings - see what has been
lately done. Therefore will have given references
as cases of this kind that have been published
in about the last decade. For this purpose I
have consulted - must refer to following paper.
Publications:

1) St Bartholomew's Hospital Reports for 1882 Volume XXII, a paper by Dr. Walsham entitled "Is Replanting the Skull a Dangerous Operation?" which has already been mentioned. In this he gives tables with references of 22 cases of Replanting which occurred in the 12 years preceding 1882 in St Bartholomew's Hospital and of 122 cases of Replanting for Epilepsy, Post-Parturition, Brain in head etc. which occurred and were recorded between years 1871 to 1882. Of these 122 there were 109 recoveries 13 deaths = 10.6% Mortality.

2) Statistics in above mentioned "Antiseptics and Decontamination" by Dr. Med. Seidel published in Munich in 1886, which as I have already shown goes fully into history of Replanting especially in reference to results obtained before and after introduction of Antiseptics. He gives besides very many other references twelve tables of cases of Replanting for all kinds of Head injuries & lesions which together make up a list of 889 cases with 239 recoveries and 50 deaths, all since the introduction of Antiseptics. The detailed statistics under these 12 heads I will refer to later.

3) Cases in Guy's Hospital Reports for 1898, including cases page 221 recorded by Mr. E.H. Golding-Bird & a case by
by Mr. R. Clement Lucas (3) and in Reports for 1879
Clinical Cases of Disease of Brain, Labours with Embolism or Tumour by Dr. S. D. Harkers. As also in same Report, History of Physiology of Nervous System by Dr. Samuel Willis.

Also in 1886, The Hundred Cases of Cerebral Tumour with reference to Operative Treatment, Cause and Mode of Death and General Symptoms by H. A. White also another paper by same Author in same report page 114, in Condition of Bones of Skull of Dura Mater in cases of Tumour of Brain. Also a valuable paper page 147, on Middle Meningeal Hemorrhage by H. A. Jacobson.

I also give reference to some cases which have found in Medical Times & Gazette up to 1880 and in British Medical Journal since 1876 & Lancet since 1883 up to present date. These tables do not pretend to include all cases therein reported, but most of them which bear on the subject under consideration. I purpose putting them under headings, i.e. 11 headings above stated as indications for Operation also another heading for cases bearing no subject of localisation of tumour a heading for Miscellaneous cases of Interest.
Also I shall only give reference only to those cases which were operated upon, but shall give headings or short descriptions of those cases which were operated upon, a set of very special interest.

I Simple Fractures and Contusions:

Death after 4 days from pneumonia.

B. M. I. 1884 (b) 1022. Simple fracture. Extremity. Death after second day.

Death after 9 days from pneumonia.

B. M. I. 1879 (c) 1023. Simple fracture. Extremity. Death after second day.

Death after 9 days from pneumonia.


B. M. I. 1887 (e) 675. Obverse case of fracture of Shewl:

II Compound Fractures: with various results and complications.

Med To G. 1877 (f) 666. 1 case no operation, and then fracture healed.

Med To G. 1877 (g) 65. 2 cases of Compl. Deformed Fracture. Recovery.

Med To G. 1877 (h) 199. 3 cases of Compl. Deformed Fracture. Death.


Med To G. 1880 (j) 28. Compound, no depression but hemorrhage.

Depressin. Recovery.

Dr. Barwell

Med To G. 1880 (k) 346. Fract. above Death. no operation.
III

Removal of foreign bodies such as bullets and bullet wounds.

Med: To G 1880 (6) 636 Bullet Exit Site Recovery. B. M. J. 1879 (2) 313 Bullet Entry Site Recovery. Wilmot.


156 deaths. 168

168

168

168
(Removal Foreign Bodies, Bullet Wounds continued)

1886. 1(1) 377 Suicide wound of head, bullet removed. Recovery: T. D. 34.

   (2) 1068 Bullet remained in lamina. Recovery: L. D.
   (3) 1128 Wound of orbit - pointed bone. Tuberculosis. Recovery: L. D.
   (4) 1172 Recessed bullet in brain, removal of healing bone. Recovery: T. D.

1897. 6(3) 397

IV. Cerebral Hemorrhage. Stoppage of and evacuation of clot.

Med. To G. 1897 (1) 90 Cerebral hemorrhage, uncomplaining without fever.

Recovering patient: headache, visual disorders, constipation.

IV. Cerebral Hemorrhage. Stoppage of and evacuation of clot.

Recovering patient: headache, visual disorders, constipation.

also case of subdural hematoma (B.M. 3. 1879, p. 272) Subdural Hemorrhage (T. D.)

B. M. 1897 (2) 411 Case of Cerebral Hemorrhage. Death. Full recovery. Death.

B. M. 1897 April 23rd. Professor George Alexander Prof. Alexander of Pachymeningitis removed with hemorrhage. Recovering.

of temporary relief: "Cerebral Hemorrhage. (Gutman Hospital Reports. 1897.) (875. 880)

V. For Abscess External to Dura Mater. 2 Bulls Abscess

Med. To G. 1897 (1) 644 Internal and subdural Meninigitis.

many other cases have not been done but very few cases to be recorded.

VI. For Abscess of Brain

Med. To G. 1897 (1) 128 Intracranial Death. Med. To G. 1897 (2) 126 Meninx Abscess Left. Death T. D.
VII (Abscess of Brain Continued) 1852. 1854. 1838. Mr. Burcher in Edinburgh's report Deeds case of brain abscess:


2 cases by H. A. G. Miller. Deaths due to subarachnoid, but speaking nevertheless recommended.

VIII In removal of diseased bone of skull. No cases recorded from Dumfries, with trephining. But see account. Dr. Mitchell's may be used to finish separation, or sequestration, which is chiefly separated by disease.

For Haemorrhagic Epilepsy. With some beneficial effect to guide. To position where to apply trephine.


BM 1 1873 (1) 886. Paralysis Epilepsy in some cases by Levin. Ep. 21st 1873. 10 R.

BM 1 1859 (1) 391. Ep. after old instrument error. Trephine. C. G. B. 10 R.

BM 1 1879 (1) 852. Ep. of old injury. Trephine. no internal deformation. Case 10 R.

BM 1 1879 (1) 865, 869. Recovery in trephine. For Haemorrhagic Epilepsy after 21st.

BM 1 1880 (1) 631. Summary of Trephining: 184 cases, of which 16% cured, 12.5% improved, 35% no change 19% no change. Statistics.

BM 1 1881 (1) 342. 2 cases. Haemorrhagic Epilepsy. Trephine. Improvement. 10 R. 10 R.

BM 1 1881 (1) 321. 2 cases. Haemorrhagic Epilepsy. Improved. Improvement, 10 R. 10 R.


IX

Surgical operation for epilepsy when surgeon had no external sign to guide him where to apply LeFevre.

B.M.J. 1878 (1) 624. Intracranial epilepsy: LeFevre after several years of observation subject for Bellamy done on June 14th 1879. T.D.


Case 2. Noma phlegion of left arm. Very slow.

Due to cerebral lesion: Definite Recovery. T.R.

Macleod operated on similar case in 1879 due to tumour, with complete recovery. Patient still alive. Macleod T.R. 1879.

B.M.J. 1878 (2) 1472. T.R. 1472. Arterial posterior:

B.M.J. 1876 (2) 1472. Arterial posterior:

B.M.J. 1876 (2) 1472. Arterial posterior:

B.M.J. 1876 (2) 1472. Arterial posterior:

X

For removal of intracranial tumours:

Under this heading will be included references to a large no of records of cases of tumours which were subject of localization, but were not operated upon. Also cases in which operations were done of which notes will be given.

B.M.J. 1879 (2) 1022. Tumour (granulation) growing from Dura Mater, below about middle part of frontal lobe and invading brain extending down to infra orbital plate of frontal bone, causing paralysis of arm & leg: Definite Recovery at McClean: The Glasgow Pathology Clinical Society in November 14th 1879.

Tumour chiefly of Dura Mater but involving brain.

T. McClean, R. Macleod.
Tumours of
IVth ventricle
Symptoms and
Diagnosis

Tumours of
Cerebellum
Symptoms
Localisation of
Function

Tumours of
Brain continued:
B.M. 1 1885
6.279 t. cb.
B.M. 2 1886
2.279 t. cb.
B.M. 3 1888
6.101 t. cb. loc.
Hughes Jackson
B.M. 1 1886
6.279 t. cb.
B.M. 3 1889
6.101 t. cb. loc.
Hughes Jackson
B.M. 1 1886
6.279 t. cb.

Tumours of IVth ventricle, symptoms by Dr. Schmidt in 31 cases. Symptoms vary: Diabetes Melibus, Inapetita, Acroparesis, irrt and inextricable unless there be symptoms of cerebellar lesion combined with symptoms of obscure of medulla, a true tic douloureux, internuclear ophthalmoplegia, parasympathetic anomalies, a frequent vomiting, without symptoms of cerebellar lesion.
Dr. Godde.

Dr. Godde, in 1886, described 12 cases of (with 15 cases in 1886). In 249 cases, B.M. 1 1884, 1059 in 1885, B.M. 2 1885, 19.

19 days after death.

Dr. Godde.

In 1886, B.M. 6, 265 cases recovered from lesions at lateral paths; Palsy: B.M. 1 1885.

B.M. 2 1885, 247 cases of Tumours. B.M. 2 1885.

Dr. Godde in 1884, described 26 cases in IVth ventricle.

Dr. Godde in 1885, described 26 cases in IVth ventricle.

Details of removal. T. removal.

B.M. 2 1884, 6.211 t. cb. Tumours removed. Tumours removed.

B.M. 2 1885, 6.221 t. cb. Tumours removed. Tumours removed.

B.M. 6, 247 cases.

Dr. Godde.

B.M. 2 1885, 6.211 t. cb.

B.M. 6, 247 cases.

Dr. Godde.

B.M. 2 1885, 6.211 t. cb. Tumours removed. Tumours removed.

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B.M. 2 1885, 6.211 t. cb. Tumours removed. Tumours removed.

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Dr. Godde.

B.M. 2 1885, 6.211 t. cb. Tumours removed. Tumours removed.

Dr. Godde.
Yewnee of brain: 1887 Lancet (1) 21 Incubal human death.
B. M. J. 1887 (1) 863 i.e. for April 23rd. Two consecutive cases of operations on Brain a Cerebral cavity by W. Webster. Also omitted above. B. M. J. 1885 (1) 480 report of claim of Maucewen, who has had recovery of some commencement of new case in surgery for 2 or 3 years: Lancet 1883 (1) 634 in death. 1885 (1) 587.
B. M. J. 1885 (1) 988 Dr. Goddles case with discussion in subject by Hughlings Jackson for Maucewen. Webster, Goddles also B. M. J. 1885 (1) 806 case in which Dr. Goddles had localised

Yewnee I made a exploratory incision and found tumour too large to remove.
B. M. J. 1885 (1) 1115 reference to my 1883 abstraction Maucewen has stated that there had been no natural manifestation in small unsoft parts in his second case. Location was done by nature of symptoms alone.

XI

References of cases and hopes growing on localization of function.


e.g. Med. T. G. 1878 (1) 299 and T. G. 1877 (1) 453. B. M. J. 1879 (1) 383; (1) 885.

B. M. J. 1879 (1) 866; (1) 274: 1880 (1) 168; (2) 295; (2) 654, 1881 (1) 321, 1886.

B. M. J. 1881 (1) 322, (1) 186; (1) 145; (2) 1081. Lancet 1883 (1) 337.

Lancet 1885 (1) 391, 1934 (B. M. J. 1878 (1) 125; B. M. J. 1880 (1) 917; B. M. J. 1881 (1) 1171, B. M. J. 1884 (1) 1143). 1886 L. (1) 77. B. M. J. (1) 316, (1) 143; (1) 871; (1) 1025, (2) 1623. Lancet (2) 1916.

B. M. J. 1879 (1) 359: (1) 1673. B. M. J. (2) 1035; (2) 1257; (2) 1955. 1880.

B. M. J. (1) 72. (1) 64; (1) 742; (1) 697. B. M. J. (1) 493; (1) 622; (1) 727.

XIII

M. J. 1879 (1) 338. B. M. J. (1) 680; (2) 339; (1) 804; (1) 23, 524.

B. M. J. 1886 (1) 41; (1) 460; (1) 456. L. 1886 (1) 460; (2) 346. B. M. J. (1) 2144.

B. M. J. (1) 194; (1) 1961; (2) 561. Lancet 1886 (2) 962.
I was just a young boy living in a small village in the countryside. Life was simple and peaceful. Every day, I would go to the fields to help my father with the farming. It was hard work, but we were happy.

One day, I noticed that some of the animals were not eating properly. They seemed weak and listless. I knew something was wrong, but I didn't know what it was.

I asked my father for help, and he told me to consult with the village healer. The healer was an old man who had lived in the village for many years. He knew a lot about herbs and medicines.

The healer examined the animals and said that they had a disease that was spreading quickly. He said that we needed to act fast to stop it from spreading to the other animals.

I asked him what I could do, and he said that I should start by feeding the animals a special mixture of herbs. He gave me a list of the ingredients and told me to mix them together.

I followed his instructions and fed the animals the mixture. To my surprise, the animals started to recover. They became energetic and healthy again.

I was grateful to the healer for his help. He had saved the village from a terrible disease. From that day on, I made it a point to learn as much as I could about herbs and medicines. I wanted to become a healer like him.
Especially is it low in primary late operations, while it is rather higher in secondary operations: probably because of levers. Of cases not operated on in alone references I find 10 of these 9 were recoveries 13 were deaths, but it must be remembered that very many cases with death occur not recorded or in cases with recovery that get into the journals. The therefore should be, I think, Do not use tricholine unless necessary because of presence of levers, compression, depression, splinters or hemorrhage of it is thought that symptoms of compression are likely to come on secondary it is then tricholine to prevent these. If the tricholine is to be done at all, tricholine as early as possible. Tricholine can also be applied with little danger in late cases, but dangerous in secondary ones.

**Removal of foreign bodies such as bullets:**

- 3. I one death was after a month from Meningitis: 7 cases of bullet entering brain with 6 recoveries 1 death. Also Dr. Whittaker's statistics from 316 cases with 160 recoveries 156 deaths.
- Of those 156 were removed of which 34 died. Also frontal region frontal less fatal 137 34 50. Mortality. Cerebral Operation 0 7 0 0 0 32. Mortality. Encephalitis Operation 29 24 5 0 0 10. Mortality.

Therefore remove bullet using tricholine if necessary but only when position is diagnosed with certainty and that if not renders would aseptic removal bullet.
IV

For Stopping of intra cranial Haemorrhage & removal of Clots:

2 cases x 2 Deaths but this should also take into consideration of 2 cases mentioned under 1st heading i.e. Simple Fractures - then 4 x 2 = 8.

Of the two cases of death 1 was mentioned by Mr. Harston Packenham who says operation done too late: & the other one by Mr. E. B. C. C. 1877. 1882: a case in 1882 done by Dr. Symonds for Dr. J. Stewart the haemorrhage was in case of Meningealitis Interior & death was after some 6 weeks from a fungating sort of brain abscess. Dr. J. Symonds recommends operation as suitable in such a case.

V

Abscess external to Dura Mater:

1 case of Cerebellar abscess, but no operation was done as it was one of General Purulent Meningitis:

Antistaphylococcus & Separation 13

Mortality 50% 63.6% 2 cases.

P.S. Mr. T. B. W. Tooze gives case in 83. Mr. J. W. D. for today April 29th 1897 in a Puffy tension. A Lufter cases of Perineural Pott's.

VI

Abscess of Brain:

4 x 5 = 20

There are also a large number of cases recorded of Cerebral Abscess, chiefly in connection with Ear Disease all of which have died:

Antistaphylococcus & Separation 13 x 5 = 65

Mortality 50% 63.6% 2 cases.

This includes Mr. Halber's successful case. 2 earliest successful cases seem to be those done by Dr. Halber X by Mr. Cranes both done in 1879. Many of these operations are done too late & therefore the brain
VI. as soon as presence of abscess is diagnosed at its approximate position make cut and even if this latter is not done, exploratory operations may be undertaken but with great caution.

VII. in removal of diseased bone of skull, his cases collected see above, autopsy: 13, 13 with healing, one with healing with fistula, mortality, none altered.

VIII. In traumatic epilepsy with cerebral depression, see also Dr. Wallham's papers in Rappelling, such cases 1. 12, 3, 13 = 16.1%

IX. Antinephritic and Seizures: 29, 29, 0, 28.9%

End. Echeverria gives of cases of traumatic epilepsy 16.7% cured, Wallham 38.7, 1.1 of all cases and Echeverria notes 11.5 cases, cured 64.0%, improved 12.5%, no change 3.5%, made worse 1.0%, death 19.0%

X. Rappelling in epilepsy without cerebral injury: 1st case that of Dr. Bellamay's done in 1879, that in this there was a more or less definite history of site of injury about test pH was followed not at this point, but at brain diagnosed by Dr. Fereir which proved to be the correct spot.

Dr. Macenmas: and case was also done without 'external help' as may have been done earlier.
in 1849 than this case? Then there are all the 10 cases published in this weeks British Medical Journal with 1 death primarily from recurrence after 6 months. Some also several of 17 cases referred to by Dr. Mackenzie in Lancet 1885 (1) 981, 985 were of epilepsy without mental aid. No instances given of this in "Operative Surgery" Removal of Intracranial Tumors. The successful cases recorded above are:

by Dr. William MacKenzie 3 cases first in 1879

see C. Med. 2, 1022. Of two other cases see Lancet 1885 (1) 981, 1934. which are practically speaking tumours, though perhaps the result of inflammatory action in second of these some gelatinous fluid with purulent cells, particles was also evacuated (Abscess or Cyst?) (see also Lancet for May 23rd 1885 page 935 where Dr. Mackenzie states he had then operated on 17 cases for relief of cerebral pressure a other brain lesion: in 17 trephining was performed on 3 elevation of 

I 19 day 1 then died from Hernia Carotic 

also 1 case by Dr. Hene of Berlin with Recovery. The successful Italian Case: 1 a case by Dr. Binnet May 1885. 

see C. Med. in Brown Surgery Feb 19th 1885 page 401
Then seven cases of Tumour (of the 10 cases) published this week's British Medical Journal of 1884 (1) 863. by Mr. Hector Horsley: of these seven cases one primary death from Shock 1 another after 6 months from recurrence as it had been done too late. Counting this as a recovery we have 14 cases with 3 deaths 2 of these deaths were from Shock from operation being prolonged too long.

Besides these there are 19 cases of Tumours of mouth removed by trephining recorded in.

Entirely with 7 cases of recovery were unverified o o o o. Excisions of Tumours should therefore be done by competent persons under rigid antiseptics, whereas their diagnosis is certain or nearly so 2 0 they have been localized 2 not too far from centre, beam only of not.

XL

In bacteriologic diagnostic purposes as case No. D of Mr. Hector Horsley's, for relief of intracranial pressure tension as one of 17 cases mentioned as having been done by Dr. McLean. A for localised encephalitis of pneumoconia as one of Dr. McLean's cases and one published by Prof. J. Stewart incorporated in by Prof. Henderson's in British Medical Journal April 23rd 1883.
To the above enumerated published cases I am able to add, that Mr. Hector Hasley has operated on 7 or 8 cases of intracranial lesions, besides that since the 1st of Oct., I have three; his kindness seen 5 other, but 7 cases of Mr. Hector Hasley's. Of the 3 I saw, I were in 2 occasions of very large tumours, patient were doing quite well & other was for epilepsy of palsy, in whom epilepsy had ceased & paralysis was rapidly getting improving. One of the last few cases dealt, Mr. Hector Hasley having operated rather against this will at urgent request of the patient's friends & made an exploratory operation for epilepsy, a death occurred several days afterwards, without any very apparent cause, being found even after a careful post-mortem. Mr. Hasley has now operated on a great number of cases, about 20 & I believe, of these I know that he had 21 consequent successful cases. I feel add some notes which Mr. Hasley very kindly gave me as references to his early works on cranio-cerebral surgery. They:

2. Epileptic seizures due to intracranial tumour, operated on, complete relief 1879. Patient still living, a fellow is conclusion of paper in Lancet 1881. The first three instances illustrate the immunity from inflammatory products which attend aseptic trepannings, & that the...
The skull can be opened. The cerebral coverings incised x

The brains exposed without fear of inflammatory mischief

Performing must be employed where the localization of

the brain lesion is established. Besides operating in

traumatic cases, trephining is also justified in disease

cases: x Dr. also refers to a leader in O. M. Journal


On 26th November 1881 to Lancet "Medical in Lancet

for 1881. 2 Lancet, May 1885, 23rd, 3 Lancet, 1885, 1886, 1887.

I also had the opportunity of seeing several successful

cases in Dr. Mcmullen ward in Glasgow Royal Infirmary one

day last March. These include a case of Epilepsy treated

on 3 weeks before, who had had no fits since operation

although he had 130 into brains before it; also a case

on a child operated on 6 months before in whom vault

of skull had confirmed over again of the trephine wound could

not be made out; this illustrates benefit of Dr. Mcmullen's

method of replacing the bone flap kept asplinted meanwhile

of further up to park both over Dacron buds under Spiro-kanin.

I also saw a case of Hemiplegia much benefited on the

way to cure by trephining the skull; for Dr. Mcmullen's

surprising methods of operating see Heath's Dictionary of

Surgery of Lancet above mentioned: 1885, 1886, 1887.
Shape. He uses strict asepticities but not necessarily in
slightly above the usual and that too. He puts in a
double sheet of tissue and tree with which is absorbed.
When bruised with iodine or antiseptic (15) of Boracic
lead powder or sublimated wood wool, the temperature
is taken in rectum but if this keeps normal or nearly
so, dressings are not renewed or interfered with, until
usually complete union has taken place in wound itself.

Mrs. Bone is kept aseptic during operation and so
during use of microscopium or other.

Mr. Hector Earle's method of operating is detailed in full
in BM 37 for October 9th, 1886, and April 23rd, 1887, which
later is annulled at end of this thesis. I had, through
his great kindness, the opportunity of hearing two
lectures on demonstrations on brain surgery that
Mr. Hector Earle gave at University College Hospital
in March. Much of these lectures is to be found
in his Article in "Cerebral Topography etc." in
International Medical Journal, 3. I have added some
of his observations of which I think may be of interest.

He referred to Dr. Woodbridge's description on coagulation
of blood. He said there is suggestion that haemorrhage
from sentinel arteries arising into internal capsule etc.
might perhaps be put at by way of sense of syncope
through narrow part of brain of head; if this could be
believe a very great number of people might be saved from death or descending degenerations.

Much wanted still to be known with regard to symptoms of Abscess of brain, which is so commonly connected with chronic ear. With regard to tumours of brain he said that Optic Nervitis was not the one symptom to be watched for, as often Optic Nervitis was a symptom which came too late as was illustrated by two of his cases. With regard to localisation of lesion in epilepsy with view to better operation, not only should first lesions be noted carefully, but the March (Kemp) Jackson's of the Motor Phenomena should be noted also. Also that order of Motor Phenomen as well as Clonic should be noted and especially Clonic Phenomen are often to be observed. Also Analysis in a part of limited knowledge as to tells us, where to operate, makes it part Paralysis as of great help.

I wish now to refer back to the 13 cases of which I began this thesis and see what light they throw into question of Present day treatment of such cases, has given us in considering special points of interest and considering what treatment might have been applicable at the present day.
treatment in such cases.

Andrew's case - Epileptic + Insane for 23 years. Suffering from irregular intervals: any series of fits of peculiar character for seven days before death. Autopsy of brain showed a large tumour in the temporal lobe. Could anything more have been done? I

Minute 82: Consideration of tumour in cortex of temporal lobe - Gowers.

Approximately was removed. It was taken as a granule of a tumour was at the granule of the tumour. It had been more time with some lesions. A tumour might have been degenerated or the tumour (see sheet 6).

Any of which I have removed, we shall see that remnant areas of tumour is usually situated in the area in which the convolutions of the brain in which area causes twitching of opposite ear, head, eyes turned to opposite side, pupils widely dilated (centre of hearing). If lesion had been situated in this area it would have caused paralysis of these movements of head, eyes, speech, but it caused by its presence probably irritation of this area - symptoms which were present i.e. turning of head, eyes to opposite side - dilatation of pupil, but only one ear, the right...

Could anything more have been done? I think so. Could tumour have been localized approximately earlier? If so could it have been removed? As to localization, the presence of a tumour was at any rate suspected, and I think if there had been more time it had been thought of sooner. If a tumour might have been diagnosed & localized with some degree of exactness. If we compare situation of the tumour (see sheet 6) with a diagram of Jamin in Atlas Acus a copy of which I have annexed, we shall see that remotest area of tumour is most situated in the mid infra-marginal (temporo-sphenoidal) convolution. The irritation of brain in which area causes twitching of opposite ear, head & eyes turned to opposite side, pupils widely dilated (centre of hearing). If lesion had been situated in this area it would have caused paralysis of these movements of head, eyes & deafness, but it caused by its presence probably irritation of this area & symptoms which were present i.e. turning of head, eyes to opposite side & dilatation of pupil, but of only one, the right.
Therefore, if the lesion were probably in the neighborhood of one of the 18 areas marked 14. Now if lesion had been above these areas it would have involved either areas 11 or anterior area 13.

- Carcel's paralysis of movements affected by these areas, i.e., in part caused retraction of opposite angles of mouth and turned slightly to one side.
- Lesions movements were not paralyzed: of lateral areas of movement of eyes towards opposite side - pupils being contracted. Now Thomas had been here it would have paralyzed these movement, though it must be confined, tonight partly have passed in this area causing contraction of left pupil. It involved it partly a 30 mm.
- Lesion was situated in front of 10. if it had been situated in front of 9 1/2 it would have caused irritative movements of mouth with ptosis in 15. retraction of tongue, and aphasia.
- If it had involved 9 1/2 it would have caused aphasia.
- We thus get very vague localization somewhere near area 18 or probably in lower part of temporal lobed region. However, if this was the character of this fits during the genus he was epileptic. It was we noted very likely more indications would have been found so the lesion localized or decided definitely epilepsy cared as insanity was chiefly if not altogether due to epilepsy, perhaps insanity caused by

I. Case that of William Taylor. Extensive fracture of whole
Whole case of Skirrow; a very severe case, but yet such cases do recover as well as of recovery recorded by Dr. William Macbride, in 1886. Treatment should be Absolutely necessary; rendered antiseptic as recommended by Dr. Macfarlane, cold continuously applied to shaven head and nasal purges, of course absolute Rest.

John Cain. Compound fracture of orbital ridge of frontal and maxillary bones opening into frontal sinus. Probably small opening laryngoscopically noted anteriorly in fluid and cavity to caused); Antiseptically treated with iodform dressing. Most of wound healing by first intention; whole of wound healed in 10 days. These curious sensory anaesthetic symptoms. If this wound had not been rendered aseptic, there would have been a great danger of suppuration of this extending into cavity of maxillary causing fatal meningitis death from absorption either by direct extension into small opening or by absorption into a small vein which in most people contains a lining membrane of more eminent areas enters into deepened longitudinal spaces. This case interesting because of curious sensory phenomena, which however were probably caused by excitation of nerve trunks antiretinal. Cranial i.e., direct injury to them; also Motor nerve in analysis of external rectus of eye; probably due to direct injury to muscle or injury of 6th nerve somewhere in orbit.
Peter McDermott Compound depressed fracture, loss of brain substance, Symptoms of Compression, headache, swelling of dura 13 mm into cranial cavity. Healing of wound by 1st intention, no bad symptoms for a week, then slight ataxia symptoms, opening up of wound aseptically, removal of fragments of displaced bone, excision of some conturating dura to brain substance, relief of symptoms 3rd day healing of wound again 1st intention under floseph in saturated wood wool. The only Nature of Symptoms Paralysis noted; this case shows usefulness of antiseptics in cerebral surgery. Dr. McLean even thinks that iodine is too stimulating in most cases of head injury is therefore more part of iodine to four parts of methylamine or other poultice boracic acid. This also shows resiliency of vault of cranium the little mass of brain substance being, so to speak, 
spurred out during deflection at time of actual impact of stone, the bones of vault being pushed into almost its original position. Also shows the Harmlessness of hole being 1 3/16ths into brain substance therefore probably that exploratory needles with tissue through a groove is not too sharp would do no harm exposed in brain substance, though it must be remembered that there had already been loss of brain substance in this part in this case. So if we had not had external evidence, could be have diagnosed position of
A lesion of brain: I think so. Referring to diagram (fig. 2) of position of terminal wound and fracture in Peter Broom's case, we find it is situated near the Rolandic area of fracture running across occipital parietal convolutions rather lateral anterior to it. By reference to Penrose's areas, we find it would likely be over area a, b, c and d.


Now McCrinnell had these clamping movements of fingers and wrist movements or fingers and wrist movements. A study of Opposite Arm, this would indicate that lesion of brain projected out and destroyed was situated in area b in that area by a depression of bone was caused in some of areas at a, b, c, d. It will be seen that this case presents to complete accuracy Dr. Penrose's areas on which he has laid down for centre of area chiefly from his experiments on monkeys.

Why did lesion begin in face in this disturbance he had in the story of days? Possibly due to some circulatory lesion or some effusion lower down (or when lying flat than warm). So irritation of area c.e. was caused. See also area marked no: upper part of face.

Leonard: A sample of Penrose's page 358 of Dr. Peter Broom's paper on Topography of Central Lateral a also figure 6 on page 358. A good general other diagrams in this valuable paper.
Case V
Ebenazer Whitman, fall on January. Small superficial wound above outer angle of orbit, no special bad symptoms until 2nd day then irritative meningitis. Death.
This case points very forcibly to importance of 1st part of Aspirin: that however slight a head injury may seem, it should never be lightly regarded. How is one to diagnose at once between such a case as this & hundreds of apparently similar Edinum's cat heads that come to and are attended to as outpatients in our hospitals. If diagnosis could have been made earlier, what more could have been done, greater attention to rest antiseptics - immediately after impacted rest & application of cold to head, might possibly have prevented meningitis & death. Keeping useless & not be thought of in this case at any rate until with our present knowledge.

Case VI
George Herbert: Excessive fracture of base from apparently not a very severe blow. Meningitis on 2nd day, very high temperature on 9th day, with special spasms & paralysis of one eye. Death 12th day.
Same applies here as to William Taylor case I and last case V. Apply cold to head & before rest immediately render antiseptic measures adopted: But very little chance of recovery as fracture right across base of skull a never likely to unite, even if meningitis had been prevented or got over.
Peter Grove: Aphasia from Injury Subsequent Hemiplegia, Hemiplegic Death Necessary.

The difficulty here was diagnosis between effects of old injury, abscess or tumour: we require more information as to differential diagnosis of intracranial abscess than we now possess. Nature of tumour was localized, though symptoms did not show which. What was nature of lesion: that view importance in localizing by symptoms or not leading to history of how was there was no lesion near where he bled but his head, but another glioma on other side. Excision of tumour would not have been advisable near time of onset of death, for there was another tumour: if lesion could have been diagnosed earlier, it was possible I think finally excision might have been done as probably tumour was not multiple. It is interesting to note the amount of haemorrhage which occurred in this case caused by probable by passage of small grove's knife during operation: contrast this with passing 1/2 inches in Peter McCann's case: Probably better to use a hollow or gouged needle edge of which are not sharp. Also Morphia administration before operation might have lessened amount of this haemorrhage.

Mrs E.D.: Cysticercus Cellulosae? No symptoms sufficient for diagnosis of position nor of nature of lesion.
none of Special Symptoms of tumours of Pituitary mentioned as necessary in British Med. Association 1882 by Spillman & Charnett were present. But if it had been diagnosed could anything have been done. No record of such a case being operated on, by Dr. Maclean of Glasgow told me he would certainly have tried it by tapping, though I fancy it would be very difficult to avoid vital parts of brain tumors etc. in Ponsa Meckeliana.

A cyst more than cyst wall might have adhered to sides of pituita and produced a blockage so causing death with the same. But Cystocereus in other situations and near Cerebrum could certainly be tapped or excised with benefit if diagnosed.

IX. Elizabeth Dicks insane many years with good bodily Health till sudden Death occurring from tumor of cerebellum another of Miss Helen Gurney on Templestowe Chipmole lobe. Tumor tubercular adnODULES in lungs.

Could any diagnosis have been made? History of "Cerebella gain a reel" few days before death but nothing localized exactly. Localization of tumours of cerebellum is not rendered sufficiently exact yet. Though it will be done not very long hence I believe, and the Clinical Pathological researches of Hughlings Jackson & Abbevant & other experiments of Ferrar, Beevor, Baslow etc are tending
tending in this direction. Diagnosis also of tumours in sensory regions of brain is rendered especially difficult as action seems to be bilateral, if one side is destroyed its function is nearly completely taken up by other side. Therefore bilateral lesions must usually be localized elsewhere if it had been diagnosed could it have been resected as one or record, but in cases junction of their in posterior temporal part of callosum, it was near surface of brain, but in region of large sensory zones rendering trephining very difficult tumour also tubercular or multiple, but tuberculons not very active therefore extirpation of one tumour might give relief or further life for some time.

X

Berndt: Jessie Ramsay: Old C3t in Internal Capsule, secondary degeneration: This might certainly have been diagnosed if there was almost no subject of diagnosis, so when diagnosed might possibly have been got at by surgical issue. Also island of Reil as suggested by Dr. Warden. I also saw a patient in Glasgow Royal Infirmary with this very lesion diagnosed by Dr. Warden and considering question of operation or excision.

XI

Charles Peters: Abscess or abscess:
If taken earlier trephining could have been done by rendering a healthy inflamed bone without reaction, perhaps about of formation
XI formation of abscess might have been prevented, or when formed evacuated successfully after lobotomy owing to some damage.

XII

Thomas Martin: Constant pain both of head with symptoms of internal pressure; but position not sufficiently localized for lobotomy to be attempted. Notice their condition of bone in this case - see Wardle White's paper on Condition of Bones of Skull in 200 Cases of Intracranial Tumours in Guy's Hospital Reports 1885, page 11.

XIII

John W. Gury: Large tumour, glioma, below temporal lobe, adherent to Dura mater, extending into right orbit. Also circumscribed nodule about 1½ x 1½ cm in some subcortical tumour of temple. Lobotomy not advisable, as too late, if done much more a glioma got found when small, if localisation could have been made, lobotomy might have benefited but probably only temporarily as if similar tumours in another part of body. And in connection with this case it bearing in whole subject of Cerebral operations I must refer to W. Hall White's important paper on 100 Cases of Cerebral Tumours with reference to cause, operative treatment and of Death - General Symptoms in Guy's Hospital Reports 1885, page 17. In this he comes to the conclusion that out of the 100 cases 10 might certainly have been
been operated on & excised & also promptly & thus
that is to say if a correct diagnosis of their positions
could have been made: This teaches us that
only doubtful cases thought suitable after careful
consideration should be operated upon & that
should not be attempted in cases of multiple fibroma
or tuberculous nodules: If unadvised cases are operated
on it will bring operation of high Young's account of
brain tumour into unnecessary disrepute.

Dr. Halstead also urges that early diagnosis should
be aimed at, for many cases might be cured
by high Young's removal of diagnosed separated
on earlier whereas later they are hopeless. This
point is forcibly brought to one notice by case
4 in Mr. Halstead's table of his 1st ten cases A.M.R. 1802.

Of this case I heard Mr. Halstead say that, if it had
come under his notice earlier, a diagnosis could
have probably been made & gloma being smaller
might have been excised without nearly so
much risk of recurrences.

These cases and enquiry have made
into the subject of cranio-cerebral surgery: Suggest
I think a few practical rules for our guidance.

I attend to dictates of Aphra Behn: I never think
too lightly of even the slightest injury to the head.
and Never despair; for give up without great consideration the possibility of treatment with hope of recovery, in the worst case of head injury a lesion; judge prognostics chiefly by amount of injury to brain not to skull (see O'Nanacrona's Health Dictionary of Surgery).

2. Apply Rigor Antiseptic treatment to every case of wound of head, even if there be no apparent fracture, of course never douses of trephining a long such operations without strictest antiseptic.

3. This should especially be impressed in minds of every House Surgeon, Senior Student as well as every General Practitioner or Hospital Nurse.

Observe and note every symptom in every head case from moment of its coming under observation: If this were done, many lesions might be localized, as functions of certain portions of brain ascertainment, as in Dr. Dermott's case above if well reported we should very soon have a large amount of clinical material to help in correct localizations of Brain function, which have been arrived at by experiments on lower animals.

Also our knowledge of symptoms of Brain lesions would be rendered more exact.

4. Try and diagnose, by attention to rule 3 just stated, every case of cerebral lesion as early as possible and if it is a case which
which, after due consideration is thought suitable for operation, operate at once. Don'toperate on unsuitable cases.

I never believe in the finality of surgery having been reached; but believe that we shall, in surgery as in everything else worth knowing, advance in our knowledge of practice, and that a greater number of persons will year by year be relieved from a cure of diseases & injuries which at present are unfortunately incurable and fatal.

George B. Batten.