Cottage Hospital
North Brixton
In presenting this Thesis for your consideration I deem it necessary to ask you to exercise clemently its many shortcomings and to bear patiently with its numerous defects.

Since receiving my M.B. degree much of my time has been occupied in hospital work in the practice of which I have been able with many cases to devote much time and careful study that I have been able to give to them.

A few of the cases which have come under my own notice will form material for the present dissertation, and although the following notes are in many respects incomplete and the remarks not exhaustive, the time spent in bringing about the present results however poor, has certainly proved of benefit to myself and I trust to my patients.

The first case I offer to you.
The case is interesting in account of the nature of the disease and the successful result.

Edward Francis, a wonderer by trade and aged 42 years, born at Stockton-on-Tees and residing at No. 36 Garbutt St. Middlesbrough, was admitted to the Cottage Hospital North Ormesby, on the 15th day of November 1884, complaining of a cough with copious mucilaginous expectoration. An examination was commenced the following day and the patient then stated his illness commenced five weeks ago.

His history was brief, as follows:

Father committed suicide at 57 or 58, by Opium poisoning; he was healthy up to that time, but was in the habit of taking stimulants.
Mother died from Pneumonia about 57 years; he had lost one brother and one sister be thought from the same disease but there were three brothers and two sisters living, all of whom were healthy.

The patient had a comfortable home; he had been in the habit of taking drunks but was not a drunkard although at times he had had more than enough; he had always had plenty of food and had he said lived well. His work was laborious and the workshop always very hot but there were intervals of one hour or two when he had nothing to do and then he would sit about outside to cool himself.

Eight years ago he had an attack of Acute Pneumonia which appeared to be the only illness he had had since a boy and there was no history of any accident at any time.

The present illness began
five weeks ago with a pain in the right shoulder and shortness of breath. A week later a cough came on with copious expectoration and he had to keep his bed. The cough was constant, the expectoration being so offensive people could not stay in the house on account of the smell and the quantity so great that it came away from both mouth and nose and he was unable to spit it out so rapidly as it accumulated.

On admission he was fairly well nourished but had lost flesh since the commencement of his illness prior to which he weighed 13 stones 6 pounds. His height was 5 feet 9 inches, he was well developed and muscular. There was nothing striking about his appearance excepting an anxious expression on his face.

Passing to the respiratory system I found the breathing to be 30 per minute, its character regular, full, easy, and unaccompanied by
pain. The cough was loose, and more frequent at night than during the day. Before admission to the hospital the sleep was much disturbed by the cough, which continued nearly the whole of the night, but since then it had not troubled him so much.

The expectoration amounted to about ten ounces in the 24 hours. It was watery and of a very offensive odour and slate grey in colour. A quantity of it was collected and boiled with soda solution, after which cold water was added and the deposit examined, with the result that air cells, elastic tissue, portions of blood vessels, and bronchial tubes were detected.

The voice was rough; the chest well formed, but there was flattening of the right anterior wall below the clavicle, and diminished expansion of the right side in addition to which there was an increase of vocal fremitus, on the same
side.

The percussion note above the clavicle on the right side was dull and continued so as far down as the second rib below which it was clear.

Accumulation supplied the following results:

(1) Above the clavicle expiration was prolonged, breath sounds harsh but no accompaniment.

(2) Immediately below the clavicle, in the first intercostal space, the breathing was harsh, expiration prolonged, inspiration distinct, heavy, no accompaniment.

(3) Over the second intercostal space inspiration was not quite so heavy as in the first intercostal space, breath sounds were harsh, expiration prolonged, and there were no accompaniments.

(4) In the third intercostal space inspiration was not heavy, expiration was not prolonged, the breath sounds were soft and free, and there were no accompaniments.

Vocal resonance on the right
side I found increased above the clavicle, also over the front of the chest, and a whisper could be heard in the supra clavicular region, and in the first and second intercostal spaces but not in the third and fourth.

An examination of the left side of the chest anteriorly gave no abnormal results, there being no dulness on percussion above or below the clavicle. The respiratory sounds were normal, there was no increase of vocal resonance, and there were no accompaniments. Posteriorly I found on the right side, dulness on percussion above the spine of the scapula and internal to the infra-scapular fossa, if the dulness became more marked towards the inferior angle of the scapula, below which point it continued to increase. Percussion over the infra-scapular fossa also elicited dulness, and the bone was impaired in the right axillary region.

On the left side I found on
percussion nothing abnormal.

Vocal fremitus was increased on the right side, above the spine of the scapula, and vocal resonance was markedly increased in the same area; internal to the infra spinoïs fossa there was a slight increase of vocal resonance, which became more marked below the inferior angle of the scapula; whilst over the infra spinoïs fossa itself there was only a slight increase.

Expiration on the right side above the spine of the scapula was prolonged and opposite to the infra spinoïs fossa, inspiration and expiration were of equal length, whilst at the base of the lung and over the infra spinoïs fossa there was no increase.

Posteriorly on the right side the character of the respiratory sounds was marked above the spine of the scapula, over the infra spinoïs fossa and at the base of the lung; bronchial呼吸, whilst internal...
to the infra-epigastric fossa, crepitations and continuous rhonchi could be heard.

The accompaniments were as follows:

(a) Above the spine of the scapula, some soft rhonchi and a few indistinct coarse crepitations.

(b) Internal to the infra-epigastric fossa, some soft rhonchi and moist crepitations. The latter were more distinct and larger than those found at the apex of the lung.

(c) Below the inferior angle of the scapula, and over the infra-epigastric fossa, some soft rhonchi were present.

An examination of the right axillary region showed:

- Vocal fremitus - increased
- Vocal resonance - increased
- Inspiration - prolonged
- Character - masked
- Accompaniments - continuous rhonchi and coarse crepitations indistinctly heard.

The left lung was healthy posteriorly.
and laterally. There being no dullness on percussion no increase of vocal fremitus, nor of vocal resonance; the respiratory sounds were normal and there were no accompaniments.

The tongue was moist and covered at the back with a brown fur. The appetite was fairly good, but after taking food the complainee felt a feeling of weight.

There was no much thirst. The bowels were moved naturally once daily, and the patient was troubled slightly with flatulence. The abdominal walls were somewhat flaccid, and there was slight tenderness on pressure over the epigastrium.

The anterior hepatic dullness was not increased, and there was no enlargement of glands.

At times the patient suffered from slight palpitation but the heart sounds were found to be normal in the various areas and the pulse full, regular, and 104 per minute.
The skin was moist and the body in good condition but not amounting to obesity; the urine contained no albumen, was clear and the color of cherry. The quantity voided being about 16 ounces in the 24 hours, and the specific gravity 1.020.

The breathing was short, and perspiration was only excessive when the cough had become troublesome.

The examination of the nervous system elicited nothing of interest and the patient complained of no abnormal sensations.

On reading over my notes of the case I find on Nov. 12th—the second day after the admission of the patient—that the sputa contained a little blood and on the following day the cough was much troublesome, producing great exhaustion and attended by copious expectoration amounting to about 3 ounces in 12 hours.

On the morning of the 14th the cough was much relieved, and the expectoration which had
demineralised in quantity, was not offensive in smell, was less watery, and had become a dirty yellow, but during the day it assumed its former character, becoming watery, slate grey, foetid and oozing, amounting to 10 oz in 12 hours. Whenever the patient sat up in bed to allow me to examine his chest, the cough became most distressing.

The pulse was very quick—being 126—and the breathing short and 30 per minute.

During the night he was much disturbed by the cough, and on the 15th I continued to be troublesome and was accompanied by about 10 ounces of slate grey, watery, expectoration, having an offensive smell and being tinged with blood. The bowels up to this time had been formed once daily, and there had been no diarrhea.

On the 15th the expectoration again amounted to about 10 ounces, making 20 ounces expectorated in the 24 hours.
but during the next twenty four hours it diminished considerably, and amounted to about 9 ounces in all; at the same time its character altered and it became purulent.

I had prescribed a mixture containing three grains doses of sulphate of soda to an ounce of water to be given thrice daily. And on Nov 17th the cough was less troublesome and the patient felt better; the expectoration was purulent, less offensive and equalled about 5/3 in 12 hours.

Fifteen drops of the following inhalation were then ordered to be used for an hour nightly and morning—

| Acid Carbolic | 31/2 |
| Creosote | 31/2 | 30/7 |
| Spirit Vine | 30/7 | 61/2 |

Instructions were given for the morning inhalation to be used after breakfast as by that time the contents of the cavity had been coughed up and its walls
were more exposed to the action of the antiseptic.

The following day, (Nov 12) the cough had become less urgent. The patients general condition had improved, and the factor of the expectoration had disappeared entirely, but returned the next morning and disappeared again on again the inhalation which I recommended to be used for as long as times daily. On being in the patient noticed a dry feeling inside his chest before that the offensive smell disappeared from the mouth and that his breathing became easier. He rested much better than formerly and felt more refreshed on waking from sleep. His diet was a liberal one. In addition to which the patient drank about a pint and a half of milk in the 24 hours. An ounce ofgin with 40 drops of spirits of

water was given 4 times daily which relieved the cough in addition.
to its stimulating action.

On the 24th November the respiration was 24, pulse 106; cough gave very little trouble, and expectoration amounted to only 3 ounces and was not offensive, but during the night the cough was almost constant and only allowed him to sleep for an hour. The sputa was uncespursely, contained a little blood, and measured about 10 ounces, being similar in character on the following day, but diminished to about half the quantity.

During Nov 22nd the patient had very little cough, and the doctor had disappeared from the expectoration. The pulse was reduced to 100 and respiration was 22. He passed a good night and the following day the respirator was ordered to be used as often as the patient wished it.

He could tell he said: When the cough was coming on, something appeared to give way to the right side of his chest, then he had an offensive taste.
and smell, followed immediately by the cough and yellow expectoration. As allowed to use the inhalation as soon as he noticed the sensation in his chest, the cough was relieved by it; but no relief followed its use after the cough had commenced.

On the afternoon of Nov 24th, the spuća again became offensive to smell, and continued so during the night, becoming again offensive on the following day.

An antiseptic and expectorant mixture to be taken every 4 hours, was prescribed by me on the 26th, which contained:

- 8 oz Eucalyptus leaf
- Iodoform ½ oz
- Syrup of Lepidium ½ oz
- Senna root 3 lbs

And on the 27th of November, he was very well, but in the evening said he gave a cough then noticed something like gas making its way from the front of his chest, which gave rise to an offensive smell and taste, ending
in an attack of coughing, and accompanied by expectoration, which amounted in an hour to about 6 ounces. During the night he slept only about 2 hours till 6 a.m., and next day (Nov 24th) the expectoration was copious, and amounted to nearly a pint and a half, being offensive at times, watery, and slightly frothy. There had been no diarrhoea from the commencement of the illness. The patient felt tired of gin, and I changed it to brandy. During the night of Nov 25th the expectoration measured about 9 ounces. The character remaining the same, whilst on the 26th he expectorated about 19 ounces of like fluids, excepting that it was not offensive.

During the next fortnight the patient gained strength and increased in weight. The cough being less troublesome and the expectoration had lost its offensive smell, excepting on the 3rd and 9th of December.
A careful examination of the chest was made Dec 12th with the following results:

The right anterior wall was almost stationary during inspiration and expiration, and a marked depression was noticed below the right clavicle extending as low down as the fourth rib.

Percussion elicited dulness above the clavicle but hyper-resonance in the first and second intercostal spaces. At the fourth space dulness returned and increased in intensity from that point downwards.

Vocal fremitus was increased on the right side from the clavicle as low down as the 5th rib. Vocal resonance being increased above and below the clavicle on the same side.

Resuscitation demonstrated harsh breathing and prolonged expiration above the clavicle, cavernous breathing in the first, second and third intercostal spaces whilst in the
Fourth space respiratory sounds were soft and expiration was not prolonged. There were no accompaniments anteriorly.

Passing to the apex of the right auxiliary region, vocal fremitus was found increased with dulness on percussion. Cavernous breathing and increased vocal resonance, whilst lower down some crepitations were heard.

Posteriorly, there was dulness on percussing the right side but owing to the amount of inflation produced by expelling the patient and the severity of the cough when he sat up I postponed the further examination of the back of the lungs.

For any faint odour there might be in the ward we volatilized carbolic acid by means of a Queen Mary lamp which gave a most agreeable result.

The patient continued to take brandy and a liberal meal.
died, together with the use of eucalyptus oil, tansy, etc., and used the inhalation as previously recommended. On the night of the 12th March, cause not stopped during the following day. From this date all went well and on the 30th of the same at the examination of the chest, and found the percussion note immediately below the clavicle firm on both sides but by percussion in the second right intercostal space below the clavicle was again diminished in intensity. Immediately below the right clavicle inspiration was wavy and the breathing tubular with no accompaniment. In the second space inspiration was low and the breathing cavernous but no accompaniment. Whetsover down the respirating sound became natural and inspiration was not prolonged. Vocal fremitus and vocal resonance were exaggerated.
the flattened right anterior chest wall, but lower down both became natural.

The posterior examination of the chest brought out the following facts:

The apex of the right lung was somewhat dull on percussion, the dulness increasing from above downwards.

Vocal fremitus was increased on the right side whilst vocal resonance was slightly in excess at the apex and base of the right lung, but much increased between the right infraspinous fossa and the vertebrae.

At the right apex expiration was prolonged and the breathing tubular, without accompaniments. Opposite the infraspinous fossa expiration was prolonged, and the accompaniments were large moist crepitations best distinctly heard at the base expiration was prolonged and the accompaniments were large crepitations.

The left lung was healthy.
The patient's condition was very much improved and till this period I had never been able to make an examination of the back of the chest without great distress to the patient from the violent fits of coughing brought on whenever he attempted to sit up. The examination here recorded he was through splendidly and his strength had increased wonderfully. The breathing was quiet and easy. The cough gave very little trouble. There was no offensive smell from the expectoration. The pulse was good. Volume the appetite excellent and the bowels in good order excepting at times when there was a tendency to diarrhoea which was speedily checked by an opium pill.

Passing over the first few days of the present year during which time the patient rapidly improved, I arrive at the 6th of January 1865 when I made another examination of the
Cheek and found sub-clavicular flattening together with almost no expansion of the right anterior chest wall with inspiration. The percussion note was good immediately below the clavicle on each side and in the second right intercostal space it was a little higher pitched than on the left side. The increased resonance disappearing on proceeding downwards over the flattened area. Vocal fremitus was increased. Inspiration wavy, expiration prolonged, and accompaniments absent. Posteriorly the percussion note was normal on the left side and dull on the right. Vocal fremitus was increased lateral to the posterior margin of the right scapula. Auscultation midway between the posterior margin of the scapula and the vertebral column gave increased vocal resonance, with prolonged expiration.
tion, but no accompaniments, as a point two inches above the spine of the scapula, and the same opposite the supra-spinous fossa.

The physical signs led me to believe in the existence of a cavity internal to the spine of the scapula, which I have no doubt extended anteriorly and gave rise to the signs already mentioned as existing there.

At this time the cough was much improved, with no effort of breath, and no offensive stream about the expectoration.

The patient slept well, was strong, and had a good appetite; in fact, the improvement was so marked that I gave him permission to rig up the following day. After this the improvement still continued until January 22 when the patient was new upon the fiddle. While sitting on the couch he nearly fell, everything appeared to him round, and he felt sick.

The following day he was still
fuddled, and said the sickness always returned after he had taken his medicine. When he walked about he staggered, felt helpless, and after being up about an hour and a half, had to go back to bed. The next day he got up at 7 a.m., still feeling fuddled, and remained up about an hour and a half, during almost the whole of which time he had to lie down.

Believing the symptoms to be due to dysentery poisoning, as I shall afterwards point out, and having detected iodine in the urine, I changed the ingredients for the following expectorant, and combined it with a tonic:

- Spirit ammonia & x
- SpiritITION ether & xx
- witch hazel & xx
- Dr. John 3 i
- Dr. J. A. Cone 3 i
- Ag & ad 3 i

which was to be given thrice daily.

For liver tea was also ordered, and the inhalation was
to be continued. After the Change in the respiration the fuddled began to disappear, and on the 24th of January I again examined the chest and found in the right infra-clavicular region, dulness on percussion, expiration prolonged. Vocal resonance increased, with absence of accompaniment.

The flattening of the right anteros chest wall was not so well marked as previously, and the percussion note in the right and left infra-clavicular region was almost equal. Being reminding in each case only on the right side the feeling communicated by the fingers on percussion, was somewhat more resonating than normal. While vocal resonance was increased.

In the first and second right intercostal spaces the breathing was tubular, without accompaniment, vocal resonance being increased.

From my examination I concluded
had. The cavity had diminished in size antenoste.
The back of the right lung was dull. Vocal resonance was greatly exaggerated. Internal to the middle of the posterior margin of the right scapula, and increased below that point.
The breathing was loud and cavernous. Internal to the right infra-ophiuni fossa, but no accompaniment could be heard. Whereas at the right base occasional crepitations could be detected while added to the other signs pointed to pneumonic consolidation of the base of the right lung.
On the 27th of January, large crepitations were especially well marked posteriorly over the cavity.
On the 7th February the sickness, previously mentioned had almost passed away but the appetite was not quite as good as usual. The lungs had much improved, and the breath and expectoration remained free from...
In examination of the chest, gave results very similar to those found on the 24th of January, viz—

In the right infra clavicular region, dulness with prominent expiration, increased vocal resonance, and no accompaniments.

In the right infra clavicular region, the percussion note was slightly impaired, but almost equal to that in the corresponding area on the opposite side.

Vocal resonance was increased as low down as the right nipple, and vocal fremitus was increased over the cavity of the second right intercostal space. The breathing was labored with wavy inspiration, deep respiratory sounds, but no accompaniments.

Posteriorly on the right side and internal to the supra-alar opinions area, vocal fremitus was increased, with a dull percussion note, and prolonged expiration, whilst internal to the
right infra-epiglottic fossa. Vocal fremitus was increased. The percussion note was dull. The breathing became and accompanied by harsh crepitations, but the physical signs of a cavity were not as distinct as previously.

By the right base there was dulness with slight increase of vocal resonance, but no accompaniment.

The patient has now so far recovered that I gave him permission to go into the hospital grounds the next day, and on the 27th of February I again examined him carefully, with the result that the right anterior chest wall was found to be less retracted than formerly and an increased amount of expansion was observed during inspiration. Vocal fremitus and vocal resonance were increased over the first and second intercostal spaces, with very slight impairment of the percussion note over the
former area, inspiration being prolonged in both spaces.

Above the left clavicle there was dulness with increase
of vocal resonance, prolonged inspiration but no accompani-
ment.

Posteriorly there was slight
dulness at the right apex,
and internal to the supra-
oepiglottic fossa which became
more distinct internal to, and
below the infra-epiglottic fossa,
but over there was not excessive
having cleared up considerably
since the last examination.

Vocal resonance was
increased at the right apex,
whilst internal to the right
infra-epiglottic & infra-epiglottic
fossa and over the right base
vocal fremitus and vocal
resonance were each exaggerated.

Expiration was prolonged
internal to the posterior border
of the scapula and the breathing
of the left of the infra-epiglottic
fossa was Cavernous, and
accompanied by a few moans.
Creptations towards the end of inspiration.
At the right base a few large creptations could be heard, but the whole of the physical signs had greatly improved. In character and confirmed my previous opinion that the posterior physical signs of a cavity were becoming less marked. In addition to this the dulness had considerably cleared away from the base.

The cough gave the worst trouble at night but there was very little expectoration till the patient arose for up in the morning and after that the sputum was frothy and white and did not amount to much. The appetite was good, and whenever the weather was fine the patient went for a long sharp walk. He was ordered to have a bath - almost cold - every morning, the bath to be followed by vigorous rubbing, and after breakfast to go for a brisk walk.

A pint of beer was substituted
for other stimulants—while the
inhalation was continued, as
also the other medicinal
treatments.

For the next few weeks all
were well, and on the 21st
of March, I made a final
examination of the chest as
the patient had for some
time appeared fit for dis-
missal.

There was still the flattening
below the right clavicle, while
both sides expanded with
inspiration but the right lost
as much as the left.

On percussion I found
sullenness above the right clavicle
and an impaired note in the
first interspaces on the
right side anteriorly, but a
clear note at and below the
second space. Vocal fremitus
was increased over the right
anterior chest wall, while
auscultation above the right
clavicle gave expiration促使ed
character, tubular, no accompani-
munts, with increased vocal resonance.
Passing below the right clavicle I found in the first intercostal space expiration prolonged, the character tubular, and no accompaniments — whilst vocal resonance was increased.

In the second space expiration was prolonged, the character cavemous accompaniments absent, and there was increased vocal resonance.

In the third space the breath sounds were normal, whilst vocal resonance was slightly increased.

Posteriorly on the right side there was slight dulness internal to and opposite the supra omohyoideus fossa, but more marked opposite to the infra omohyoideus fossa, the inferior angle of the scapula, and below that point vocal fremitus was increased over the back of the right side of the chest. Whilst auscultation internal to the supra omohyoideus fossa gave expiration prolonged, character tubular accompaniments absent, and vocal resonance increased.

Opposite the spine of the scapula expiration
was prompted, the breathing cavities although approaching the tubular character and vocal resonance increased.

Internal to the inferior angle of the scapula the breathing was tubular without accompaniments whilst vocal resonance was increased.

The right side of the chest posteriorly was free from accompaniments and the patient quite well enough to be discharged, but wishing to send him to a convalescent home at the sea-side which did not open till April I kept him in the hospital till then.

I now add temperature and expectoration charts the latter showing at a glance the quantity and character of the spita.
Gangrene of the lung may be
diffused or circumscibed, the
former variety is always fatal and
attacks the pleural part or whole
of a lobe, the lump tissue form-
ing a black fluctuating mass.
When circumscibed it may be formed
of one or many cavities round or
irregular and the lump substance is
broken down into a soft black
clough or gangrenous fluid.
The arteries joining to the part are
usually obliterated and the surround-
ing lump substance is infiltrated and
hepatised, or in more chronic cases
forms a fibrous wall. The
gangrenous patches communicate
with the bronchi and the contents
are expectorated or may burst into
the pleura.
The symptoms of the disease are
physical signs indicating destruction
of the lump substance together
with opaque slate grey watering
foulid expectoration, and an offensive
descent of the breath, fever
constitutional disturbance, and
depression.
The patient whose case has just been described exhibited all of these symptoms, and from the physical signs present there was no doubt at all of the existence of a cavity in the anterior and upper part of the right lung. On reference to the notes it will be found that for a time this cavity gave a hyper-resonant percussion note and so is an illustration of Henle's statement that "When a large empty cavity exists near the surface of the lung you often have a very clear sound on percussion".

Signs of pneumatic consolidation were detected at various periods in other parts of the right lung. As time elapsed, the whole of the physical signs improved and indicated a diminution in the size of the cavity, and a gradual restoration to health of the affected lung.

In the Gulstonian Lectures 1842, Dr. Swain describes a cavity as passing through a period of
formation which is succeeded by the development of a lining membrane in the first place you have inflamed or necrosing tissue forming the wall of the cavity, followed by a cavity wall consisting of the fibroid material thrown out for the protection of the lump. Now this is exactly the course of events in this case. The commencement was I think pneumonia of the right lung followed by destruction of a part of the lung substance forming a cavity at which time the expectation was foetid and opaque but after a time its character altered and its quantity diminished and we then had the process of destruction ceasing and had arrived at a period when you have according to Robert's a fibrous capsule developed and a cavity secreting healthy pus.

Even this was improved upon by the secretion becoming less purulent.
Character and diminished in quantity, and the cavity continued to get less, but obliteration is rarely attained says toward in Deane's dictionary of medicine chiefly owing to deficient granulating power and to the superficial nature of opposed surfaces, and absolute closure occurs only in cavities of moderate size.

What the cavity in this patient lump may ultimately do I cannot say, but that it has become much smaller I feel confident with the cavity we have distinct flattening of the right anterior chest wall which by itself is an aid to the tendency a healing Cavity has to contract, other forces also act towards producing this result viz. expansion of the surrounding tissue, hypertrophy of the opposite lump, rise of the diaphragm, and growth of fibrous tissue within the lump and pleura added to which we have the trabaculae and blood vessels within the cavity assisting...
In the production of this contraction, the flattening is explained by Swartz as due to the ribs overlying the inflamed districts becoming dissociated from the concerted movements of the intercostal muscles, by a species of local paralysis, and they ultimately remain motionless, after which the thorax becomes gradually depressed, with the progress of excavation.

Passing now to the prognosis I find that about 1/8 die, and that the disease usually has a fatal termination, which may be from exhaustion, hemorrhage, or septic poisoning. Fortunately, all do not die, and there are good asepis, which make the case hopeful, such as absence of fever and waste, and a well marked and defined cavity.

The causes of Pulmonary Gangrene are Pneumonia, pressure on pulmonary vessels, nerve influence, septic poisons, or it may follow Bronchiectasis, due to the fatal...
secretion infiltrating the neighbouring lump substance, or it may arise from perforation of the gall by carcinoma and infiltration of the lump with decomposing material, or be caused by impaction of foreign bodies in the lump, such as pieces of bone.

The treatment consists in free administration of stimulants and nutritious diet combined with antiseptic remedies and inhalations.

The patient's strength must be kept up, and his general condition improved; the expectoration must be got rid of, and at the same time an attempt made to improve its character and diminish its quantity.

The treatment advised relative to the expectoration was effected by a mixture containing

\[ \frac{1}{2} \text{ of Eucalyptus in t. 0.1 } \]

Iodophor in t. \[ \frac{1}{2} \]

the other tinct. in t. \[ \frac{1}{5} \]

See tinct. one \[ 3 \]

t. 7 aq. \[ 2 \]
to be taken every 4 hours, combining it with an inhalation consisting of:

\[ \text{B.} \quad \text{Yird Jodi ether} \quad \frac{3}{16} \quad \text{Acid Carbonic} \quad \frac{3}{16} \quad \text{Creasot} \quad \frac{3}{16} \quad \text{Spirit Vine Red} \quad \frac{3}{27} \]

The therapeutic action of the oil of eucalyptus and iodine combined in the mixture was antiseptic, whilst the ether was a depressor, stimulant and the creasote a stimulating expectorant. The two former drugs therefore assisted the antiseptic influence of the inhalation, and the two latter helped to get rid of the pulmonary secretions.

The composition of iodine is analogous to that of chloroform, its formula being \( \text{CH} \text{Cl}_3 \), and differs therefore from that of chloroform by the substitution of 3 atoms of iodine for 3 atoms of chlorine. It has been used with good results by Dr. Redmond of Dublin in 3 grain doses, in the form of pills.

British med. off. May 6/82

British med. off. June 17/82
Three daily, for the relief of
Gastric ulcer, with ineffectual
Vomiting, local abdominal pain,
and Fauteness; and S. Breschfield
as a meeting of the British Medical
Association April 28, 1883 recommended
it for the treatment of phthisis
and advised a pill containing

\[
\text{Iodine } \frac{1}{2} \text{ gr.}
\]

\[
\text{Arsenic Chloride } \frac{1}{2} \text{ gr.}
\]

\[
\text{Cream } \frac{1}{2} \text{ in.}
\]

or if the pills were badly borne
he advised the iodine to be
given in cod liver oil which in
very young children is might be
made into an injection with
Vaseline or Olive oil or in older
children powders or pills might
be administered.

The good effects he mentioned were
increase of weight, increase of
appetite, diminution of cough, and
expectoration, diminution or total
cessation of night sweats, and
the temperature was often a little
lowered.

No employment is apt to be followed
by symptoms of poisoning, as
proved by the present case, from its long continued use as a
mixture, and I found that in the British Medical Journal for
June 17th, 1862, Dr. Stanley Boyd records 14 cases in which the
drug used as a local application appeared to produce similar
symptoms.
In the first case the patient
for generally low, and concom-
ant no solid food was dull,
heavy, dozy, and wandered
a little at night. There was
elevation of temperature and loss of flesh; but after discontinuing
the iodopform he improved.
The second patient was delirious
with a quick pulse and elevated
temperature; ultimately coma
set in and death followed.
The third case had symptoms
resembling cerebral meningitis, comming
on after the application of
iodopform and clearing on its withdrawal, whereas the 14th patient
had elevation of temperature with
a quick pulse, headache, drowsi-
ness, nausea and stupor.
As a method of improving the
foul odour caused by the
pulmonary secretions I can
from the results obtained in the
present case strongly recommend
the use of antiseptic inhalations.
My experience agrees with
that of Dr. Burney, who says
he has never seen any symptoms
of irritation set up by antiseptic
inhalations when properly applied.
Various respirators are made
and Dr. Richardson in a letter to
the British Medical Journal (March 1st)
recommends converting an ordinary
room into an antiseptic chamber
by putting the antiseptic into a
kettle.
The inhaler I used was designed
by Cophis and consists of a
space for wool enclosed between
a loose perforated plate, and
the inner surface of the respirator.
The instrument is retained in
position by elastic loops which
pass over the ears.
His instructions as to the best
time for employing inhalation are
for an hour or so before going
to sleep at night, and after the morning expectoration, which leaves the cavity empty to be acted upon by the vapors, but it is necessary that the patient should inspire through the mouth and expire through the nose. This of course means he draws medicated air into the chest, and does not render the mouth offensive by inspiration, if that can be performed through the nose.

There are numerous other inhalers in the market, and Dr. Coghill has an improvement on his old instrument having an external heaped plate with a space for wool between it and the inner plate.

Another form is by Dr. Hunter Mackenzie, and is an excellent metal instrument for the mouth and nose fitted with valves to allow the patient to inhale air charged with some antiseptic and to discharge the expired air without trouble.

The medicinal agents recommended are numerous and include
Kymol, Eucalyptol, Lecitine, Camphor, fir wood oil, solution of 10% in rectified spirit, mixture of Benzoin, mixture of Iodine etc.

Dr. Barney says he prefers Creasote, and recommends a mixture of Creasote, Carbolic acid, Eucalyptol or Lerpentine, with equal parts of spirits of chloroform.

Speaking of antiseptic inhalations, Dr. Spill says, the ethereal mixture of Iodine has a soothing effect on the cough and pulmonary irritation; the addition of sulphuric ether soothes and allays irritation.

Carbolic acid checks the amount and purulent nature of the sputa and Creasote is a sedative in the cough, apparently by reducing the irritability of the pulmonary tissues, which is simply a description of the action of each of the important drugs contained in the inhalation prescribed by me for the case now recorded.

When you have purgation to expectoration Dr. McAlvorie recommends the inhalation of
Terebene, which is an antiseptic and sedative to the cough, and when the expectoration is copious and frothy he advises it in addition to be given internally in doses of 5 min. either in emulsion or with carbonate of magnesia, when it acts as an aromatic expectorant.

This method of treatment like all others has its opponents and I find that D. Haswell read a paper at the meeting of the British Medical Association in 1883 giving the results of a series of experiments made to test the efficiency or otherwise of antiseptic inhalation. The experiments showed that substances of little volatility such as Carbolic Acid, Creasote and Thymol made their way into the lungs with great difficulty and in minute quantities through respirators whilst even substances having considerable volatility as oil of turpentine did not get a ready
access. Now this may be very true and the amount of the antiseptic inhaled with each inspiration is, no doubt, very small but when multiplied by the number of inspirations per minute and the amount inhaled is estimated for an hour it will be seen that a considerable quantity may pass into the lungs.

We come now to the adoption of surgical measures to get rid of the accumulated secretion and at one time I thought of tapping the cavity. In the present case nature attempts at emptying the cavity by coughing and in some cases it may be well to try to empty the cavity by surgical means, just as you would empty an abscess cavity by making a puncture or incision to allow of the escape of its contents and in order to relieve constitutional symptoms and prevent other ill effects surgical interference is...
Drain a cavity in the lump is of doubtful value because the secretion is too tenacious to be withdrawn in that way, but the operation has been done and I find Dr. Theodore Williams records a case of Bronchiectasis in which medicines and inhalations having failed to purify the pulmonary secretions he injected 24 drms of solution of iodine (1 in 60) through the first right intercostal space about 3/4 of an inch from the sternum at the spot where cardemone sounds were most audible. The temperature in the morning was 100 1/2, whereas in the evening after the operation it was 98 4/4 and the 7th day 99 1/2 pulse 100.

The expectoration was unaltered and contained no iodine.

Eight days after, a tumefaction was noticed in the second intercostal space, two inches to the right of the sternum, by a trocar and cannula, after freezing the skin. On withdrawing the trocar, pus, necrot and air
escaped and 13 min of solution of iodine (1 in 30) were injected, after which 20 min more were injected, and the patient complained of a metallic taste in his mouth, and the expectoration was found to contain iodine. A short cannula was then left in the cavity and kept in position by plaster. Next day the cough was hoarse, some expectoration 10 ounces - foetid - no iodine in it, no discharge from the tube. Fifteen min of solution were injected, some of which came up with the expectoration.

Two days after an attempt was made to inject 2 ounces of arnica fluid but the cavity thick failed. Three days after three ounces of arnica fluid was injected but no good results followed any of these operations, and the patient died two months after.

Relative to this question, Sir John Pollock in delivering the Harveian Lecture on "The prognosis and treatment of chronic diseases of the chest" in
relation to modern pathology", said you should not tap open cavities with a free opening into a bronchus and with chronic moderate and not acute secretion.

He considered tapping quite authorized when the cavity was in some of the more dependent parts of the lung, the axilla, or in the infra-scapular region, and if the patient expectorates at intervals the expectoration being copious and frothy.

The operation is contra-indicated if the physical conditions are not well marked and in acute febrile cases, and in hemorrhagic cases, where little fibroid change has occurred and adhesions of pleura are not evident for in such cases the tap can hardly enter a defined cavity but a broken up lump and hemorrhage would occur.

Bascivitz Rotlock recommends to be tapped so as to remove fluid and diminish the supplicative process, and prevent secondary septic infection.
In conclusion let us suppose the cavity has become chronic as in the present case and has ceased to extend. What are you to do? My answer is to follow the advice of Rollock and prescribe reading aloud, active outdoor pursuits, athletic exercise, and movement, daily cold sponging to the chest, balls, singing and moderate use of wind instruments.
Case II.

J. D. Chapman of Linden Villa, North Brincaley, aged 35 years, Height 5ft 11½ inches, Weight 15 stone 10lbs; for some time superintendent of the telegraph department at the Middleton post-office. Was born in the Isle of Wight, and admitted to the Cottage Hospital, North Brincaley on the 21st of November 1854.

Previous to his admission he had been under my care as a private patient so that I am able to commence the history of the case from notes taken on the 1st of November 1854, at which time he complained of difficulty in speaking when excited, and defective sight. The symptoms having commenced in August 1854.

He had been married ten years and his wife had given birth to five children, all of whom were living and healthy. While she never had any miscarriages. His mother was living and
healthy, as also his father, but with a history of epilepsy.

There were three sisters alive, one of whom was delicate; whereas of brothers, two had died in childhood, and one was alive and healthy, but with a history of epilepsy.

The patient had not been very regular in his habits as to food and drink, for his occupation took him a good deal away from home into outlying districts, where he was unable to keep his usual meals, or only able to do so at great inconvenience. He usually being a hearty breakfast before going out in the morning and a hearty meal on his return home at night; during the day stimulants often took the place of food and the choice fell to whisky. He had a comfortable office and a happy home, but during the last few years had done much mental work.

When a boy he was struck on the head with a stone, and a
scar on the left eye was present on 
the forehead a little to the left 
side of the middle line.
Before marriage the patient had 
typhus but for ten years he 
had not had any illness excepting 
neuralgia.
In August 1864 he noticed 
that in the middle of a 
sentence he sometimes could not 
supply a word, but after thinking 
for a while the word would 
come. He described it as 
impotency to remember the word 
and said sometimes he knew 
the word but could not say it 
and at other times the word 
was unknown to him. This 
condition of affairs was only occasion 
al and with it he noticed a 
pain on the left side of the 
head. About a week or two 
after the appearance of the 
first symptoms he found he 
could not write his letters because 
he could not spell and there 
was even a difficulty with such 
small words as "pony."
As the end of September
he observed a burning sensation in the upper lids, and found his sight defective, which he tried but failed to improve by means of a magnifying glass.

The sense of smell also became disordered, towards the middle of October, and for a fortnight he noticed constantly a smell as if he required a bath, although he could smell everything naturally.

During the whole of the summer he complained of sleeplessness, and said his sleep did him no good, and his legs ached in the morning.

Before mentioning any other facts of the case, I think it would be as well to record the history and character of several fits the patient had.

The first fit occurred about Nov 1883 and during the time it lasted he was unconscious, frothing at the mouth, and bit his tongue, but had not any convulsive movements of the arms or legs.
The second fit was about April, and at that time he had gone through much mental work. It came on in bed, lasted an hour, and was characterized by loss of consciousness. Then he called out "Oh!" afterwards became quiet, frothed at the mouth, and was said to have had spasmodic action of the muscles of the mouth and face, but no convulsions of arms or legs. After the fit he went to sleep. In June he again had a fit, being unconscious for minutes, and in July he had another fit which came on while he was standing up. His wife put him to lie down and unconsciousness lasted for half an hour, and was accompanied by movement and symptoms similar to those previously described.

During the fortnight prior to the 14th of October, he had two attacks of vomiting accompanied by severe and constant headache on the top of the head and across the brow. The appetite had gone, and eight
and speech were both defective. The patient attended to his duties with great difficulty from his inability to think and to add up figures. His correspondence he used to bring home at night for his wife to correct. On the 24th of October he went to bed complaining of a very bad headache at the front and back of the left side of the cranium, speech and sight being at the same time defective. Next day he tried to write a letter which himself and his wife informed him he appeared to know the word he wished to write but neither the letters nor the letters formed themselves imperfectly, so that the letters "i, a & 2" and nearly all small letters looked like a wavy line in addition to which wrong letters were used making the spelling incorrect. The mistakes made he was unable to detect himself and for 4 or 5 months he
writing had not passed straight across the paper but had inclined up or down.

On the night of October the 14th he had another attack of vomiting which lasted till the morning of the 15th and for which Dr. Angell (who for a few days had charge of my practice) gave a Perminth injection. Whilst on the 16th and 17th he presented a sedative draught for the sleeplessness. On the 18th of October the patient complained of 'rheumatic' pains at the back of the left eye which passed down the left side of the neck to the tip of the left shoulder. The following day I saw him myself after which he remained in bed till Sunday the 26th of October when I allowed him to get up. At that time he still complained of a little pain on the left side of the head and hesitated along his words. Early the next morning (2 a.m.) he
awoke with a very severe headache which might have been partly due to a glass of beer he had taken the previous night; however the pain diminished after breakfast. During the remainder of the week he went out a little every day and on 31st he wrote a letter. The spelling of which was correct and the writing satisfactory, but the composition was scarcely up to the patient's usual standard.

On Nov 2nd the patient said he was less troubled with sleeplessness at night, but that he nearly always awoke with a headache in the morning which disappeared as the day passed and he also informed me that six weeks before that date he occasionally felt numbness in the right arm and right leg, which appeared in the leg and not in the arm or vice versa. This sensation he had noticed along two lines and each line only lasted for a few minutes. When the numbness was in the upper
extremity, he could bite his finger and not feel it, and the last time he experienced this sensation was towards the end of October, and it disappeared on rubbing the hand.

The heart and lungs were found to be quite healthy on examination. Nov 1st and the patient was able to stand steadily with the eyes closed and the feet together. He could bring out his tongue without it going to either side, and could see objects at a distance quite well, but his sight was defective for fine work or reading.

On Monday (Nov 3rd) he went to his office and did a little work; towards night his speech was slow, and often he did not forget words. The following day an attack of vomiting came on and the patient remained in bed all day, at the same time, speech was imperfect and the headache severe.

Nov 5th. The head felt dull and heavy but only at times was there difficulty in conversing.
and the two following days he went to work and on the 5th of November he made out a pay sheet, paid his men, and called at a friend's house, where he played chess, and won a game. Next day indisposition was complained of, but unaccompanied by vomiting, and there was constant nothing of the eyes, with less pain in the head.

The 18th of November he called to see me and then hesitation of his speech was noticeable and his face had lost much of the bright intelligent and jolly look it used to have. Whilst I observed there was some uncertainty about his movement - when going down the steps of my house.

On the 11th of November he went to his office, but returned home in the afternoon and slept from then till 4 or 5 the next morning, after which he again went to work, although his eyes were blood shot and the pain in his head severe. At eleven in the morning he returned home.
and went to bed, but got up about two in the afternoon, greatly complaining of the headache. Persisting vomiting after everything and without warning came on soon afterwards and continued till eleven am of the following day. Memory and speech were both bad, so much so that he was unable to complete his sentences and appeared to forget what he was saying. Loud excessive yawning was frequent and continued for some days. There was also drowsiness and deep sleep. The pulse was slow, 65-67 per minute with a temperature of 98.2. During the night the central symptoms were well marked. First there was the excessive headache, kept the deep sleep, from which the patient awoke groaning, and then vomited; immediately after which he would fall asleep and breathe heavily for an hour or two; then the groaning returned, and he awoke and vomited as before. Next day he was very drowsy, and could only be roused from
sleeps with difficulty; the vomiting ceased at 11 am, as previously mentioned. At night he
slept deeply, but awoke on the morning of the 14th without a
headache, although his head felt
queer and dull, he said.
Difficulty of speech was still present
and during the day he was
very drowsy, whilst through the
night he moaned a good deal.
The two following days he got
up, but was very drowsy, and
on the 16th his wife noticed he
slipped when walking, of which he
appeared to be unconscious, and
two or three times knocked himself
against the door as passing
out of the bed room.
November 17th he got up about mid-
day and afterwards went into the
garden, remaining out about an
hour and staggered a good deal,
when he walked on coming
into the house he could not
find the pep on which to hang
his hat, but his head was clearer
and free from pain. Sometimes
through the day he attempted to
eat some pudding with a fork in the right hand, but let the fork drop from his grasp and did not appear to know it till he again wanted it. He also for his food off his plate and the latter almost off the table and appeared to be unaware of the fact.

By 6 o'clock he went to bed without any warning and at eight in the evening his wife observed anything of the right arm and hand, and that although he appeared to be asleep, whilst he opened and closed his eyes and pouted. By 11 o'clock I saw him, at which time he apparently did not recognise me. The breathing was peculiar and would stop altogether at times; then heavy breathing would begin, with a sigh, which after a time would gradually diminish and finally stop only to begin again with another sigh.

The next morning the patient in the breathing had disappeared and he understood what was
said, but although able to speak and answer questions put to him, his speech was defective. He could read, writing, but on asking him to write his name, (F. D. Chapman) he made the "F" all right, but hesitated much about the "D" and then attempted "Chapman." He appeared either unable to remember the second initial of "D," or unable to make it, and several times recommenced with "F," and finally got near the bottom of the sheet of paper before he succeeded in writing his name. The result was that "F" and "D" were well made, the former being formed with a flourish, the "D" after several trials, whilst the "Chapman" was a running hand and a failure.

Syphilis he admitted, having had and I now gave him Sulfate of Potassium. Venereal came on in the afternoon. big was checked by a Bismuth mixture, and on the 19th of November, I rubbed along a chain of mercurial ointment with a blistered surface on the left thigh.
During the afternoon of that day he was very drowsy, with a deep, hoarse breathing very acute, succeeded by fainting no notice even when shouted at. On the same day dropping of the right eye lid was observed which gradually increased till at night the right eye was quite closed. By 3 and 5 on the morning of the 25th he vomited, and at 3:30 his breathing became very acute and his appearance to be better and talked better but the improvement only lasted for about 2 hours when he fell asleep and remained drowsy till I saw him about 10 a.m. at which time I again applied about a dram of mercurial ointment.

His condition then was as follows:

The breathing was short but regular, one eye was quite closed, he raised his right arm to his face but slowly, and it appeared to feel so useless that he used his left arm instead which he frequently put up to his head or drawing up both knees in bed the right would soon drop.
leaving the left one up. The left eye lid began to drop, and the patient to sink his teeth. During the night he was insensible to everything going on around him, to any thing done for him, and passed faces and urine in the bed. For 24 I had him removed to the Cottage Hospital, his friends being unable to give him such nursing as he then required.

In the evening the pulse was full and regular, respiration 24, also regular, temperature 99.8. There was restlessness and the patient moved from side to side in bed, and tried to get up, but was easily restrained. He was able to move both arms and legs, but the movements of the right arm were slower than those of the left, and of diminished strength. Resting on his back he frequently tried to lock his fingers together, and then to push his hands with the fingers locked to the top of his head, but had
a difficulty in fitting the
fingers of the left hand between
those of the right, and appeared
to have an imperfect idea
of the locality of the spaces
between the right fingers. The
right arm jerked when it was
at rest—that is, the jerking
was not present when he
voluntarily moved his arm.
The spasms were due to contraction
of the flexor muscles. There were
no convulsive movements of the
legs. He also tried to fold
his arms in front of his chest,
but the right slipped out of
position, and fell on to the bed.
He frequently rubbed his nose,
which appeared to itch. The
right eye was only open a
little way, but the eye ball
could be seen moving under
the upper lid; the left eye
was almost half open. The
right corner of the mouth
dropped, rendering the right side
of the face deficient in expression
whilst the left retained its intelligent
look. In being held to
Put out his tongue he put it out straight - it was covered with a brown fur posteriorly, and white at the edges. He frequently muttered to himself and complained of pain in the left side of the head, but there was some difficulty in getting a reply to questions; he was able to say "yes" and "no," but could not complete a sentence, and was unable to express his wants, and apparently forget what he was going to say.

The following day the bowels were moved once and the patient himself asked for the commode, as also the wine bottle when he required it. He slept nearly the whole of the day, but still complained of the pain in his head, whilst only a little jerking of the fingers of the right hand was present; the opium was being nearly so well marked as on the previous day.

In the evening the pulse was 54 full and regular.
November 18 and Temperature
98.2

Nov 23 22. The patient answered
questions fairly at first well, for
about 10 minutes but after
wards he became pronouncedly
simple words and replied
with difficulty appearing to
be weary.
The pain in
the head was mostly at the
front still there was a little
on the left side here.
Both eyes closed he could
point to either foot accurately
excepting to the right foot
with the left hand and then
he pointed a little to the
outside of it. He
could feel the pinches either
thigh but the right foot did
not respond so well to tickling
as the left.
The
abnormal presence of sensations
of heat, cold, numbness tingly
and formication was also
experienced by the patient.
Whereas the senses of taste
and smell were all right —
The peculiar smell previously

mentioned by the patient had been perceived for some time.
His grasp with the right hand was as firm as with the left.
The right eye he could open to about 3/4 of its extent being
more than he could open on the previous day whereas the left
he could open wide. The
right pupil was dilated and
clarger than the left, the latter being
oval from side to side contraction
whilst the margins of the pupils.
were regular. On holding
up my fingers in front of each
eye he could tell the number.

held up, but was slow about

and in order to lead the right
eye it was necessary to raise
the upper lid for the patient.

I then proceeded to test
the sensibility to heat and
cold and found he always re-
coiffed head when applied to the
right thigh but made mistakes on
applying cold, and a similar
result was obtained on the left
thigh with this difference that
on the right side there was consider-
able delay as compared with the left. Below the knees on both legs he could distinguish heat and cold, but with greater rapidity on the left than on the right side.

Patella reflex was absent on the right side and there was only a slight response on the left.

Nov 24th. There was some jerky of the right hand. The pulse had quickened and improved. He attempted to write his name with the accompanying result.

His speech was bad from inability to complete his sentences, but he evidently knew what he wanted to say because he immediately approved of each sentence as expressed that which he himself had tried but failed to convey.

As there was some pain at the left side of the neck and back of the left ear, I ordered a saline

liniment to be applied. The following day (Nov 25th) respiration was 24 and natural, pulse 76, regular and of good volume.
Grenser's reflex was present on the left side but almost absent on the right, whilst abdominal reflex gave no response on the right side, and was exaggerated on the left. The patient frequently wished to urinate but on endeavoring to do so he sometimes passed no urine and at other times only one or two tablespoonfuls. An attempt was made to examine the eyes with the ophthalmoscope but it proved a failure. During the day he was restless and complained of pain in the left side of the head. Nov 26th. He was somewhat restless the previous night, but the sleep he had was deep and unaccompanied by enuresis. During the day he slept naturally, but complained of pain in the left side of the head, the back of the left ear, and in the left side of the neck. Tapping with the finger over the left side of the head produced pain, but less so on the right side. The pulse was 76 and easily com-
Pressed. In the afternoon
the desire to urinate was frequent
and of four attempts made to
pass water, three ended in his
urine being voided and at the
fourth he passed about two ounces
—the erin being pale straw—although
during the 24 hours he succeeded
in passing 5½ pints. The bowels
were moved once. Through the
night he was very restless, and
delirious and little, complaining much
of pain in the forehead and
frequently wished to urinate.
During the following day
there was some festing of the
right hand, and he was clumsy
in using it. He was able to
elevate the right upper eye lid
so as to render the right eye
almost wide open, and nearly
equal to the left. Both
pupils contracted to light, hearing
was good on both sides, and
the patient could talk better and
appeared brighter. The urine was
voided of a pale straw color
containing no albumen, and had
a specific gravity of 1015.
The night was passed pretty much as the previous one, and on the 26th of November he was much worse and only spoke twice from a quarter past seven in the morning till three in the afternoon. At breakfast time he had to be fed and was unable to bite bread crusts, which for dinner he had about a mouthful of pudding and two mouthfuls of fish. About twelve to nine in the morning he became very restless. The right hand Jerked very much, and the breathing was heavy. At 3.15 p.m. there was groaning, stertorous breathing, and grinding of the teeth. He attempted and flayed the left arm forcibly, and endeavored to push the bed clothes downwards. The left foot was drawn inwards and he writhed once. At 4 p.m. he was resting on his back and constantly trying to pull up his left leg in the bed, but only succeeded in getting it up a little way. Then it would fall down again; the right leg
he did not offer to move. After a time he became quiet, but only for a little while, for the restlessness soon returned.

Nearly all movements appeared to be on the left side. The left arm was constantly being thrown about, and with it he continually attempted to push down the bed clothes; the right arm had moved very little, and it appeared to be almost helpless. There was grinding of the teeth, with heavy breathing but no frothing at the mouth nor any facial paralysis. To time passed he became again quiet, with regular breathing and a pulse of 64. But the restlessness disappeared and the left arm performed repeatedly the same movements, the arm being first thrown behind the back of the head, then brought down suddenly to the front of the chest, and immediately extended, and an attempt made to push the bed clothes down wards, after which the arm was again quiet.
Carried over the lip of the head, and the same series of movements rapidly performed time after time.

The upper eye lids were elevated slowly, the left he elevated about \( \frac{3}{4} \), and the right less than the left.

At 6 p.m. he was very restless, shouting and yelling with pain, and his bearing had become most acute, and he talked sensibly. His suffering was now so alarming that I gave him a subcutaneous injection of morphine (5 min. B.P.) several times. The breathing which was rapid would stop for half a minute.

Nor 29, 7.45 a.m. From my leaving him the previous night, till the time he breathed, he remained quiet and through he right he never spoke.

The breathing had been natural, but he vomited four times; the vomit was dark brown, and ran out of the mouth and nose.

On my visit I found him moaning with a quick, feeble pulse of 108, and growing insipid.
The face was swollen, the mouth half open, the tongue between the teeth and drawn to the right side. The whole body still and quiet and the eyes closed.

He died at 9 a.m.

A post-mortem examination of the body was made seven hours after death, and on removing the skull cap I found the dura mater impaired, especially on the left side, and the superior longitudinal sinus filled with blood over the squamous portion of the left temporal bone both above and posterior to the base of the petrosal portion of that bone. The left hemisphere of the brain was adherent to, and in its
Softening of the brain may be acute or chronic, limited or extensive, in a single spot or in many circumscribed or diffuse. It is divided into three varieties, viz., white, yellow, and red softening from the cause of the softened brain substance observed after death.

In white softening the diseased brain substance retains its normal color but is found to consist of broken down nerve fibres and cells. This variety of cerebral softening is well illustrated in acute Hydrocephalus in which disease the walls of the ventricles are found softened and broken down.

Yellow softening is characterised after death by the softened brain substance being the colour
of otian or aephen, the recency of fatty degeneration of the eye and blood pigment. And there is an absence of new cells and leucocytes.

This form was first described by Rotenberg, but may be secondary to Red softening.

The third and last form is the one which chiefly concerns us at present. This variety may be inflammatory or not, and the colour may be light or dark red. If non-inflammatory you find small apoptoses, and destruction of nerve elements; with compound granular corpuscles, fat particles, and globules, these being due to fatty degeneration, whereas in the inflammatory variety, you find in addition pros cells and leucocytes.

Having now obtained some idea of the pathological appearances of the disease I pass to the causes of cerebral softening, and I find that the late Prof. Sanders collected them into two groups by those causes acting by interruption of the cerebral...
circulation, as by embolism and secondly those causes bringing about oedema by inflammation or hyperemia. Impaired nutrition of the cerebral substance follows in many cases and is really the important factor in both groups. Reynolds in his system of medicine gives morbid conditions of the cerebral vessels as being the chief of the causes of this disease, and he arranges two groups. viz., those conditions in which you have obstruction to the circulation and secondly those in which you have interference with oedema and nutritive exudation.

Taking first the means by which obstruction to the circulation in the brain may be brought about, he points out that such a state may result from embolism or thrombosis of the arteries, or embolism of the capillaries, or thrombosis of the veins, whilst the prevention of oedema and nutritive exudation may be the result of fatty degeneration of the capillary walls.
The origin of emboli we require to look to the condition of the left cavity of the heart, the aorta, or pulmonary vein; whereas thrombosis may be the result of diseased vessel walls, retardation of circulation — as by disease of the heart — or may be due to some diseased condition of the blood as found in cachectic states of the system.

Cerebral softening may also be found around sinuses, or may even follow the separation of nerve fibres from their ganglionic communica-tions.

Parietal and the more frequent seats of the disease is so rarely seen that the part most likely to suffer from cerebral softening are the vascular parts of the brain. The disease rarely occurs in the cerebellum or in thepons varolii and is much frequent in the convolutions.

When due to embolism it is found that the more common
Search for the embolus to lodge is in the middle cerebral artery, and the left is more likely to be affected than the right.

After these preliminary remarks, I think it will be well to consider the characteristic symptoms of the disease, as illustrated by the present case. In the first place let us glance at the premonitory symptoms and we find they were aphasia, pain in the left side of the head, impairment of memory, defective sight and sleeplessness: but before we can advance any further I desire to mention Reynolds classification of Acute Cerebral Softening, after which we shall be able to consider the present case in its developed stage and then refer it to its proper variety, according to the distinguishing symptoms laid down by that author.

Acute Cerebral Softening according to Reynolds may present any one of three forms...
when the disease is fully developed; these varieties depending on whether the patient—after exhibiting the premonitory symptoms—first has an attack resembling apoplexy, or is seized with convulsions, or commences with symptoms of delirium. If the former is said to be epileptic; but if he has convulsions then it becomes an example of the convulsive form and lastly, if the patient is delirious, then it is classified as the delirious variety. But a case may run through all of these forms ending in the latter.

The case now under consideration illustrated during its progress each of the two first varieties; for as its commencement the patient had fits very like epilepsy, in which there was unconsciousness, and convulsive movements of the muscles of the face, and mouth, with foaming at the latter and biting of the tongue, whilst the epileptic variety was represented by numbness affecting one side.
as tunes with weakness of the right hand, drooping of the angle of the mouth, ptosis, and the condition almost amounting to coma, from which the patient could only be roused with difficulty, and when roused he always immediately passed again into a state of deep sleep, accompanied by stertorous breathing.

Towards the end of the case it will also be remembered that the patient became maniacal.

We are at liberty now to consider the symptoms and of them I shall take aphasia first. Writing on this subject, Roberts mentions three sets of causes for an individual not being able to make proper use of articulate language.

The first cause is loss of intellectual power so that no ideas originate, whereas in the second variety intellectual power is vitally or not so impaired as to prevent the formation of ideas, but
The patient cannot recollect the words to express his thoughts, or cannot arrange them in a proper manner; and partly there may be a difficulty from paralyses of the parts necessary for the mechanical act.

The second class is aphasia proper, and this is again divided into two varieties, viz. the amnesic in which the patient cannot remember the words, and the ataxic in which the patient is unable to arrange them due to supposed lesion of the co-ordinating apparatus.

It is in the former of these varieties that the case now under consideration belongs. For the patient certainly possessed intellectual power, but could not remember the words where with to express the ideas originated in his mind.

D. Gaudin divided language into two kinds; the first is related to the higher brain, and mind, the second partly reflex or automatic; it is found that the latter may escape injury in unilateral
paralysis, whereas the former suffers severely. In this way we account for an aphasic patient not entirely losing the use of words, but retaining certain phrases and words such as oaths etc.

These D. Hughlings Jackson describes as barrel organs, and he explains the ability of an aphasic patient to use them by considering the dominion of the left brain as being over fine intellectual language, which is the result of passing ideas and use of ideas which have been repeatedly passing through the brain, becoming merely automatic or reflex.

The left half of the brain has therefor consider has to do with the least automatic speech, the right with the most automatic. The exemption of these barrel organs from paralysis when Broca's lobe is injured is due to their use being automatic and becoming, like balancing of the trunk under the influence of both sides of the brain, as though they are used or strain to be lost by disease.
Dr. Gardner explains this by considering the words more readily spoken as those prompted by some internal association of ideas, and the patient bluntly his impressions which in the presence of similar associations he used long before his disease, but is unable to express in appropriate terms an idea present to consciousness. The patient will be able involuntarily to repeat a phrase under mental excitement, but cannot do so voluntarily and words which he cannot voluntarily remember will be involuntarily used in phrases.

Aphasia when it occurs in educated people is commonly accompanied by inability to write words, and if this the present case to an example.

Brodé came to the conclusion that the centre for articulate language was in the inferior left frontal convolution, whereas in this case we find the disease in the left temporal sphenoidal lobe, but
that you may have aphasia resulting injury to the convolution of Broca is a fact. A case mentioned in an editorial on "cerebral localization" in the British Medical Journal for Oct. 14/62 is an example of this and is worth including, as illustrating a peculiar form of aphasia.

The case was shown by M. H. F. O'Sullivan and Chauutenesse and related at the Medical Society of the Paris Hospitals on the 28th of July 1862.

The patient became suddenly aphasic and could hardly comprehend anything said to her, she could neither read nor write and only pronounced some incoherent words.

Eyes, hearing, taste, power and general sensibility were well preserved.

Her intelligence was almost completely preserved. She understood a few words made to her, endured herself correctly in feeding herself and recognised a friend who came to see her.

To the post mortem examination
a clot was found in the fourth branch of the left internal carotid artery, with softening of the motoric matter of the tributary territory affecting the superior labium of the first temporal sphenoidal convolution in its posterior half, extending over the lower half of the inferior parietal lobe and over the anterior half of the gyrus.

This was a form of aphasia in which intelligence was almost completely preserved, but in which the patient was unable to speak, read, or write, and did not understand the words which she heard nor those which she pronounced.

Two more examples will be sufficient to show that Broca's convolution need not be affected for aphasia to be present.

Both cases were related by Dr. Broadbent at the annual meeting of the British Medical Association, 1883, in the section of medicine.
The patient was that of a man who could talk fluently and intelligently, but was unable to name objects at sight.

The disease was found to be in the left angular gyrus; whereas in the second case the patient did not understand a single word said to him and the lesion was found to be behind the funiculi of Rolando. The third left frontal convolution was untouched, but in both cases the lesion was in the left hemisphere.

With a view to throwing light upon the functions of the temporal-sphenoidal lobe I mention the following experiments and cases in connection with the present remarks.

At a meeting of the International Congress in 1881 a monkey was exhibited which had its superior temporal sphenoidal convolutions removed on both sides. This monkey was totally deaf, but its motor powers were all right, and it climbed hand
In his was with agility. While its sensory faculties were all right with the exception of hearing. Proving conclusively that the superior temporal sphenoidal convolution contains the centre for hearing.

This fact may help to explain the deafness present in the 19th of November in the case under consideration.

A further proof of the hearing centre being in the superior temporal sphenoidal zone is furnished by the following case mentioned by Dr. Ross at the annual meeting of the British Medical Association in 1883. It was one in which the patient became blind, deaf, and aphasic, and after death, the superior temporal sphenoidal convolution and angular figue in both hemispheres were found atrophied.

Similar cases of this kind have been recorded at various times in the medical journals, and I find that at a meeting of the Clinical Society of London, Feb 11/81, Dr. Whipham read a
paper on a Case of a small round
coloured sarcoma of the dura
mater encroaching on the left
temporo-sphenoidal lobe of the
brain, and producing extensive
softening in its neighbourhood.

The symptoms of the Case
were severe paroxysms of head
ache in the left frontal and
temporal regions, slight wavy gait
power in the right hand and
leg, and the patient was
dull and stupid, and died
from coma.

At the post mortem exam-
nination a tumour was found
firmly attached to the left
middle frontal of the skull
extending into the left tem-
poro-sphenoidal lobe of the brain,
invading or causing softening
of the anterior part of the
three temporo-sphenoidal evolu-
tions and of the island of Reil.

Dr. Bruce in "Brain" for
July 1883 relates a most
interesting Case of Cerebral
tumour which extended from
The tip of the left temporo-sphenoidal lobe is a line passing through the junction of the anterior and middle third of the parietal bone. The artery was uninvolved there being after hardening a depth of 1-\(\frac{1}{4}\) of an inch between the humour and the surface. In the superior temporal - after a dorsal convulsion wasinvolved.

This case is so interesting that I ventured to quote from it somewhat extensively. The history and symptoms of the case were as follows. The patient was 45 years of age and formerly a nurse, unmarried and for about two years before had been healthy and cheerful.

The first symptom was irritability and excitability and after the latter she could tell when coming on and during the time she was in them she threw her head back, arched her back a little and the body trembled slightly. There was no fothing as
The month, and no loss of consciousness, each fit lasted about 30 seconds, and was followed by slight numbness which passed off immediately.

About three weeks before death — which occurred Dec 19 — she talked nonsense, and became unintelligible and (Nov 19) the mouth was twisted to the left side. There was slight weakness of the right hand and speech was peculiar: she answered some questions at once, then she failed to answer and appeared as if shaking.

On the 26th of November, the hood of the mouth had gone, and the right hand was as strong as the left, but the voice appeared as if shaking to be stupid.

On 21st she talked normally and appeared quite well, and went on all right for a few days, after which vomiting came on and the cough went into her corp. Then after a few days began to be confused at the end of a sentence, and
his days before death, frequently used wrong words as "prelute" for hospital, and a pair of legs for his pills. When asked to write, her writing was unintelligible. and his days before death, she dropped sometimes one and sometime the other foot slightly, the deed ammonia breath.

Looking at these his latter cases with the one coming under my own notice I find several points of resemblance and I put them side by side for comparison.

<table>
<thead>
<tr>
<th>Dr. Whipple's case</th>
<th>Dr. Bruce's case</th>
<th>Present case</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dull &amp; stupid</td>
<td>Appeared to be chewing and made mistakes in words</td>
<td>Could not remember words.</td>
</tr>
<tr>
<td>Wary in power in right arm &amp; leg</td>
<td>Weakness of right hand</td>
<td>Weakness of right hand</td>
</tr>
<tr>
<td>Death from coma</td>
<td>Death from coma</td>
<td>Death from coma</td>
</tr>
</tbody>
</table>
Continuing the consideration of the symptoms of the case it will be remembered there was a complaining made by the patient of a peculiar smell, as if he wanted a bath.

This statement appears to me to support Ferrier's view that the centre for smell is situated at the lower part of the temporal ephemerone. life.

A peculiarity in the case was loss of knee jerk on the right side and almost complete absence on the left. Similar cases I knew have been recorded in connection with disease of the brain, and loss of the spinal cord, although the reflex centre is said to be situated in the latter.

Dr. Stephen MacTavish relates a case of the kind in "Brain" for July 1883 in which there was doubt loss of knee jerk and in which the palsy began appearances were those in which the left corpus striatum and thalamus affected and extirpating down the crus cerebri.
6. Its function with the pons

At the same time advanced a theory for its explanation but in my mind it failed to explain the cause of the phenomenon.

Another case I may mention was related by Dr. Brodie to "Brain" for April 1882, in which there was loss of both eyes, whilst the post mortem appearances were homonymous hemianopsia, hemiplegia, hemianesthesia and distending the ventricles, but leaving the cortex intact.

Cerebral softening may occur at any age but is chiefly a disease of old age because the disease is condensation which gives rise to obstruction of the cerebral circulation and interruption to the nutritive process are more frequent.
found as that period. " Attacks of softened have sometimes followed violent mental or moral excitement, anger, abuse of alcohol, over-fatigue or local injuries," and Roberts says "excessive and long continued mental strain undoubtedly aids in its production & it is by no means improbable that this may so disturb the balance of nutrition so as to force rises to softening of the brain."

Two other causes upon which great stress are laid by Bowes are syphilis - causing thrombosis and embolism, due to valvular disease of the heart.

Take now the history of the present case and you find that the patient was a middle aged man, with a history of syphilis, and in addition we have the excessive mental strain the abuse of alcohol, over-fatigue and want of food, all of which predispose to the disease.
Cerebral softening requires to be distinguished from cerebral tumor, central congestion, and hemorrhagic apoplexy.

The points to be remembered in making a diagnosis from cerebral tumor are the intense and fixed character of the pain in cerebral tumor, together with the occurrence of affections of the special senses, as blindness or deafness or both, which may be unilateral or may be present on both sides.

There is a considerable resemblance between cerebral congestion and commencing acute softening for you may have loss of consciousness in either case, from the same cause viz. congestion, but the diagnosis is made by the symptoms clearing up if the case be one of cerebral congestion, whereas something remains — as aphasia — in acute ramollissement.

I may remark that the great similarity between the early symptoms of the case recorded, and cerebral.
Congestion was strongly impressed on the line of my mind.
To discharge from homoeopathic apoplexy I am only aware
that desiring to gradual which apoplexy is insidiousness as a
rule.

The prognosis may be good in young
patients and previously healthy
subjects, but it is unfavourable in
the old or unhealthy.
The disease may be fatal or
become chronic or almost complete
recovery may take place if
the disease be curtailed in extent.

The treatment recommended is
chiefly prophylactic and consists in
maintaining an even temperature
of the body, avoiding long intervals
between meals, administering stimulants
whenever there is a tendency
to faintness, ease, and pleasant
occupation of the mind.
Lastly, treat the symptoms, and for the headache and dizziness, give diuretics, and apply warmth to the extremities, whilst for the convulsive symptoms give potassium bromide and after an attack give cod liver oil, hyperphosphate of soda, and vegetable tonics.

In chronic asphyxiating otolaryngitis, it has been found to do much good.

The foregoing was pretty much the line of treatment adopted in dealing with this case. Rest from mental work and excitement was ordered; bromide of potassium, tonics and anti-syphilitics were administered, and mercurials for the relief of urgent symptoms, as they appeared, were given, but all failed. Unfortunately, to save life
Case III.

Miss Dudley, a Presbyterian, aged 43 years, height 5 ft. 3 in.; weight 7 stones, born at Leeds. Came to The Sisters Home, Norwich, June 16, 1884. I first saw her along that line and she then appeared thin and apparently healthy, and complained of spasmodic contractions of the muscles of the lower jaw affecting the muscles of mastication on the right side. Her father died from bronchitis aged 69; her mother from heart disease aged 77. The
Patient was an only child and as the issue of her birth her parents had been married 20 years. Her mother's age then being 42.

She had suffered from measles, cold and sore throat, but no other illnesses.

Two years previous to my seeing her she had an attack of muscular rheumatism in Rome which affected both sides of the neck. The pain was constant for some days and lasted acutely for 4 or 5 months, moving the head increased the pain, and for several months when wishing to turn her head she had to move the whole body. Afterwards the pain continued slightly for nearly a year.

About twelve months prior to coming here, she first noticed difficulty in mastication due to stiffness along the right side of the lower jaw, and accompanied by slight pain as the articulation on trying to move it.
was very acute, but was such as you might expect from a
cliff-pond.
In September 1883 she ceased only open the mouth about
half an inch, the difficulty,
having increased, and she
described it as like some one
resisting the effort to depress
the jaw. From the same
line spasmodic contractions
of the muscles of mastication
first appeared and in
January 1884 she began to
make grimaces.

When first I saw her she
could open the mouth for
half an inch easily; but
the rest minute might not
be able to open it so wide,
and when the spasms came
on she could not even open it
at all. On trying to
open the mouth a great effort
was made after which the
lower jaw began to
fumble
and the teeth to chatter;
finally the mouth closed suddenly.
with the teeth firmly gripped against each other but the
chattering continued from slight
relaxation followed by immediate
contraction of the muscles.
When eating she might at
the commencement of the meal
be able to get some food
into the mouth fairly well
but generally as soon as she
had succeeded in getting a
little into the mouth, the
lower jaw snapped against
the upper after which the
food had to be fished out of
the mouth, or sucked between
the teeth. Her food had
been soft for a short time before
I first saw her, when she added
a little meat to her diet.

Thus she cut up very small
and swallowed whole, first
allowing it to remain in the
mouth a short time in order
to moisten it.

For some months she had not
been able to chew like the
day before I took her final
note of the case, and then
She was only able to approximate the lower jaw to the upper two or three times. During the time she was eating she frequently bit her tongue and if she had a spasm or fort between the jaws, when the spasm came on, I would be firmly grasped between the teeth till the muscular contractions passed away. Speech was sometimes rendered difficult by the spasm, and sometimes saliva ran from the mouth while they continued. No difference was to be felt between the right and left temporomaxillary articulations, and there was no pain on moving the jaws, and none with the muscular contractions.

The spasmodic attacks came on without any warning and lasted two or three minutes; and for two or three days or a week she would suffer in this manner, after which the spasm would pass away, leaving only the usual difficulty in
Opening the mouth, a peculiarity about the spasmodic contractions of the muscles of mastication was their passing off on the patient lying on her back, and for this reason she made it a rule to take her food in that position.

Light, hearing, smell, and taste were good, but she had suffered from sleeplessness for the last ten years.

The case failed to improve to my satisfaction under the course of treatment I pursued. She consulted Prof. Grainger Stewart by my request in Sept. 1884 and he very kindly took an interest in the case.

Still the patient did not recover and on the 30th of between her condition was as follows: she continued to make grimaces but could open the mouth wider at times than formerly; chewing was still
an impossibility and the stiffness about the lower jaw remained, but had altered in position having passed more towards the middle line, and diminished in intensity at the side of the jaw. The trembling ended in sudden snapping of the lower jaw against the upper continued to be experienced, but yet on opening the mouth no pain was complained of, being but waterfullness at night it was necessary to give her a draught and even then she awoke early. As the time was referred to she suffered from hallucinations and in the dark sometimes saw people and the room appeared red.

One day she saw a Turk sitting on a stump and I should mention that she herself described to me in a
gp. and delicate manner everything I am now recording knowing quite well as the time the absurdity of the things she related.
Another night the room—which was in darkness at the time—appeared to be red, and she imagined she saw a person standing by the door also in red, with a veil over the head; and on one occasion she got up in the dark, and the bed-room appeared of a copper colour, and she thought she saw furniture in the room which did not belong to it, and endeavoured but failed to observe—to take hold of an imaginary chair. Some time previous to taking the present note—a nail in the wall gave her a box of timbrels, as it would appear to go round in an ellipse or circle about the middle of October the sense of smell and taste became altered, and remained so for about two days—the altered sense had quite so long—everything looked on the taste and smell of herrings.
Some time near the end of September she also began to see visions, some of which she described as very beautiful; each vision lasted about a second or so, and was seen more distinctly with the eyes closed and less so when they were open. Sometimes the visions were coppery, which at other times they were natural; they filled the whole field of vision and were of places she had never seen, yet appeared to be known to her. This condition of affairs lasted for about 6 months. She also told me she had seen insects flying up the wall and cats and monkeys in the room.

The visions described were seen in the day time, the altered colors of the room during the night and in the dark; the insects etc. in the light either in the day time or with the gas burning.

Returning again to October 30th.
words—sometimes she could
not remember a word, but
if told she knew it was
the word required, or if
she had used the wrong
word and the right word
was supplied for her she
saw her mistake at once.
At the end of better
hearing was food and she
had ceased to let things
fall; whereas all the other
symptoms complained of were
improving, and words were
seldom forgotten also when
she bit her tongue it
was in jest and not to
the right side as previously.
As the time referred
by her had a small patch
of dry eczema on the
right hip and on both elbows,
also to the outer side of
the right ankle in addition
to which there were some
erythematosus patches on the
right arm.

Not 101. The patient walked
much better than she did, but still went from side to side, and not in a straight line. When walking she stiffened her eyes in order to avoid falling she said. And because everything appeared to turn round which ceased on closing her eyes. On looking at a picture or anything else after a few minutes if became blurred, but did not move in a circle although at times all the things in the room appeared to go round but that was not so frequent as formerly.

Several times along this date when she has gone to the fire place to poke the fire, or stopped to pick up anything, everything had become black, and for a moment she could not see, and had consequently sometimes fallen by never losing conscious-ness. At such times she felt as if turning round or as if the room were revolving, but never to be sure which. On several occasions she
had insisted that on going to pick up something the floor had
appeared to lift up to meet her.
On trying to stand with her
eyes closed and feel together she
became dizzy and fell backwards
immediately. There has never
been any vomiting at any time.

Early in December 6th the 8.9.10.11
I made a careful examination of
the patient so as to make
my notes of the case more
Complete and commencing with
the alimentary system I would
remark that the teeth had all
been removed. There being no
roots below but 6 roots were
left above and gave rise to no pain.
The gums were healthy and the patient
wore artificial teeth above
and below which fitted well.
The abdomen was somewhat
retracted by palpation and
percussion revealed nothing
abnormal. There were no
enlarged glands and passing
to the circulatory system I found
she had formerly suffered from palpitation and at times felt faint, but had never become unconscious.

The pulse was 82; free and regular, the heart sounds being healthy. An examination of the lungs showed them to be normal. The skin eruption previously mentioned had disappeared and the urine was of a pale straw colour, clear, having a specific gravity of 1015 and contained no albumen. The menstrual flow had always been irregular as at times appearing every second week and at other times, every fourth or fifth until 3 years ago, when it ceased altogether for six months and reappeared afterward at irregular intervals of two months or three weeks, but generally the former and since June nothing has been seen.

Proceeding to the nervous system
I found that when she was tired, she felt an aching pain over both eye brows and scarcely ever suffered from head ache.

Two months previous to this, the pain over the eye brows was very severe. There were no abnormal sensation of heat, cold, paresthesia, numbness, or tingling while sensation to touch and heat was normal over the arms, face, legs, and feet. The plantar and abdominal reflexes were normal. The patellar reflex was exaggerated on both sides. She could point with the eyes closed to either foot by correctly with the right and left index fingers. Light was good.

Pupils were normal and contracted to light. Hearing, taste, and smell were all good and she could swallow well. She was right-handed and could hop as well with the left hand as with the right.
On examining the movements of the eye ball I found I was able to move both eyes upwards, downwards, inwards, outwards, and to rotate them, whilst the lateral field of vision for both eyes was good, and she was able to read without the words moving about.

There was no double vision, and she did not see cats, rinses etc., as previously mentioned. In fact, she had lost all these symptoms for about six weeks, but the room had appeared a copper colour among the previous week.

After exercise as after waking, or talking everything appeared to sway a little and sometimes he would lie down if tired and not doing anything, but did not appear. Memory and speech were quite restored, and she did not forget words, but about a week before this sometimes pronounced them wrongly.
The great length to which this note has run prevents the insertion in this number of a second note.
Spelling was almost all right; but was very bad in some weeks. Prior to this, and a specimen of her handwriting will be seen on the opposite page. She did not sleep well and was troubled much with dreams. I come now to the spasms of the jaw, and it appeared that in the morn-
ing she could open her mouth as far as an inch but during the day she could only open it as an eighth of an inch and at night could open it somewhat less than half an inch. She was unable to chew or move the jaw from side to side, but in a sitting could open, and shut the mouth out or seven hours before the spasms came on. While the day spasms came on as once by continued for a shorter time — less than two or three minutes. The spasmodic contraction came on when trying to speak, or to move the lower
jaw in some way and passed on, or lying on the back but even in that position would come on if she moved the lower jaw much. The patient also made jerking's due to violent twitching at the angles of the mouth and the muscles of the neck and lower part of the face. The jerking's came on with the spasm of the muscles of the location both being present together while both were absent if the patient was quiet and did not move the jaw.

In trying to take hold of an object the attempt was steady and deliberate and unaccompanied by jerking. When eating she had often to jerk the food into the mouth and watched an attempt made to take a small piece of sugar. The teeth chattered long by pressing the sugar against the teeth it passed between them after a little time when the crink...
was wide enough to allow of it doing so. There was no emotion. She was unable to stand steadily, with the eyes open and the feet together, although she tried very much to do so, but in about half a minute she gave a lurch to one side or the other and would fall side ways - on closing the eye, she fell to the left side.

On trying to walk she staggered and every now and then paused. Several choruses was absent on both sides, and there was no curvature or tenderness of the spine. During the night she was not only restless from loss of sleep, but walked along to the bed moving her legs and arms very like a patient suffering from chorea. The patient was said to have always been excitable, and when reading hard - which she sometimes did - for fourteen hours a day -
she would suddenly jump up and without any warning run up stairs to the top of the house and down again. Today in church she was said to have been bounded with the girdle, and unable to keep her feet still.

On the 20th of December the painless and chattering of the teeth continued somewhat as before. After my last note were written, the piddleness became very bad, and she staggered about when walking. The appetite had not been good, but there had been no vomiting. Three times on the 19th of December and once on the 20th every thing became dark for a second and she said she saw several times since I last examined her she had nearly fallen and had in several occasions thrown her head against the door when passing in and out of the room.
The occasionally had headache over the eyes, but not much. A few days past she began to feel trembling over her which prevented her painting. The trembling was greater in the left than in the right hand.

At the time I saw her there were no finished, but she had been quiet all day and as lightly they might return if she talked much through the day. Her memory was as good as it ever had been, and there was no difficulty in speaking, so far as the remembering of words and their proper use was concerned. Since the 11th of December she had injudiciously saw the furniture in her room move a little in a curve, but in a complete circle. The objects moved so far, and then began again from the original point, the movements being somewhat slow late on three
times during the past ten days she had noticed the room red, but had not seen any rats or monkeys again.

On the 19th of December she got off the bed to close the window. When becoming fiddly, she fell striking the floor with the back of her head, but there was no unconsciousness. During the previous three or four days she had been fiddly almost always, and for nine or ten days had slept very little. In closing her eyes she felt herself going round at other times swaying and sometimes both and she suffered from these sensations even with her eye open, and during the time she was sitting, standing or walking and on trying to sit up in bed she fell backwards. Objects also appeared to move in a curve to the left. There was no deafness, in
fact there was acute, and there was no diarrhea. The pulse was 74 regular, and early compensation.
On the 23rd of December she left the district and the case passed from under my care.

Passing now to the treatment, I am unable to say much for its success. Bismuth of Potassium was freely given but failed entirely. Bismuth of Arsenic, Antimony, Phosphorus, Calembra, Hydrargyrum, and Podocarpus were all tried but with little or no good results.

The remedy which appeared to produce the best effect was Eason's Syrup, with addition of Arsenic, but when the condition of the patient at the time she passed out of my hands is compared with the state she was in when first I saw her, I feel the results obtained were not gratifying.
For a long time I was unable to arrive at a true explanation of the foregoing case, owing to the rarity and unusual character of the symptoms.

To illustrate the difficulty, let us take the spasmodic contractions of the jaw, and the case appears to be one of peripheral irritation of the 9th nerve, or take the vertigo, and it appears to be due to disease of the cerebellum, or take the visions, and then the disease becomes very like hysteria, or finally if the paresthesiae and restless state of the patient be considered, we might imagine the case to be chorea, and when all the symptoms are combined the explanation becomes a puzzle. To clear up the difficulties let us consider some of the
important symptoms, taking each on separately, and let us begin with spasmomodic contractions of the muscles of mastication.

The natural act of chewing is an up and down movement performed by the Temporal, Masseter, and Internal Pterygoid muscles, which close the mouth, and the depressor and muscles passing from the m. hyoides to the lower jaw, which open it. Added to this is a side to side movement produced by alternate action of the Internal Pterygoids. These movements are under the control of the will, and are brought about by a motor impulse passing to the muscles of mastication along their nerves of supply.

The spasmomodic contractions which we have to investigate were found to end in closure of the mouth, so that the muscles involved would be the Temporal, Masseter, and
Distribution of the 2nd & 3rd Divisions of the 5th Nerve.
the internal pterygoid, the motor supply in each case being derived from the 5th nerve and in order to explain the cause of these contractions I shall first describe that nerve.

The 5th nerve arises by two roots, the larger (sensory) ones chiefly from the pterygopatine fossa, the smaller (motor) from two masses of large multipolar cells situated on the inner side and close to the pterygoid tubercle.

The fibres of the sensory root enter a large ganglion, viz., the Gasserian ganglion, which gives off three divisions.

The first division of the Gasserian ganglion is the ophthalmic; the second, the maxillary; and the third, the superior maxillary, which is joined by the motor root.
The internal vein joins the motor supply in each case being derived from the 5th nerve and in order to explain the cause of these contractions I shall first describe that nerve.

The 5th nerve arises by two roots: the larger (sensory) arises chiefly from the gasserian ganglion and from two masses of large multipolar cells situated on the inner side and close to the gasserian ganglion.

The fibres of the sensory root enter a large ganglion, viz. the gasserian ganglion, which gives off three divisions.

The first division of the gasserian ganglion is the opthalmic, the second the superior maxillary, and the third is the inferior maxillary, which is joined by the motor root.
Otic Ganglion and its branches.
The functions of the 5th nerve are sensory to the anterior and lateral parts of the face (excepting the skin of the nostril region), whilst the inferior maxillary is motor to the muscles of mastication by the motor root and supplies the Temporal, the Pterygoid, Masseter, the anterior part of the digastric and the Mylo-styloid muscles in addition to which motor filaments are supplied to the Tensor tympani and Tensor palati by means of the 6th ganglion.

The ganglion is situated on the inner surface of the inferior maxillary and has both sensory and sympathetic roots, the former being derived from the 5th by means of the motor root of that nerve.

Having settled that the spasmodic closure of the mouth is due to contraction of certain muscles of mastication and that the motor root of the 5th nerve...
Conveys the nerve force necessary for that act, we have now to find out the cause which induces the discharge of the motor impulses and this cause must be central or peripheral and if the latter it is to reflect.

Now a peripheral Cause appeared to me at one time, to be a very likely source for the production of the spasmodic closure of the mouth, and I quote the following in support of that view.

At the meeting of the Harveian Society of London March 20 1864 Mr. Henry Sewell read a paper describing the case of a middle aged lady, the subject of trigeminal neuralgia, and who had suffered from alveolar abscesses. When Mr. Sewell saw her she had persisting spasm of the right side of the face, and on examination several stumps were found
In the upper jaw, while the teeth of the lower jaw were hidden beneath an enormous mass of tartar.
The treatment consisted in the removal of all the upper teeth in two sittings and in gradual removal of the tartar from the lower teeth, and within two days of the extraction the facial spasm entirely disappeared.
I am sorry to say no such cause could be found in my case for the spasm, for all the teeth of the lower jaw had been removed, and although there were cut stumps in the upper jaw, they gave no trouble, and the gums were healthy; the patient wore false teeth above and below which fitted quite comfortably; so that some other cause must be looked for in this case and that cause I believe to be central and not only central but in the region of the origin of the
right motor root of the 5th nerve. Irritation of this root would produce the movement observed, by causing motor impulses to pass to the muscles of mastication.

The chief symptom I wish to account for is the vertigo, of which there are two forms, according to Rannoch: the first in which the patient complains of being giddy, external objects being stationary, the second in which external objects move.

Professor Traumer-Steward gives several causes as likely to produce this condition, viz.:—

1. Seeing objects moving.
2. Rotation of the body.
3. Movement of the eye.
4. Alteration of structures which subserv equilibrium.

(a) Disease of the semicircular canals
(b) Disease of the plantar and muscular sensibility, centre for locomotion
(c) Cerebellum
(d) Peripheral irritation of the stomach
and peritoneum as in movement at sea

(6) Alteration of susceptible circulation

(7) Action of certain agents

(8) Associated ideas as some people have a tendency to be sick on looking at the sea

and in his recent book on fiddliness he pointed out that under normal conditions the information derived from slippery boughs and muscular sense and the labyrinths all corresponded but if by then fiddliness results, in

criticising this work the British Medical Journal suggested that fiddliness may be explained in some cases by its probably being due to auditory neuritis just as in the neuritis is found to accompany intra cranial growths

H. W. L. W. says, in an admirable paper published in the British Medical Journal, April 28, 1863, vertigo is essentially auditory in
its peak and is due to altered tension of the fluid in the semicircular canals, and its appreciation by the ampullar nerve apparatus, and he gives as causes of disturbed equilibrium:

1. Alteration of the tension of the fluid due to

2. Direct pressure - local ear disease

3. Reflex cause - motor influenced

4. Combination of "a" and "b"

5. Intracranial disease which irritates or disturbs the nerve of the organ.

In order to apply Dr. Water's remarks to the present case, I must again refer to the distribution of the 5th nerve.

If it will be remembered that the olfactory received its motor root from the 5th nerve, and afterwards gave a motor branch to the Sphenos Sympathetic, and I must remind you that the central origin of the motor root of the highly 5th nerve was in a state of irritation.
as shown by spasmotic contraction of the muscles of mastication supplied by Z, how I believe the same spasmotic contraction produced in the Tensor Tympani muscle and from the same cause.

This muscle is inserted into the handle of the malleus.

W. Wooton points out that the effect of spasmotic contraction of the Tensor Tympani is to draw the chain of bones towards, and this occurs in the following way, first the Tensor Tympani contracts and draws towards the malleus by which by its connection with the stapedius causes the stapes to press against the membrane of the fenestra ovalis, and by so doing increases the intra-labyrinthine tension just as pressing on the stapes would produce it.

We have seen that alteration of this tension of the fluid in the semi-circular canals produces
Vertigo and I have endeavored to show that this altered tension is present in this case, as a result of spasmus
contraction of the Tensor tympani drawing the malleus inward, and causing the stapes to press against the membranous labyrinth, and I have tried to show that the same central cause produces both
the Vertigo and the spasmotic closure of the mouth by irritation at the origin of the motor root of the 5th nerve

Passing to the fault which was peculiar in the case recorded I find its character well described by S. Worsley
in his paper, and exactly as observed in any other patient.

Vertiginous patients, he says, are "uncertain in their walking powers, often
fainting and reeling to one side."
I now proceed to account for the pinnaces which were caused by twitching of the muscles of the mouth, the neck and the lower part of the face and to do this it will be necessary to say that the facial nerve is motor to the muscles of expression, including the platysma, the spasmus of the muscles of mastication, and the pinnaces both occurred together so that there appeared to be some connection. Now see how far this theory is supported by the origin of the facial nerve according to Grey's Anatomy, the facial nerve has two origins: (1) from the grey substance of the fasciculus lENTICULARIS on the floor of the 4th ventricle; and the second—

From the nucleus of the motor root of the trigeminus (between these two origins is formed a loop along the floor of the...
This second origin is the one to which I particularly wish to draw your attention for it is by irritation here that the phenomena I believe are caused, and the same irritation at the same central point via the common origin of the facial nerve (in part) and the motor root of the 5th appears to me to produce the spasmodic contractions of the facial muscles of expression, vertigo and the spasmodic closure of the jaws.

There is still another link in the chain of evidence, and to bring that forward I recall to your recollection the peculiar taste complained of by the patient, and the statement she made about saliva flowing from her mouth.

Now the Chorda Tympani supplies branches to the submaxillary gland and stimul-
tion of its causes increased flow of saliva; whilst the lingual branch of the inferior maxillary nerve is distributed to the anterior and lateral part of the tongue and is the nerve of special sense to that part. But only derives this property from the chorda tympani which joins it, and the latter is a branch of the facial nerve.

These facts lead us to consider both of these symptoms - viz. the increased flow of saliva and the taste of herring - previously mentioned, as part of the results of irritation of the same central point, which simply stimulated to action another of the branches of the facial nerve.

We come now to the hallucinations in connection with which I may say that Goethe had the power of producing pictures at will though unable to dismiss them when he wished to do so.
As pointed out by Hooper, illusions may be present without bizarreness and it is easy to pass from the pictures which are produced by an effort of the will on the part of the patient, or results independent of the will, due to vivid impressions, to those over which the patient has no control and which do not result from previous impressions.

Dr. David Brewster in his "Natural Magic" relates the case of a woman who at one time saw the spectre of her husband; at another time that of a near relative in grave clothes; and on another occasion a spectre dog, but the maid was fully aware to the real state and nature of the deception.

The views, alterations in the color of the room, the seeing of cats by my patients, may I think have been due to defective nutrition of the brain, probably...
from diminished quantity, and
goodness of the blood supplied
to that organ, for the hallucinations appeared when the patient's
general condition was bad and disappeared as her general
health improved, or may be due to
"slightly raised activity of healthy nervous
arrangements, consequent on loss of control."

Passing to the remaining symptoms
I find that Dr. Woodes states that the heart seldom escapes
from some form of functional
disruption in Vertigo and it
will be remembered that my
patient had suffered from
palpitation, and he says that
in the later stage these patients
exhibit a growing habit of picking
and fidgeting with the fingers
and in nearly all cases there
is a growing and growing impair-
ment of memory, the patient
becoming forgetful and unable
to talk correctly, but this is not
aphasia proper, but simply a
forgetting of the word required,
and some other quite irrelevant
word is substituted.
It will be remembered that I drew attention to the patient fidgeting in bed and moving the arms and legs along like a case of chorea, whilst her memory for a time was defective and she forgot words.

On the 23rd of October, 1877, she was admitted to the institution, and I was requested by Mr. St. Andrew to attend to her case.
Case IV.

Wm. Ward, aged 15 years, a fisher-boy living at Staithe, a fishing village on the East Coast, was admitted to the Cottage Hospital, North Berwick, May 26th, complaining of an abdominal tumour.

The boy was emaciated, anaemic, and feeble, and on examination the abdomen was found to be much enlarged and to contain a firm tumour.

His knowledge of the mass dated from December 1873, when one morning he observed he was only just able to button his trousers, and the next day had to bring them together.
with cramp. The enlargement then complained of came on in two days, and night after which it began to get less, but about a month or six weeks afterwards he observed the hardness in the abdomen now mentioned and at that time it appeared to be about as large as when I examined it. There had been no pain in the lumbar late July 2nd when he felt a prickling sensation along four inches to the left of the umbilicus. He frequently suffered from epistaxis before and after admission but there had been no vomiting and no jaundice at any time. The bowels had been moved daily, the tongue was then healthy and he had no pain anywhere, but sometimes had noises in his ears. He had suffered from cramp at night in the right leg at times, but beyond this there was no pain, nor any numbness in the lower limbs.
The right leg at a pooling two
inches above the internal malleolus
was 7¼ inches in circumference,
the left 8 inches. The
right calf measured 10½ inches,
the left 11½, and there was
some thickening above the right
ankle. The right thigh at
a point twelve inches above
the lower margin of the patella
measured 14½ inches, the left
15 inches.

On examining the chest I found
decreases in the right and left
supra clavicular regions, but
more especially in the left,
while the left infra clavicular
region on percussion was
dull and the right impermeable.

There were no accompaniments.
The pulse was 110 full and
regular and there was an
aortic diastolic murmur.
The proportion of white to
red blood corpuscles was
found to be greatly increased,
and the urine pale and
albuminous.
Passing to an examination of
the abdomen, I found it
contained a large firm tumour,
having a smooth surface, with
a sharp well defined margin,
having a notch in its anterior
superior edge.

Measured from the
umbilicus I found it passed
backwards for eleven inches
on the left side, its posterior
margin being five inches from
the vertebral column. Whilst
on the right side its margin
was three inches from the
umbilicus. From above
downwards the mass measured
seven and a half inches to
the left mid-axillary line, and
eight inches to the middle line,
measuring from the top of the
nose, whilst the tumour
extended downwards for a distance
of five inches from the
umbilicus.

The longest measurement was
from its anterior inferior angle
to its posterior superior angle —
through the umbilicus — being 16 inches.
The measurements passed through the centre of the mass which therefore occupied an oblique direction. During the time he was under treatment his general health improved vastly, but on one occasion he almost died from epistaxis and on another from exhaustion following diarrhoea.

The diagnosis was "Splenic Leuco-Cyanosis." The treatment consisted chiefly in good nursing and fresh air with a liberal diet and port wine. Iron was administered and attention paid to the symptoms as they appeared.

For the diarrhoea a mixture containing Acid Sulphuric tinct., Silver Bichloride and Spirit Chloroform was given, whilst for the epistaxis he took Spirit Terebinth, and Silver Bichloride combined with the medicines mostly given were Syrup Terebinth. Comp. or Syrup Terebinth. Iod.
He was discharged much improved in general health October 25, 1854, but died I believe at Franties February 3/85 from exhaustion.

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Remarks

The foregoing case is a typical example of Leucocythemia, and on comparing the measurements of the spleen with those of a healthy organ it will be at once seen what an enormous increase in size had taken place. The length of a healthy spleen is five inches and the breadth rather more than three, whereas in this patient
The length was sixteen inches, and the breadth eight.

Leucocytoma was particularly investigated by Virchow and Hughes Bennett, and the latter was the first to describe it.

The late Professor Sanders divided this disease into four varieties classed 1877-1878.

1. Splenic enlargement
2. Enlargement of lymphatic glands
3. Combination of the above
4. Increase of the marrow of bones

all of which were associated with excess of white blood corpuscles.

The pathological changes seen in this disease are hypertrophy of the spleen, and glands which become uniformly enlarged, the structure remaining normal; secondly, heteroplastic deposits in the liver, lungs, mucous membrane of the intestines, heart, and other organs.

Those in the liver and
Kidneys occur in two forms, the first being an infiltration, and forming white streaks of lymph cells around the lobules of the liver and white lines round the packets of lobules of the kidney; the second form being in nodules composed of white cells in a reticulum.

The blood is paler than usual coagulates imperfectly, and there is increase in the proportion of white to red corpuscles, the latter being chiefly due to their excessive production in the spleen or lymphatic glands.

This disease is characterized by the morbid conditions of the blood, the gradual formation of the spleen, or lymphatic tumours, increasing debility, palor, and a tendency to dropsy, haemorrhage, and diarrhoea, whilst in adults you have a tendency to leukæmic rheumatic
The attacks of hemoptysis may be of a very serious character and it will be remembered that my patient on one occasion nearly died from epistaxis. Whilst the diarrhoea according to Stitcan is one of the most dangerous complications and the most difficult to arrest or control.

Hemoptysis may occur at all ages, but is rare under the age of ten, and is twice as common in men as it is in women.

The causes are exposure to cold, and very or serious acute affections such as pneumonia.

Malaria has been said to be a common cause but you may have it without and what gave rise to it in my patient I cannot say.

The lymphatic form of hemoptysis Stewart believes may result from irritation such as lepra.

The duration of hemoptysis is from six months to seven years.
The average being two years according to Bowes, though the actual duration is probably longer because the disease has likely been present for a considerable time before being observed.

The causes of death are asthenia, diarrhoea, pneumonia, pleurisy, and loss of blood; the haemorrhage being frequently fatal is that from the nose. Pressure of the tumour may also bring about a fatal result by causing obstruction of the bowels, and such a case was reported by Dr. Cochrane in the British Medical Journal for April 11, 1882. It is to be found atrophy and destruction of the sigmoid flexure of the colon due to an enlarged spleen pressing upon the bowel.

Leucocytocemia resembles adenitis but in the latter you have chronic enlargement of the spleen, lymphatic glands, or both.
with diminution in the number of red corpuscles by a marked increase in the number of white ones.

The treatment is not satisfactory, for no means are known by which the disease can be arrested. Luminae, cold affusions, bismuth, voltaic electricity, cold liver oil, and tannin phosphorization may be tried, and Professor Brunner recommends iron, but little more can be done beyond attending to the symptoms as they appear.

Removal of the spleen has been tried, but in actual Lemere's throma has been invariably fatal and further use of it in such cases Towers believes is unjustifiable.

The excess of white corpuscles in the blood interferes with the coagulation of the blood, so as to endanger the operation, and the British Medical Journal says: "It would seem that for the present, surgical interference in Leucoerythemia is barred down..."
Spleenectomy in young subjects, or to the substitution of some less formidable operation such as possibly ligation of the spleenic artery. The effect of removal of the spleen on the general health so far as we can judge by observation appears to be of little moment and with reference to this subject I may state the operation has been performed many times for the relief of human suffering in some cases with success, in others the patient has survived the operation only a short time.

The late Dr. Bliss of the army medical museum Washington collected statistics showing that the spleen had been removed spleen times from 1549 to 1849 with one death and between 1849 and 1869 ten times with five deaths. The deaths were from hemorrhage immediate or secondary.
Three successful cases are recorded in Jenner's Practice of Medicine, all of which were for injuries of the spleen immediately following injuries, and all recovered. In one the whole spleen was removed whilst in the other half the posterior portion was ligatured and removed.

Other cases have from time to time been recorded in the British Medical Journal, and during recent years I find that Spencer Wells in 1878 spoke of having removed 3 three times. The results were unsatisfactory for one died from haemorrhage, whilst in the other two cases death appeared to be due to a quantity of white clot found on the right side of the heart.

At the annual meeting of the British Medical Association 1882, Mr. Park said he had...
Opened the abdomen with the intention of removing the spleen in three cases, but had not succeeded in doing so — all had recovered, and on the 24th of March 1864 Professor Billroth removed a sarcoma of the spleen from a woman aged 42 (without leucemia). In this case there were intestinal adhesions and an adhesion to the pancreas, which latter rendered it necessary to leave a small portion of the humour. The splenic vein and artery were separated and tied with a double ligature, then divided, and the woman made a good recovery.

At one of the meetings of the Staffordshire Branch of the British Medical Association an unsuccessful case was mentioned by Mr. Spanton, although there had been no increase of white corpuscles before the
In concluding my remarks in connection with the present case I may say that at one time I thought the only treatment likely to give a satisfactory result was the removal of the spleen. The operation at any time is a serious one, but with such overwhelming evidence against its performance in cases of Leucocythemia, I felt that it was not justifiable.
Case V

The following case — one of brainstomy — came under my notice during the time I acted as house surgeon to the Rochdale Infirmary. To I left that institution during the progress of the case. The hosts commencing August 1st were not taken by myself, but I include them in order to render the report complete.

Mary Draney, aged 62 and living at Brickfield, near Smallbridge, was admitted to the Rochdale Infirmary July 15th, 1871, under the care of Dr. Pooley.
and suffering from ovarian tumour. The patient was well nourished, married, and had given birth to ten children of whom five were living. Her first child was still alive and aged 35 years, as also her last who was 22 years of age.

The patient had never had any miscarriages and commenced to menstruate at 16. The menopause occurred at 50 and at the time of examination there was no discharge of any kind from the vagina. About twelve months before admission she noticed the abdomen increasing in size and since that date she had pain on tiltling, and she had suffered from slight pain. The circumference of the abdomen measured 36 inches at the umbilicus. whilst from the umbilicus to the left anterior superior iliac spine
was 7 ¾ inches and to the right anterior superior iliac spine 7 inches. From the lumbar crest was 6 ½ inches and from the latter point to the top of the pubis 5 ½ inches. The abdomen was bulging and marked by recent strike. The skin over the anterior abdominal wall was movable, and on palpation a large fluctuating tumour was felt in the abdomen which was firm to the feel on the right side below the ribs. The tumour appeared to be round and regular excepting just below the solid part where an indentation was felt. The solid part began at the middle line and extended two inches to the right side, commencing one inch above the umbilicus and passing upwards to a point two inches below the iliac crest. The peritoneum was
Commencing at the umbilicus was dull four inches to the left of this point, and five and a half inches to the right, and as far downwards as the Symphysis Pubis, whilst above the umbilicus it was marked by tympanitis.

The hsemorr was unequal from side to side, and from below upwards, but I could not more A downwards.

The length of the uterus measured by the sound was 2½ inches. The patient menstruated all right, and the bowels were regular. There was no difficulty in breathing, and no pain in the abdomen, and she took her food well.

The heart and lungs were healthy. On July 16th the patient was allowed liberal diet, with a pint of beer and two effs daily, and on the 18th, 19th, and 20th an enema was given.

July 20th. Pulse 74 regular, cold
the stomach. The patient having been prepared for operation and an ounce of Brandy given. Chloroform was administered and changed for ether owing to the patient becoming half anaesthetic precautions were taken and the spray used during the whole time of the operation.

An incision four inches long was first made in the middle line commencing about 3/4 of an inch from the umbilicus. The cæcum was having been exposed was tapped and a quantity of straw coloured fluid removed and as soon as the tumour area be withdrawn from the abdominal cavity through the incision that was done the pedicle was then secured by the clamp and the tumour removed, there being no adhesions.

On examination the tumour was found to be multicellular, there being two large cyst cavities, and a collection of
smaller cysts. One only of the larger cysts had been tapped, the other containing straw colored fluid, the contents of the two cysts measuring in all about 70 ounces.

Inside one of the larger cysts was found a group of smaller cysts—the cysts of the group being about that of a walnut. The collection of cysts—which with the two larger cysts made up the mass—contained colloid material and this had been the hard part of the human feet on the right side.

The time taken for the removal was 35 minutes, and after the operation an ounce of brandy was given, and a half grain morphia suppository introduced. The "all lit" was administered together with soda water and milk and a teaspoon of beef juice being given.

At 3 o'clock—an hour before the operation—the
Temperature was 98° and at 6 o'clock - two hours after the removal - it was 98.4°.

She had vomited a little which returned as 7.15 pm and again at 9 pm, when she had a slight pain on the right side of the abdomen. Another morphine suppository was administered at 12 pm, when she again vomited, the temperature being 100.6°.

Next day she vomited at 3 am, the temperature being 100 while 6 am. It had gone down to 99.6° by 12 am. If rose to 104° by 6 pm, felt slightly ill by 1 pm, being 103.6°, with a pulse of 102. She was dressed as it in the afternoon, and took well and at 7 pm. The temperature was 103.2°.

While as midnight it reached 103° towards midnight she had been allowed an ounce of beef juice every hour, and the following day
The temperature was as follows:

3 am. 102.6
9 am. 101.7
12 am. 107.4
4 pm. 101.8
9 pm. 101
12 pm. 107.8

In the evening she was ordered half an ounce of brandy every three hours and the next day the wound was dressed, when some slight redness at the upper part of the right edge of the wound was observed and a little serous discharge escaped which appeared to have a superficial origin.

July 24th. The wound was dressed and looked well. The temperature at 6 am was 99.2 at 12 am 100 and at 12 pm 107.6.

The following day the wound was again dressed and the patient experienced some pain on Conspiring for which was given a mixture containing Antimony, Tar, Camphor and Bore Thefe.
Temperature on this day being 99.8 at 6 a.m., 107.8 at 1 p.m., and 100 at 12 p.m. It was 100.

On the 26th, the case was dressed, and the temperature was 99 at 3 a.m., 99.6 at 12 a.m., and 100 at 9 p.m.

July 27th, the clamp was removed, and there was a considerable amount of discharge from the wound, the edges of which for the last few days had been brought together by strapping.

Temperature: 6 a.m. 99 12 a.m. 99.6 12 p.m. 100

July 28th. On this, and the previous day, the patient was somewhat improved, but the wound looked much better now that the clamp had been removed; in addition to which one of the silver sutures was dispensed with, and a mixture containing tola sugar carbonate in 10 grain doses was ordered to be given every three hours with salt on ice.
of brandy daily.

Temperature
3 am 99
12 pm 99.6

On the 29th and 30th the case was dressed each day.

Temperature
July 29th
3 am 99.8
12 am 99
12 pm 99.6

July 30th
98.8
99.2
100

With July 31st terminated I believe my hopes of the case and on that day there was a good quantity of pus discharged from the wound and the morphia was firmer than before.

Temperature
3 am 98.6
2 pm 98.8

The following day I find the pulse had diminished in frequency being 96 whilst the temperature was 98.6 at 9 am and 99.6 at 9 pm.

The bowels acted regularly and the morphia was natural.

August 2nd. There was a little discharge from the
bound, and the patient continued to improve, and on the 4th was allowed to take porridge in addition to the other diet.

August 5th
9 a.m. Temperature 98.8 pulse 100
9 p.m. 99.6 100
There was slight pain - over the abdomen which was relieved after taking instins.

Aug 7th Flatus movements were
bothered with nitrate of silver,
and the next day the woman was dressed with silver nitrate.

From this date onwards the
patient continued to do well,
being made an out-patient.
Sept 20th and discharged cured.
Sept 29th 1881
Case VI

Jane Smith aged 59, height 4ft 10 inches, born at Durham and living at 5-9 Corporation Road, Middlesex, was admitted to the Cottage Hospital Jan 3rd 1885, complaining of abdominal enlargement.

I examined her on the 5th of January 1885 and elicited the following facts:

Her father died from intestinal obstruction and her brother from bronchitis. She was healthy. She never had any sisters, and only one brother who was living.
Patient was married and lived quietly and regularly and had a comfortable home. She did not take alcoholic stimulants and almost all her life had been a teetotaler. The patient did not recall any previous illnesses, or accidents.

In April 1878, September, she noticed a swelling on the right side of the abdomen, in the right hypochondrial region, which was described as like a bladder, partly filled with water. The swelling was oblique, and ran upwards and downwards being along the edge and shape of her hand, to increase in its size was observed by the abdomen for larger, and then she was unable to feel the swelling for a period. There had been no pain.

Application for relief was made at this hospital in March 1878, and as that...
time a correct diagnosis was made, but the treatment of the patient under whose care she was admitted, refused to operate and I then relieved her by tapping, removing 133 ounces of fluid from the cavity. Then she had been readmitted eight times and tapped ten times.

The following table shows the number of times she has been admitted and tapped and the quantity of fluid removed.

<table>
<thead>
<tr>
<th>Admitted</th>
<th>Discharged</th>
<th>Tapped</th>
<th>Fluid removed</th>
</tr>
</thead>
<tbody>
<tr>
<td>March 22/53</td>
<td>April 10/53</td>
<td>once</td>
<td>133 oz</td>
</tr>
<tr>
<td>Aug 28/53</td>
<td>Sept 24/53</td>
<td>once</td>
<td>12 1/2 oz</td>
</tr>
<tr>
<td>Jan 30/54</td>
<td>Feb 23/54</td>
<td>once</td>
<td>12 oz</td>
</tr>
<tr>
<td>June 17/54</td>
<td>July 1/54</td>
<td>twice</td>
<td>21 oz</td>
</tr>
<tr>
<td>Aug 22/54</td>
<td>Sept 25/54</td>
<td>twice</td>
<td>23 1/2 oz</td>
</tr>
<tr>
<td>Feb 24/54</td>
<td>Oct 6/54</td>
<td>twice</td>
<td>27 oz</td>
</tr>
<tr>
<td>Jan 3/55</td>
<td>Jan 10/55</td>
<td>once</td>
<td>25 oz</td>
</tr>
<tr>
<td>Feb 3/55</td>
<td>Feb 12/55</td>
<td>once</td>
<td>25 oz</td>
</tr>
<tr>
<td>March 6/55</td>
<td>March 16/55</td>
<td>once</td>
<td>25 oz</td>
</tr>
</tbody>
</table>

After tapping the volume in the abdomen and when the abdomen...
had collapsed. I felt a
round firm mass in the
right inguinal region along
the edge of a wasting.

On examination 4th January 1865
after her admission I found
the patient emaciated and
the abdomen much distended.
The face was pinched,
and anxious looking. The
tongue red and inclined
to be dry, whilst the appetite
was feebly and the bowels
regular. The abdomen
was very greatly enlarged
and commenced to bulge,
at the lower margin of
the ribs. It was more
rounded and prominent on
the right side than on the
left, whilst the other was
painless over the general
abdominal surface, and
the superficial veins were
marked.

On palpation, the abdomen was
found tense, and fluctuation
was very akine, whiles
in percussio nearly the
whole of the abdomen was
found to be dull. The
dullness commenced an inch
and a half below the
lower margin of the ribs,
in a line with the nipple
on each side and extended
downwards to the pubis
apex.

In the left side it began
two inches from a vertical
drawn from the left
anterior superior iliac spine
and continued transversely
to a parallel line drawn
from the corresponding point
of the opposite side.

The circumference of
the chest at the umbilicus
appendix was 29 3/4 inches,
that of the abdomen at
the umbilicus being 31 1/2 inches.

While the transverse measure-
ment of the abdomen from
the anterior superior iliac
spine to the other was 23 1/2
inches.
Passing to the intercostal and other systems, I observed the skin was dry, and there was slighty oedema of the lower limbs. There was no pain. The urine was passed frequently, and had a dark colour. Immediately before tapping the only passed ten ounces in the 24 hours, and about half an ounce at each time; and this had gone on for about a week. The urine was acid and contained urates, but no albumen. Respiration was regular and there was no cough. The only abnormalities present on examination of the thorax were diminished expansion of the chest, with inspiration, and dry friction sounds heard along an inch below the left inferior angle of the scapula. The sufferer sometimes from shortness of breath, and there was occasional irregularity in the
action of the heart, but there were no cardiac murmurs. The pulse was 80 and free, the arteries atheromatos.

Twelve years ago the Catamania ceased. It began at the age of 13 or 14, and continued every month regularly. But long before the menopause she had had no discharge of any kind. The patient suffered from dull heavy pain across the sacrum on lying down. The diagnosis was cystic degeneration of the right ovary.

January 6th. The contents of the cyst were removed by a puncture made with the largest needle of an aspirator inserted through the "linea alba" along and way between the symphysis pubis and the umbilicus. To the open end of the hollow needle was fixed an India rubber tube having a glass junction in its course.
and into the outer extremity of the tube was inserted the nozzle of a \#3 syringe. Everything being ready and the needle inserted into the cavity of the cyst, the syringe was exhausted and allowed to fill itself with fluid from the cyst, when full it was dis-mounted at the nozzle and then emptied, the process being repeated as often as required. I found this method much quicker than using an ordinary resperator, and simple tapping without some means for sucking up the fluid was very slow owing to the consistence of the fluid.

The glass junction of the syringe allowed the character and flow of the fluid to be observed, which in this case was clear, viscid, and almost colorless, being like the white of egg. There was no pain attending the operation, and the patient
did not suffer from any bad symptoms during or after the lapping. A flannel bandage with tails 1 ft. 3 in. was passed around the abdomen, and from line to line tightened in order to compress the abdominal wall, which after the operation was done, was allowed to remain. The punctured wound in the abdominal wall was closed by a piece of strapping after the removal of the needle.

Immediately after lapping the pulse was 100 full and regular, the temperature 98.6, and the respiration 22.

Twenty-three pints of fluid were removed, which was viscid, almost colourless, and resembled white of egg, and contained albumen.

The following day, the patient's condition was excellent; she had passed a good night, and writing pain.

Jan 8th. The pulse was 78, fair.
Confused, and easily compressible. The patient was comfortable with no pain, a clean, brown tongue, and a good appetite.

After tapping the abdomen was retracted, but already it was becoming distended—the right side more than the left—and fluctuation could be felt. In the right inguinal region on a line with Poupart's ligament, there was a firm tumor, which was fixed or almost so by its anterior inferior extremity, it began at the middle line immediately above the symphysis pubis and passed outwardly parallel with Poupart's ligament, and became indurated along 2½ inches anterior and inferior to the right superior iliac spine. The mass was about an inch and a half in diameter and could be grasped between the fingers and thumb, although not entirely so owing to its proximity to Poupart's ligament.
It did not pulsate and was dull on percussion and appeared to be another cyst—which might be multilocular—and from its characters might contain colloid material. The presence of this mass had been previously observed and it appeared to have increased in size.

The circumference of the abdomen at the umbilicus was 30½ inches and was rapidly becoming distended again by the secretion of fluid in the cyst cavity.

The quantity of urine passed had increased considerably since tapping was performed and amounted to 60 ounces. This increased after emptying the cyst and a small flow before the operation had been previously observed by the patient.

Jan 10th. The pulse was full and regular and on this day the patient was discharged relieved but was to return again when
The abdomen again became uncomfortably distended. It was not long before this occurred and on the 7th of February I again removed 21 points of fluid leaving characters similar to those before mentioned. The firm mass previously observed had increased in size and was along as big as a hen's egg.

On the 12th of February the patient was again discharged with a similar understanding to that mentioned in my notes for January 16th/83 and on the 5th of March 85 was readmitted to be again discharged March 16th 85 after having 25 points of fluid removed from the cavity of the cyst.

On this occasion some alteration was made in the method of tapping for instead of using a firm ounce brass syringe to suck the fluid out of the ovarian cyst, I employed a ball syringe with
reversed action fixed on to the end of the aspirating needle as shown in the diagram.

Remarks.

My remarks on these two cases of ovarian disease will be chiefly limited to the treatment and I shall endeavor to show that the right treatment in the case of the patient who was repeatedly tapped was to have performed ovariotomy early instead of subjecting the patient to repeated paracentesis of the cyst.

An ovarian cyst may be simple or compound, and its contents may be clear and transparent, thick and nongly, coffee colored or almost colorless.
And if the tumour be not removed it may continue after tapping or may rupture from accidental causes or ulcerate and discharge its contents into the intestines, or remain stationary or go on increasing in size.

Various methods of treatment are recommended such as medicinal and surgical measures tapping and excision.

Medicinal treatment may be employed with the hope of causing absorption and the remedies given are Iodide of Potassium or Iodide of Iron but the only good result likely to follow is an improvement in the patient's general health.

Passing to the second group, we may try to bring about a cure by injecting a liquid passed into the tumour, or taking advantage of the fact that a cyst has sometimes been ruptured by an accident and was returned if has been proposed to make an intra-peritoneal opening in the
Cysts wall by order to evacuate the contents by this is now never done because tapping is much more simple and just as effective.

Such an example of accidental rupture of an ovarian cyst has been recorded by Dr. Wilshire who read notes of the case before the Clinical Society of London Oct 14, 1881 and from which it appears the patient fell while in a horse car striking her abdomen and bursting the cyst which she had had about three years. Recovery followed and two years after she remained free from the tumor with the exception of a small mass supposed to be the remains of the cyst and pedicle.

In addition to the methods already named an opening into the cysts might be made through the abdominal wall and the edges of the cyst wall stitched
None of the abdominal wound so as to drain the tumor and the treatment is slow and risky.

We now come to the operation of tapping, which in certain cases, viz., when the cyst is unicellular, has sometimes lead to a cure.

In connection with if there are certain risks, although the operation as a rule is not dangerous, but if so well be remembered for may have hemorrhage following its performance due to injury to a blood vessel in the abdominal wall, and that peritonitis and suppuration within the cyst may result from this plan of treatment, whereas adhesions ate also an after consequence.

The old method of tapping the cyst was to rigid the patient upright in a chair, which ended usually in the patient fainting due to the position of the instrument used which was an
old-fashioned X-ray bug. This may be avoided by setting the patient on her side at the edge of the bed to draw up the fluid. Writing on this subject Spencer Wells says it almost a positive rule that you should tap in the first place if the cyst is unicellular and you cannot detect any secondary growths in the cyst wall, and he remarks that if the patient die after tapping, she does not die because she is tapped, but dies because the tapping does not save her life.

After tapping pressure may be applied, but it is apt to cause adhesions, or you may after emptying the cyst inject two ounces of a solution of iodine and iodide of potassium of the same strength as used by Spencer Wells, viz. twenty grains of the iodide and thirty grains of the potassium salt dissolved in an ounce of
water.

Unfortunately, tapping as a rule only relieves for a short time, and requires to be repeated and few patients survive the first tapping for more than four years so that as Horrocks once said, "if you do not cure or bore holes in the belly"

I believe the advice given by James in his "Practise of Medicine" expresses the accepted views on the subject. "Where there is any hope of cure from paracentesis it is to be resorted to only in certain cases and especially if the multilocular humour ovariostomy is the only proceeding which offers a reasonable chance of rescuring the patient from an early and very painful death.

Having then tapped the humour and failed in this way to cure if or having made up your mind removal is necessary and that there are no contra indications
In the performance of the operation, the next important thing is to leave the cyst removed as early as possible. Lawson Tait, Bantock, Savage, and Bryan all agree that the earlier the operation is performed, the better for the patient. Early removal you diminish the risk from adhesions. The ease to which the case is much easier to operate upon, and the chance of recovery much greater.

Dr. Roemer of Berlin performed ovariotomy with recovery on a child a year and eight months old, for the removal of a dermoid cyst.

The contra indications which require to be remembered are in the first place, cancerous tumours. On these you should not operate, and then diagnosis is made according to Bryan by the condition of the patient and the nature of the lesion. The patient is more wasted and the constitutional decay is more rapid than in the benign, and if
The tumour be somewhat fixed and movable, the probability of the tumour being cancerous is increased.

By the way, this also says you should not operate if the tumour remains small and is causing little or no mechanical inconvenience or if the patient's condition is very bad, or when there is disease in any other organ or the power of life unable to stand the shock of the operation; whiles Spencer Wells says almost the only positive contra indication to an operation is the patient has come from disease which if pursued its natural course would certainly kill her, as Phthisis, cancer kidney, or liver disease.

We arrive now as a much disputed question viz. that of the employment ofativism in performing ovariotomy. Keith, Savage, and Rawnsley all condemn it, and its only
True supporter is W. Knowsley, Thornton. Both ways, as Keith says, cannot be right, and although he believes in the antiseptic principle, blames Carbolic Acid for killing some of his patients and thinks that the great evil is done by the surgeon himself by want of cleanliness.

Bantock and Keith's ideas of criticism agree for the former describes it as the gospel of cleanliness, in which he has faith, but dislikes it. The specific properties of Carbolic Acid thus applied as a test he compared thirty six antiseptic with the same number of non-antiseptic cases and found the lowest temperature was obtained in one of the non-antiseptic cases and the highest in an antiseptic case in which it reached 107.2°. In addition to this he found that on reducing the strength of the solution he got a diminished mortality and a diminution in
Temperature

Sawson Taylor speaking of the spray in abdominal surgery gave similar evidence after two years' opening in investigating the subject, for he also found that as the strength of the solution used in the spray the recovery improved in case and he obtained similar results in the preparation of the sponges and in the details of the operation.

The result of this was that he gave up the use of carbolic acid and kept his instruments, ligatures, sponges etc. in a bath of pure water to keep them wet.

The same author writing in the British Medical Journal Feb 17/1883, said he had for nearly three years discarded Listerian and considered it a source of no safety in abdominal surgery, but of considerable risk; he said Dr. Keith had himself obtained better results without it than others had with it and it added
4 or 5 per cent to the mortality, and was especially dangerous in operating on patients with feebler kidneys.

There is no doubt that a large quantity of Carbolic Acid is likely to be absorbed by the lungs and peritoneum during the operation—Which is a long one—if the spray produces a large cloud and the solution used be strong.

Let us look at some of the statistics and we find that Lawson Tait in the British Medical Journal for January 10th 1861 gives 76 abdominal sections including 52 ovariotomies with two deaths—one from apoplexy, the other from malignant tumour with venous obstruction and carbolic—and all the cases were done without Listerian details; and the same surgeon in a paper read at the Annual Meeting of the British Medical Association in 1882 gave
The results of one hundred cases of ovariotomy, which included eleven peritoneal tumours (the ovaries and tubes of the corresponding side being left). Of these he lost only three patients, one of whom died from accidental suffocation, and amongst these means which aided in saving such fatal results he includes abandonment of the clamp and carbonic acid, and the antiseptic system during and after the operation.

In the British Medical Journal for March 6th, Dr. Savage reports 85 abdominal sections with 14 deaths due to the operation, none of which were treated by strict antiseptic precautions.

Take now some of the statistics of Dr. Thornton to conclude this part of the subject and you find in the British Medical Journal for between 25-13 1884, that in his last one hundred ovariotomies, there had been three deaths — two
from haemorrhage and one from malignant disease of the stomach which he regards as a complete indication of the value of the strict antiseptic method but his reply to this statement Hinch says his results are more favorable without the spray.

My idea is that if you have any fear in performing the operation it had better be done with strict antiseptic precautions using only a weak spray and a small cloud. By taking the usual Xisternan precautions you insure cleanliness if nothing else which in itself is a very important detail for the success of the operation.

Having settled the question of antiseptic arrangements should be made for the operation which Jackson thinks best performed along a week after the cautery.

If the case is in hospital the operation should be done
In a private room, the temperature of which should be about 65°, and the atmosphere moist. Prior to the operation, the patient's clothes should be attended to and the nurse's preparations taken. He is to be fed for 24 hours before administering the anesthetic. And in choosing the latter, bicarbonate of barium or iodin is said by Spencer Wells to be safer than chloroform.

The bladder should also be emptied, and then an incision made in the middle line, commencing along two inches below the umbilicus, and carried down for about 4 inches, which incision can be enlarged if necessary.

All bleeding is to be stopped by catgut forceps as you proceed, and then you are to make a small opening in the peritoneum. After raising it with a hook, and having introduced a broad director, divide the peritoneum upwards and downwards or is by a blunt pointed
Knife. The cyst is now to be punctured by a cannula and trocar and as it empties itself it is to be withdrawn from the abdominal cavity. Any adhesions present may be separated by the hand or with a knife or by scissors.

Bryant says as a rule parietal adhesions may be fearlessly treated when they can be divided; but those connected with the viscera and pelvis are to be regarded with alarm, and in separating adhesions from the viscera moderate force only should be used and all violence is to be condemned, and the same applies to omental adhesions which should be ligatured or divided.

Spencer Wells thinks the extent of adhesions to the abdominal walls is of much consequence, the results being pretty much the same by if there be - which may be made out by vaginal examination - pelvic adhesion.
and a blood vessel be torn, it is bad to find, while if these pelvic adhesions be slow down the operation is less likely to succeed.

We now come to the treatment of the pedicle, and your object here is to avoid hemorrhage, to do which you may use the clamp, or tie with a ligature, or employ the Cauter, and on this subject Bryant gives it as his opinion that when the pedicle is long you may get it by a clamp, but if short you may employ the Cauter or ligature, and if the latter is used be tied in two places.

Spencer tells you may apply the Cauter but are apt to have hemorrhage after it; and in using the ligature he believes in tying the pedicle tightly although some surgeons object to this as likely to cause stopping of the clamp. The use of the clamp is best.
how a favourable method of treating the pedicle, and of avoiding injury, was published in the British Medical Journal for January 31, 1885, that he had abandoned for ever its use in ovariotomy, and describes the improvement in his later results as compared with his early experiences. As partly due to the intra-peritoneal ligature being substituted for the clamp, and he points out that Mr. Spencer Wells also had better results after he gave up the use of the clamp.

Yamner likewise objects to the clamp on the ground that by keeping the pedicle outside it retards the healing of the wound and months after may cause dragging pains by the traction exerted.

After removal of the tumour the peritoneal cavity is to be cleansed of blood and ovarian fluid, and the abdominal wound closed, and whilst doing this
Spencer Wells recommends you should protect the intestines and abdominal cavity by a large sponge. Silk should be used for sewing the wound. Each end of the silk being threaded to a needle which should be passed through the abdominal wall, one on each side, from within outwards, and after you have fixed your sutures tie them.

In passing the sutures you include the whole abdominal wall and the peritoneum and the two edges of the peritoneum must be folded together.

Spencer Wells says when ever edges or surfaces of peritoneum are divided or separated they should if possible be reunited. Peritoneum should be opposed to peritoneum and this can only be done by drawing it over the pedicle or stump, or divided parts, and fixing or uniting it as an envelope, by a line of sutures or by cautery.
remarks on ovariotomy, and there is no doubt that this subject is an important one for if you have to separate large adhesions to the peritoneum, you get a raw surface discharging blood and serum which passes into the abdominal cavity, if not removed is apt to give rise to constitutional symptoms and be a source of great danger.

Marion Sims believes the great majority of deaths following ovariotomy are due to peritonitis and septicaemia, and this is due to retention of bloody serum fluid in the peritoneal cavity. The patient, he says, recovers if the exudation of this fluid be prevented or if it be drawn off as often as it is formed.

S. Keith's method of drainage is by a glass tube, and in very bad cases he thinks drainage
essential to obtain the best results and when bleeding could not be stopped or when the patient was too feeble to admit of waiting till the oozing had ceased he thought drainage saved many a case. Unfortunately certain disadvantages are believed to follow its employment which Dr. Thoroton believes the chief disadvantage to be the danger of admission through the tube of infective material. He also said it caused a weak place in the wound through which a ventral hernia was very apt to take place.

On the other hand, Savage considers drainage will do no harm and it may make a difference between recovery and death, and he does not think the alleged after weakness of the creature need be considered.
as he has was observed if, and moreover if he has any doubly along the abdomen being kept clean and dry he uses two tubes. Finally Maurice Quin says if there be no bloody serum to drain off the tube can be removed in a few hours.

Now supposing you fail to remove the tumour what are you to do? Spencer Wells advises the putting in of a drainage tube and closing the wound.

Certain precautions are necessary at the operation viz. not to leave any sponges or forceps in the abdominal cavity; even the best surgeons are apt to do such a thing as was proved by Spencer Wells once leaving a pair of forceps in a patient's bladder.

The after treatment as recommended by Tanner is to
five cider milk, and the yolk of a new laid egg beaten in water with a tea spoonful or two of brandy, during the first 24 hours; and on the third day if there be no sickness and all be going well, white fish with a glass of cherry and water may be allowed, whilst on the following day a mutton chop should be given.

I myself think this is running a risk for the patient cannot take any harm by giving chops for the first few days after the operation by may if solid food be given too early, develop symptoms of some anxiety.

Finally, if there is much vomiting Jenner recommends feeding by enemata, and when peritonitis arises its being be treated in the usual way by fomentations and opiates.

Supporting you have used the clamps as was done successfully in the case of anatomical records.
by myself, if may be removed
in the third day; whilst after
removal of the sutures — along
the 5th day — the edges of the
wound are to be brought together
by strips of strapping, till the
wound be healed.
Case VII

Michael M. McIntrye, aged 47, was admitted to the Cottage Hospital, North Melbourne, about 10 am. Bee 26th 1874, suffering from Dysphagia.

His story was that during the night of the 24th he got out of bed and placed his feet on the ladder which tilted over and caused him to fall with his right side on the top of a bucket. Returning to bed he slept all right for the remainder of the night and got up the next morning.
Complaining of a pain in his right side on breathing. During the whole of the day (Christmas day) he went along and at 9 PM retired to bed. Up to this time he had not observed any emphysema, but had a slight cough. About 3 the following morning he awoke feeling himself suffocating and his neck and chest on them.

As I was (Dec 26) I first saw him at his house and found him suffering from emphysema of the neck and front of the chest, and advised his removal to the Cottage Hospital.

During the day the emphysema increased and at 6:30 pm it was pressing in the face, neck, arms, abdomen, back and posterior, but was absent in the lower extremities. The lips were livid, the breathing heavy and painful and the patient had a cough accompanied
by rusty expectoration. The pulse was quick, full, and regular, being 112, and respiration 26.

On examining the chest I found the emphysema more marked on the right side than on the left, while on high, and two and a half inches posterior to the right hip there was a tender spot, but no fracture could be detected. The percussion note was high pitched on both sides but especially so on the right.

With inspiration both anterior walls expanded to about an equal extent.

 Auscultation was difficult from the presence of air in the cellular tissue, giving rise to expectations. Still inspiration could be heard anteriorly on the right side, while sibilant rhonchi were very distinctly audible on the left side inspiration.
was well marked, whilst expiration was accompanied by sonorous and bibilary rhonchi.

I ordered an eighth of a grain of tartarated antimony to be given every three hours, with the result that on the following day the pulse was 106 regular and not so full as on the previous night; the breathing also was much improved, and the expectoration was tinged with blood. The lips were still livid, but the cyanosis had diminished, although it was still very great in the face, neck and abdomen also the corium. The percussion note was hyper-resonant on both sides of the chest anteriorly. Inspiration and expiration could be heard over the front of the right and left sides of the thorax, whilst on the right side sonorous rhonchi were super-added.

Several punctures were then made to allow the air to escape from the cellular tissue.
and for this purpose I used the hollow needle of an aspirator and at the same time aided its escape by pressing the air towards the needle point during the day. The patient slept a good deal and after passing a comfortable night without any cough, he awoke the next morning breathing easily and much improved.

The emphysema although much less than on the previous day was still considerable over the chest, abdomen, face and arms. The pulse was 66 regular, and of diminished volume and I then prescribed the same dose of tartarated antimony to be given every 6 hours instead of every 3 hours.

In percussing the front of the chest, I found the note on both sides along equal, and of the hyper-resonant bug not so high pitched as previously.
Both lungs were acting well, and on each side respiration was accompanied by sorous and sibilant rhonchi.

The expectoration was white, frothy and scanty. I examined carefully for fractured ribs but could detect no crepitus.

There was still pain on pressure over the sixth and seventh ribs, in a line with the anterior margin of the right axilla.

See 36°. The phlegmonous had gone on steadily diminishing, and had almost disappeared from the face. Tomorrows and sibilant rhonchi were still audible over the front of both lungs, which acted freely. The pulse was 65 and regular. I again used the aspirating needle and allowed more air to escape from the cellular tissue. The antimonial enemata was continued every 6 hours as previously ordered.
There was at this time no pain in the right side on breathing, but pain was produced at the tender point before mentioned by coughing.

On the second of January, emphysema was to be felt along the arms, chest, abdomen, penis, and scrotum, but was gradually disappearing.

The percussion note was somewhat impaired on the right side of the thorax anteriorly, but below the right axilla and over the left anterior chest wall it was slightly hyper-resonant. Both lungs were acting well and expansion followed inspiration on both sides.

I gave them permission to set up the following day.

January 6th. There was no pain in the chest on coughing, and the emphysema had disappeared excepting traces to be felt along the chest, abdomen, and scrotum.
Percussion over the right anterior chest wall was normal while over the left it was slightly hyper-resonant. Both lungs were acting freely, but occasional rhonchi could occasionally be heard.

Discharged cured January 7th

Remarks

As a rule fracture of the ribs is due to direct violence, and the ribs are driven in, the pleura costalis is torn and
the lung itself may be injured
supposing the latter to
be the case you have escape
of air into the pleural cavity
which increases with each
inspiration, and is then forced
into the cellular tissue by
the act of expiration producing
evidence of subcutaneous
emphysema. For
only may subcutaneous emphysema
result from fractured ribs,
but it may be due to
spontaneous rupture of the
lung arising from violent
strain upon healthy lung as
by coughing or from abnormal
strain upon unhealthy lung.
Dr. Merritt read a case
such a case before the
Meeting of the British medical
association August 12/81. The
patient was a boy in whom
extensive subcutaneous emphysema
on the left side of the
sternum and to a less degree
over the right followed crying;
and another instance is recorded
by Dr. Hubbard who met with
A similar case in a woman involving the head, neck, and chest, but due to parturition.

The well-known case treated by Lahey and quoted by Roland, (Hollins System of Surgery) and Spencer, arose from a lacerate wound, and exhibited all the symptoms of a typical case of empyema.

The dangers likely to result from fracture of the ribs are pleurisy, and pneumonia, but generally simple fracture is only a serious accident unless it occurs in aged people. If the lung itself is injured the risk to the patient is of course much increased through slight emphysema has frequently followed fractured ribs in the patients who have come under my care without giving rise to any ill effects.

In the treatment of fractured ribs, the object aimed at is to
prevails movement of the broken bones as much as possible. Exactly as in any other fracture, for by doing so I'm relieve the pain and diminish the possibility of secondary inflammation arising.

In order to bring about the desired results I confine the patient to bed and strap the side from the middle line for some distance above and below the fracture with very strong strapping over which I place a broad flannel bandage.

The line of treatment to be followed when the case is complicated by emphysema is a disputed point.

Woodley speaks in favour of applying a bandage which he thinks relieves the patient's suffering and prevents the air escaping from the lung and diffusing through the cellular substance.

The diffusion of air into the cellular tissue Samuel Cooper
and USB believe mattered much because the air diffused was USB harmful whilst he recommended scarifications or punctures to allow of its escape and objected to bandaging as by so doing the escape of air from the pleural cavity was resisted which in some cases might be dangerous by interfering with the respiration of the opposite lung.

The advice given by Roland is to try the effects of pressure on the injured part by the hand and if that relieves the breathing then you may apply a bandage but if it increase the pain or dyspnoea you should abandon its use.

The late Professor Spence writing on this subject does not advise bandaging the patient and considers it is better to allow the air to escape from the pleural cavity instead of allowing it to accumulate there and by so
doing four cases to pneumothorax.

His plan of treatment was that for fractured ribs if the case was a slight one but if emphysema was extending he advised incisions or punctures to be made through the skin, whereas the air accumulated, and illustrated of the method of treatment recommended he records in most interesting case.

The constitutional treatment advised is to relieve any angina, the violence of respiration and the heart action.

The surgical treatment carried out by one of my patients was the same as they recommended by the late Professor Spence, with attention to the constitutional symptoms as above mentioned.
Two cases of
Dislocation of the Clavicle.

The two following cases are instances of a somewhat rare injury, as far as my experience goes. I refer to
Dislocation of the Clavicle at the acromial end.

The first patient was Mr. Palmer, aged 44, living at Middlesbrough, and admitted to the Cottage
Hospital, North Ormesby, June 24th, 1864, suffering from dislocation of the acromial end of the left clavicle,
due to a fall into a ship's hold.

The injury was diagnosed without difficulty. The prominence
Caused by the outer extremity of
the clavicle being very conspicuous
and is well illustrated by the accompanying photographs of some cases I had taken the same day the patient was admitted.

Knowing there would be considerable difficulty in keeping the outer end of the clavicle in position I put the case up temporarily till I could devise some method likely to bring about a favourable result and on the 25th of Dec. I resolved to flex the elbow and elevate the arm above the head in order to bring the dislocated articular surfaces in position, by elevation of the scapula, and relaxation of the clavicular portion of the trapezius. This plan of treatment had been previously tried by my friend Dr. Bateman, who for some years acted as Surgeon Infirmar to the North Riding Infirmar, Middltsbro. Having made up my mind to keep the patient in bed during the treatment of the case
The chief difficulty was to retain the arm in the desired position. To do this I took a large sheet of porousplastic material and having first made a paper pattern, I then cut the splint out in porousplastic material and secured the arm in the position required.

The splint when applied was all in a piece and came well over the front and back of the left side of the chest and firmly passed the arm by an anterior and posterior prolongation from the upper margin of the body part of the splint. The work was comfortably retained in situ by roller bandages and the patient kept on his back in bed.

On the 7th of January I found that the arm had fallen slightly due to the porousplastic material
having faced tray a little in the axilla, so I had a new splint made with an iron support to carry the weight of the arm, and of which I give a photograph. It will be seen that a flat rod of iron passes upwards from the side of the chest and supports the arm in its flexed position above the head and in order to render the appliance more secure it is made to grasp the upper arm, forearm and thorax by means of a gauze plaster material inserted to the iron support by means of copper rivets. The entire splint is padded prior to its adjustment and then secured by strips passing through loops attached to the iron rod at various points. The whole is then bandaged by roller bandages.

After the dislocation had been
Long up in this manner the patient remained in bed and was kept on his back. The splint was reapplied Jan 16th and Feb 13th and on the 14th of February the patient was discharged cured.

The next case was under treatment at the same time and was that of Clarke Harton, a striker aged 35, living at North Kimberley. He was admitted on the 6th of January 1875 to the Cottage Hospital with dislocation of the right acromial end of the clavicle, caused by falling with the point of the shoulder against the outer edge of the herb-stone.
The accident happened on the first of January, but the patient was not able to work on the 2nd and 3rd, and worked with his left arm.

Having found out that "proplastic" by itself was not strong enough, and feeling pleased with the appliance already described in the notes of the last case, I had a similar splint made for this patient, and then applied it on the 6th of January. It was reapplied on Jan 16th and 23rd and on the 5th of February, and finally removed 21st of February, after which he was discharged cured.

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Remarks

Dislocation of the Clavicle may occur at either end. The internal end may be dislocated forwards or backwards, while the
acromial end may be displaced upwards and then the end of the clavicle can be felt above the acromial process, or it may be dislocated downwards under the acromion or below the coracoid process.

The two recorded cases are examples of the former injury and the patient cartesian illustrates well the method by which this injury is usually produced. By the time of the accident the acromio clavicular ligament fine way leaving the coracoclavicular ligament as a rule entire.

The injury is a rare one and I find that only of 3226 fractures and dislocations of the upper extremity treated at the Middlesex Hospital during a period of 16 years ending June 30/67 only 12 dislocations at the acromial end of the clavicle presented themselves.

The difficulty in the treatment is the keeping of the part in position
...
Here as to the treatment advised by Spence, viz the pressure required is more than the patient can or should endure for the required length of time.

So Tooley Cooper said the dislocation never healed because the part could not be kept in accurate contact whilst the late Professor Spence found the opposite to be the case. Though as he says "the result depends a great deal on the care taken by the patient himself."

Let us now look at the causes which prevent the dislocated bones being kept in position, and we find they are three, the first is one for which we can do nothing and depends on the anatomical peculiarities of the articular surfaces. The second and third are falling of the arm and scapula downwards, and elevation of the outer end of the clavicle.
by contraction of the clavicular portion of the Trapezius muscle.

Having seen how difficult it is to keep the outer end of the clavicle in position by pressing it downwards towards the scapula, I beg to suggest that the scapula be elevated to the level of the acromial end of the clavicle, as was done in both of the cases recorded. This is comfortable to the patient, if he be kept in bed and the arm be supported by means of the splint previously described, and is much superior to using force to bring about that which it cannot accomplish by retention of the dislocated bones in their natural position for a period long enough to effect a good cure.