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<td>Author</td>
<td>Calder, W. J.</td>
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- p.127 repeats in original numeration.
May 23rd, 1878

To the Dean of the Faculty of Medicine,

Pye's Chelsea.

Dear Sir,

I have just lodged my thesis in the degree of M.D. and beg to request Dr. W. E. Russell to kindly allow me time to complete it. I have lodged with my thesis in the secret of a strong box which I extracted from my patient's employeur in described in the thesis. It is certain you identity. And I shall be much obliged if it could be returned to me.
Dear [Name],

I am pleased to announce that I have reached the end of my [course or research]. I will present it to the [body or committee] and request its consideration for [award or recognition].

If at all possible, I would like to use my thesis to compete for the [award or fellowship].

Sincerely,

[Name]

[Signature]
A New Method

of

Performing the Operation of External
Oesophagotomy, with a Description
of the "Oesophagoscope," an Instrument
for the Extraction of Foreign Bodies
from the Oesophagus.

A Thesis for the M.D. Degree, 1879.
And for Byeze Surgical Fellowship

By


Government Medical Officer
The Santa Cruz Mountains
Ilocos, W. I.
Internal Oesophagotomy, and the
"Oesophagotome"

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External Oesophageotomy and the Esophagostome

Introduction remarks.

In compiling this 'Thesis' I have had recourse to the anatomical and surgical works, and to most of the monographs &c. mentioned in Part I.

Special attention has been paid to the descriptive and surgical anatomy of the human neck, and a description of the anterior triangle of the neck has been given as far as the oesophagus is concerned in it. The operative method of oesophageotomy as performed by the old method by direct incision into the oesophagus has been described at length.

Several tracings of plates taken from out of the works by the Authors referred to, showing the important structures of the neck are introduced for the purposes of ready reference.

Photographs and drawings of my patient's face and the scene he swallowed are fully represented, and there is also a diagram showing in a section of a cord pallet, which at a glance, will explain my method of performing oesophageotomy and closure of the wound.
wounds. And lastly, the "Adophogastre" is represented by a drama.
The Anatomy of the Esophagus

A thorough knowledge of the Anatomy of the Esophagus is of the greatest possible importance to the Surgeon. The first portion of the alimentary tract in so often the seat of impacted foreign bodies, disease, and structural alterations; therefore a more knowledge of the anatomical relations of the tube, with those of the surrounding tissue, is not sufficient, indeed, I may say, that such a caution as the Anatomy of the Esophagus, possessed by every surgeon who is about to operate and it, would make that surgeon a dangerous person.

The Surgeon should be thoroughly acquainted with the Anatomy of the Esophagus, its relations to other vital tissues surrounding it, its arterial, venous, and nervous supplies, as well as with the structural conditions of the tube. I shall not attempt here to transcribe verbatim of my own on the Anatomy of the tube, but confine them to what has been so well described in recent and foreign Anatomy, and Medical Practical Anatomy, to which Authors my readers are referred in a verification of...
What I have to say on this subject.

The esophagus or phlegm. commences that portion of the alimentary tract which takes its origin at about the upper border of the celiac entalcalagy of the thorax, opposite to the intervertebral disc between the fifth and sixth cervical vertebra, and passes down the neck, in front of the cervical vertebrae. It wind through the thoracic cavity, it is in the abdominal cavity at the cardiac orifice of the stomach, in which it commences opposite to the posterior intervertebral disc between the tenth and eleventh thoracic vertebra. It is a tube about seven feet in length, consisting of an outer mucous membrane, a middle muscular coat and inner coat. It has a numerous coat of mucous membrane. Its caliber varies much at its commencement and as it passes the cavities of the body, through which it passes to its destination into the stomach.

It is surrounded behind the pericardiac pouch.

And postero-basal in the thoracic cavity, just where the left pulmonary branchless crosses the esophagus. (2) And lately the esophagus is constructed just above its diaphragm.

(1) see Fig. 1 p. 140
(2) p. 142
(3) p. 143
The trachea and its cartilages are C-shaped and extend from the cardiac end of the esophagus through the cricoid cartilage, esophagus, and trachea to the sternal angle of the thorax. There are therefore three points of constriction of the esophagus, between each of these, and between the last point of constriction of the esophagus, the esophagus, and the trachea. The trachea is usually narrowed or constricted, but it is sometimes rounded with a small cavity. When empty, it is said to be Seventy seven feet; at its greatest diameter, it becomes doubled, and as a consequence, the sound of its pressure. The trachea varies from Eighteen to Twenty-four inches in length. The trachea of the esophagus is so fine and delicate, but it possesses three distinct curvatures throughout, which are corresponding to that of the cervical and dorsal vertebrae. (2) 

1. The larynx index. - Place the larynx in the middle line below the cricoid cartilage, it deviates to the left side, as it descends to the root of the neck, then to the right; as the cervical vertebra, it gradually assumes the median position; it then deviates again to...
As it passes through the diaphragm it turns abruptly towards the left side to enter the thoracic (6). (7)

The Anatomical Relations of the Oesophagus.

These may be conveniently divided into Cervical, Thoracic, and Abdominal.

1. The Cervical relation. That portion of the Oesophagus extending from its commencement at the inferior surface of the pharynx and below the cricoid cartilage, down to the upper surface of the first dorsal vertebra (1), would truly represent the portion of the tube contained within the oesophageal mouth, and it is that portion that I desire to describe under the head of Cervical relations. The Oesophagus is in close relationship with the anterior surface of the Cervical vertebra on which it rests, as well as with the Longus-Solli muscles (2), (3), (4), (5)

In front the Oesophagus is in relation at its commencement directly with the Trachea, but as it descends it projects to the left of that tube,
to the extent of about 2 quarts of air inside, although it still has the Trachea in front (v), (v).

At the angles between the Cervical and Trachea, on each side of the neck, are the recurrent laryngeal nerves ascending on the front of the Cervical. The Asphygeus then comes in contact with the left side of the Tracheal floor and at the lower part of the neck, with the Thaerieal aort and contains carotid artery (2).

L laterally, the Asphygeus is in relation with the Carotid carotid arteries, seen on the left side, as the tendency of the tube is towards the right side.

2. The Thoracic Relation. — That portion of the Asphygeus which extends from the upper surface of the First dorsal vertebra, where the Cervical portion of the tube ceases, down to the level of the Seventh dorsal vertebra, where it bends forward to pass through the Asphygeal opening in the Thoracic cavity, I propose to term the Thoracic Asphygeus. At first the Asphygeus is intimated to the right of the median line of the Body (4).

At these descends behind the left side of the aortic arch, down into the posterior mediastinum, along the
The right side of the chest, below its lower third, close to the diaphragm, it passes in front and slightly to the left of the aorta, before it piercing the diaphragm and entering the abdominal cavity. It is successively covered in front by the lower part of the transversus, the right subcostal artery, the anterior aorta, the left crus, the right subcostal artery and the left subclavian artery, the left recurrent laryngeal nerve, the left vagus, and the left brachial and the posterior surface of the pericardium. 

Below it rests upon the vertebral column, the transverse colli muscles, and the posterior vertebral vessels, and opposite the second dorsal vertebra the thoracic duct passes obliquely downward from right to left behind the esophagus, the vena cava, the vena azygos, the major (slightly overlapped) the right vagus and the aorta, the hemiazygos veins.

Laterally the esophagus is in contact with both pleurae, more so the left one above, and the right one below. Except at the lower third of the junction of the tunnel, the descending aorta lies to the left, and the vena azygos major lies to the right and behind of it. The vagus nerve lies close
Close contact with the Diaphragm occurs from its phrenic nerve passing down behind the aorta, and the left nerve proceeding gradually to the front. The phrenic's chief from about the middle dorsal vertebra, then in the aorta, and in the diaphragm, descends on the left side of the aorta. The diaphragm is a transverse muscle, the left pleura lies close to the left side of the aorta, while the aorta is in the posterior mediasternum. The right pleura is in relation with the right side, and the diaphragm is behind it. Just before the diaphragm it is in contact with both pleurae.

2nd. The Abdominal Relations — That portion of the Diaphragm extending from about the level of the tenth dorsal vertebra to the lower border of the same vertebra should form the abdominal Diaphragm. That portion, since the diaphragm is a transverse muscle in that structure that entirely surrounds it, it then lies in a septum at the back of the left lobe of the liver, close to the hiatus phrenicoli, and is invested by the diaphragm before it finally passes.
The Structure of the Oesophagus.

The Oesophagus is composed of the following distinct layers, &c. &c.:--

1st. The outer, or connective-tissue layer. This layer is firmly bound down to the next, or mucocele layer, it being a very well-marked elastic fibres in its consistence.

2nd. The mucocele layer. This consists of two separate layers of mucocele fibres of variable thickness, which prevail throughout the entire length of the tube.

1st. An external longitudinal layer of mucocele fibres. At the commencement of the Oesophagus tube the layer is arranged into three fascicules, one in front, which arises from the back of the aortic arch, at the vertical ridge between the posterior arteries towards muscles, its fibres spread on each side of the gut, as they descend, and blend with the descending fibres of the lateral sinuses to form a continuous layer around the tube. And one at each side, which are continuous above with the inferior constrictor of the pharynx. Some accessory fibres
of circular fibers joining between the Phrenic and Pharynx where it covers the Phrenic nerve; at the root of the leaf, branches, the back of the Pericardium is covered by the Mediastinum, have been described as existing by Dr. Cunningham, they are really anatomical peculiarities, but of importance value in operative procedures.

1. The outer circular layer, of muscular coat of the Pharynx, take a slightly oblique course but as they approach the lower end of the tube, they become more directly longitudinal.

2. The internal circular layer of muscular fibers.

At the upper end of the Pharynx this layer of fibers, is separated above by the fibers of the lateral longitudinal bands, and they of the inferior constrioters of the Pharynx. The direction of the fibers is circular at the upper end, and at the lower portion of the tube where both the longitudinal fibers and it becomes continuous with those of the oesophagus, that towards the center of the tube and between those two points the fibers are oblique.
Characteristics of the Muscular Glands.

In the upper part of the Oesophagus, the Muscular Glands are not easily discovered, under the microscope, absolutely of striated muscular fibre. They are generally replaced by plain Muscular Fibre which can almost the only one to be found in the lower part of the tube, but a few Voluntary Muscular Fibres are very often seen, the found at the lower end.

In some animals, in the cow for instance, and these animals which chew the cud, these Voluntary Fibres are visible from end to end of the Oesophagus. Physiologically their actions are manifested when the animal chews the cud, the Bolus of food being caught and conveyed up the Oesophagus to the mouth of the animal by these muscles.

3rd. The Cervical or Anterior layer. This is situated between the Muscular and Muscosous Membranes, layer, and connects them loosely together. It is very much thicker than the Muscosous Membrane, and contains the Muscosous glands which open in the Muscosous membrane.
The mucous membrane, a natural layering of the esophagus. It is a thin texture and white, of a reddish color at its origin, and pale below, but is more an olive than that of the Pharynx and Stomach. It is thrown into longitudinal folds, or ridges, which disappear when the tube is extended. From its loose connection, its inner surface is freely movable on the muscular layer of the esophagus, and this freedom of movement of the mucous membrane was what really attracted my attention and led me to perform the operation of Amyotomising in the manner that I shall hereof to describe.

The surface of the mucous membrane abounds with minute papillae, and the whole is covered with a thick stratified corneal epithelium. Beneath the mucous membrane, and between it and the circular tissue, is a layer of firm muscular fibers, which are arranged longitudinally and called the "muscularis mucosae". It is nearly acting about at the commencement of the tube, being only represented by a few scattered bundles, but lower down in the course of the tube it forms a considerable
Structures.

5. The pharyngeal glands. They are very numerous, and are small compound lacunae, or tubulo-lacunar glands, scattered throughout the tube, and in the most part seated in the submucous tissue, especially numerous at the lower end of the tube, where they form a ring round the cardiac orifice. A few of the smallest ones are situated in the substance of the glands, often upon the internal surface of the mucous membrane by a long secretory duct usually surrounded by mucous membrane. The cells of the glands are columnar.

6. The Bloodvessels of the Pharynx.—

The Bloodvessels of the Pharynx have a longitudinal arrangement, and there are separate networks for the supply of the mucous membrane and the muscular coat.

2. The arteries. The arteries of the pharynx are derived from the inferior thyroid branch of the Thyroid artery of the Subclavian, the descending thoracic artery, from the abdominal artery, the left Inferior Phrenic and coronary of the Stomach. The Pharyngeal arteries in the throat form a longitudinal course, one small the ridge.
And they are sometimes together.

1. The veins of the Oesophagus. These join to the superior thyroid, thyrogloss, and cerumen of the stomach, and the submucous veins at the lower end of the tube form a few common or terminal veins between the portal and systemic veins, and in case of obstruction in the lumen, become dilated.

2. The lymphatics of the Oesophagus. They stand united in the submucosa. From their capillary placentas, lymphatic vessels are found both in the submucosa and mucous coats of the gullet, those of the latter commencing, as in the mouth and pharynx, within the Raphe and fuse to the superior deep cervical and posterior mediastinal glands. Lymphoid tissue is present and may be accumulated into lymphoid nodules especially in the neighborhood of the ducts of mucous glands.

3. Fat lobules of the Oesophagus. There are met with in the submucosa, and have a capillary plexus of vessels.

4. The Nerves of the Oesophagus. These are derived from the pharyngeal, cervical, and sympathetic, and they form a fasciculated plexus between the two layers of the muscular wall of the organ.
The muscular coat differs in the arrangement of its several portions of the alimentary tract; it is characterized by the coarsening of the large size of the ganglionic cells, and also of the non-medullated and large number of medullated nerve fibers that it contains. The non-medullated nerve fibers are distributed to the smooth muscular tissue. The medullated fibers are distributed to the striated muscular fiber.

The foregoing facts are important to the surgeon, and I shall now resume with the anatomy of the organs and proceed to consider a description of the structure and their relative positions in what is known as the 'Acetabular Triangle' of the neck.

In order to reach the organs and to perform the operations of dissection, it is necessary to have a correct knowledge of the several nerves contained in the Acetabular Triangle, which are the:-

- Acetabular Nerve of the neck, which forms the anterior border, extending from the sympathetic trunk down to the sternum, its posterior border is formed by the anterior border of the sternum.
Sterno-mastoid muscle, its apex is below at the sternal notch, and its base is formed by a line extending from the angle of the jaw to the mastoid processes. 2) The description is of course the superficial portion, as it can be defined on the living subject with the rectum in position. On removing the outer and superficial fascia, the platysma, the superficial layer of the deep fascia, and the superficial vessels and nerves, the space will be seen to be divided into three smaller triangles by the anterior belly of the omohyoid, the stylohyoid, and the posterior belly of the digastric, muscles, and the body of the hyoid bone 1).

2. The first of these triangles is the inferior cardiac triangle, which is bounded as follows—

Anteriorly by the median line leading from the sternal notch, posteriorly by the anterior belly of the omohyoid muscle, inferiorty on its junction into the hyoid bone, and by the sternomastoid muscle. The apex is formed at the sternal notch by the junction of the anterior margin.
of the Sterno-mastoid Muscle with the median line. This Triangle is covered by the subcutaneous superficial fascia, Platysma, and deep fascia intermingled with some of the branches of the superficial cervical plexus; underlying these structures, are the Sternohyoid and Sternothyroid muscles, which with the anterior margin of the Sterno-mastoid Muscle, conceal the lower portion of the Common Carotid, which is enclosed within its sheath, in company with the internal Jugular vein and Vena Cava Gastrica superior. On the left side of the neck the vein passes directly across and overlaps the artery, while on the right side it lies on the outer side of the artery; the Vena Cava Gastrica superior lies between the artery and the vein as a plane just above the Sheath. The front of the Sheath can be seen pleurale, descending from the loop of communication between the descendens and circumflexus Hypoglossi; behind the Sheath can be seen the inferior Thyroid artery, the recurrent Laryngeal nerve, and sympathetic nerve, and at its inner side lie the Trachea, the Thyroid Gland, and the lower part of the Larynx. By displacing
The sternomastoid muscle, at the upper part of this space, the common carotid artery may be tied below the Omohyoid muscle. The floor of this space is joined by the Longus Collis muscle below and by the Spheno-cricoid muscle above, between which muscles the vertebral artery and vein will be found passing into the foramen in the sixth transverse process. And there may also be seen in the floor of this space a small portion of the Nucleus capsitis anticus major. (180)

20. The Superior Carotid Triangle. This space is bounded behind by the anterior border of the Sternomastoid muscle, below by the anterior belly of the Omohyoid, and above by the posterior belly of the Digastric muscle. It is covered by the investing, superficial fascia of the neck, the Platysma, and deep fascia. Its floor is bounded by the Hyo-phyoid cartilage, the Hyo-ideal bone, the Hyo-phyoid membrane, and Thyro-ideal, the space, with the Sterno-ideal muscles, the Hyo-plenus, the middle and superior constrictor, and a small portion of the Hyo-phyoid muscle (184).

1. See Fig XI. Add.  Map 148
2. " " IX "  146
3. " " X "  149
It continues posteriorly of the common, external and internal carotid arteries, with the submaxillary, lingual, facial, ascending pharyngeal, occipital and its petrous auricular branches, the superior laryngeal, lingual, facial, communicating facial, and pharyngeal veins; thyroidea, parotid, and submaxillary glands and vessels, the vagus nerve with its pharyngeal and descendens nervi ovis branches.

The common carotid artery, as it is seen between the sternomastoid and hyoid muscles, with the descendens nervi ovis superficiei and its pharyngeal branch, the vagus nerve being concealed behind and between the vessels, and the sympathetic nerve lying still deeper beneath them all.

The commencement of the external and internal carotid arteries will be seen at a near the upper borders of the thyroidea cartilages. And both vessels are covered superficially by the pharyngeal nerve, the superior laryngeal nerve appearing on the inner side of the carotid
Crossing behind the internal and external carotid arteries to enter the larynx through the isthmus between the pharyngeal and the thyrohyoid cartilage; between the middle and inferior constrictors of the pharynx and larynx chains, a branch of the superior laryngeal nerve (the external laryngeal nerve) will be seen.

The superior hyoid, laryngeal and facial arteries are partly visible in the anterior aspect of the space. And the occipital artery is seen turning backwards below the digastric, with the hyoglossus and curving round to the sternocleidomastoide muscle.

3. The Submaxillary Triangle. This space is bounded above by the lacerina bordering the depressor mandible and the stylohyoideal ligament, in front by the median line from the chin to the hyoid bone; below by the hyoid bone; and the stylohyoid and jejunum belly of the digastric muscle. It contains: a: the digastric muscle; 2: glands formed by the carotid belly of the digastric, the mylohyoid, the stylohyoid, and the middle constrictor. It contains parts of the laryngeal and facial nerves with their submental and submaxillary branches, the submaxillary, the salivary and sympathetic gland.
lands, the hypofacial nerve, and the mylohyoid branches of the superficial temporal vessels and nerves. (b) and (c).

1. See Fig. under Name 148
2. See Fig. XIII ... 149
The surgical anatomy of the Human Oesophagus.

Preparatory to the introduction of an employed instrument, if any of the teeth of an instrument into the Oesophagus, the left hand of the surgeon should be first placed and then introduced into the patient's mouth, and the edge of the instrument, in which case the patient's head should not be thrown too far backwards. Having then ascertained the position of the teeth of the pharynx, the instrument to be inserted in their place, beyond the Pharynx until it reaches the back wall of the Pharynx; the patient is then asked to swallow, and in the effort of doing so the instrument passes gently onward.

It often happens that foreign bodies are so firmly imbedded in the Oesophagus, that they cannot be withdrawn, nor is it easy to force them down into the stomach by means of instruments; in such cases of course, recourse must be had to excision; or the extensive inflammation, abscess, and ulceration of the tisue will occur, and eventually penetrate by the foreign body into the heart and vital organs.
...some which occurred to the Operatores. Throughout its Course, the more formidable results, may follow, such as, Eclampsia, 
Duellent Oesophagitis, causing the hoarseness, 
Dience of the cord, ulceration of the Esophagium, 
And Death by Starvation.

The following are the diseases stated to be 
Apprehended, when foreign bodies are impacted 
in the Oesophagus tube, such as: inflammation 
has been collected from the various surgical 
books and publications mentioned under the 
head of "Past and Present Literature of 
Oesophagotomy" and appended to this 
Thesis at Page 78.

1. In one case Intussusception took place into the 
intestinal canal substance. And the life of the patient 
was lost by inflammation of the mucous and 
substance of the spinal cord. (1). On the other 
end many be surrounded from Intussusception 
through it (2).

2. Argent petra a case (3) when Laryngeal 
Apneas occurred from retention of foreign body

(1) Ogil, Grace, Math. Soc., Lond. 1853
(2) Macalpine J. cit. Vol IV. p. 192
(3) ib. cit. P. 431)
3. Wundrath notes an instance where an abscess was formed.

4. The body may pass through an abscess, thus causing a perforation in the esophagus, and through its way into the cardiac surface of the heart; but it often happens that when the foreign body has been removed without spontaneity, or by operation elsewhere, that the abscess closes; or, the other hand, if the abscess is located in the anterior surface of the esophagus, then perforation may take place into the trachea, in which case the body will pass into the air tubes, and most likely death follow by perforation, or death occur by exhaustion from secondary inflammatory conditions thus produced in the air passages. But the body may pass through the air passages without serious injury to the trachea and cause

---

a Broncho-esophageal or a Tracheo-oesophageal
prostula.
5. When the foreign body is lodged very
superficially somewhere, it is in danger of
producing acute lesions, and obstructions.
Remarks: Although it has been observed
that in the frequency of such cases the
body is usually pressed against recovery,
and then if course the cicatrization ensuing
in the Broncho-esophageal tube produces a hard
enlargement in the lesion, but the dangers of
malignant growth are not necessarily confined
to the Broncho-esophageal itself, for they may occur
in consequence of extension to the heart,
pleura, etc., and principal
blood-vessels, of which the following cases cited
are sufficiently exemplary (6:9).

These incisions have sometimes occurred
as
2. Erichsen's memoirs and art of surgery Vol 2
3. Lavacherie's memoirs sur les corps étrangers
de l'osophage (Memoire de l'Academie Royale de
Medecine de Belgique 1848:
5. Poult. Op. cit. p. 120 p. 91
As early as the third day after the accident (1) A fairly accurate idea may be formed by the analysis of the statistical series of thirty-three cases of blow perforation into the bloodstream by bullets. Here we find that in nineteen cases out of the thirty-three the central axis, interrupted, in three of the cases the left carotid to the main aorta and the right carotid and one each into the inferior vena cava, an abnormal right subclavian, the pulmonary arterial and the aortic arch arteries. In two of the cases the arteries were not determined or in one case each, the right coronary and aortic arches being seen punctured. The primary perforation of bloodvessels can vary race (2) but their an immediate, few cases of primary perforation involving the aorta caused by a pointed bone and a sudden protrusion (3). And in both instances death was produced in almost directly after the injury.

6. Death may be caused when the body was near being perforated, by Schraupin (4); (5) —

(1) King, Trauma, path. Soc. Lond., vol. iv. 1853.
9. Lobrot in his clinical surgery (p. 323, 1833) gives an instance where a bead caused perforated oesophagitis and enteritis. (1)

8. Some of the oesophagus may occur (2)

7. 'Some of the pericardium; it soon became subcutaneous. And fatal pericarditis followed. (3)

10. The patient may die in a delirious condition from inflammation when the foreign body has not been removed or diluted (4). And then what do not actually occur may become much reduced from the presence of the foreign body, Evans relates a case in the Lancet of 1839, 2nd. 45, in which a goldplate, with gold teeth attached, was removed in the osophagus by the surgeon.

(1) Price, med. Week, 9, 20, 1846.
the patient being deposited, it was practically ejected by vomiting. A case is recorded when a bone remained impacted in the esophagus for nineteen years after lodgement. (1) Polette cites a case (H. Masson) where a bone of fish was also ejected during a fit of coughing, fifteen months after the impaction. And the same authority cites another case (Jean Thierry) where a bone discharged by vomiting after nineteen years remained in the esophagus. The patient recovered from the impaction but remained stenosed. The bone was also ejected after the impaction.

Yet, the foreign body may not be suspected or be ejected by the patient, and the medical man treat him for phthisis or malignancy of the esophagus rather than cancer.

(1) et de autres maladies, s. e. si. T. XXXVIII. p. 260
(1) Castellan on Trench, bei de Mead T. XXII.
Having completed a description of the changes occurring to the presence of foreign bodies impacted in the Oesophagus, I shall at this stage give a list of the class of foreign bodies which have been found in that organ whether temporarily lodged in it or impacted bulky, or in numbers, whether the result of accident or of the act of swallowing a missile, from incisors or counted matter themselves, or unintentionally lodged, and the concealment of coins, jewels or despreckets, or suicidal. Acts of crime have slipped down the throat with the alimentary canal and become impacted in the Oesophagus, some incised, others unincised, and some, needles, metal, accidentally, as matter too large for descent by the natural effort of swallowing. Of extraneous bodies the following table taken from The International Encyclopædia of Surgery, Vol. VI, is explanatory.
The General Rules of Inspection of Foreign Bodies in the Oesophagus.

It is necessary to state, as an established fact, that in the Oesophagus canal near its Calibre contracted in the distinct junctions, than in the whole length, do at least foreign bodies are more likely to be impacted than in any other part of the canal. The seats of construction are:

1st. Opposite to the Oesophageal Valvula, or the Magnaepigastic end of the Canal (1).
2nd. In the Thoracic cavity just where the left Sternum Branches cross the Oesophagus (2).
3rd. Just above the Expansion of the Oesophagus into the Cardiac and as it enters the Thorax and passes through the arch to the Oesophagus within one and one half inches (3).

In manipulating the Oesophagus, the surgeon must keep well before him these three precedent natural constriction in the tube, and the relation of them to adjacent structure.

(1) See Figure under page 142.
(2) Fig. V 143
(3) Fig. XIII 144
He should also recollect that at each part of the process, there are clearly connected to the osteoporosis, some of the most critical times of the human body, to which the very slightest remedies produce so great an effect in extracting or dissolving the foreign body. Many causes occur primary or secondary results. But at every part in the course of the osteoporosis, suppuration may occur by epidermis of bone, and jagged substances become entangled or embedded in the mucous lining.

The acrifying causes to the lodgement of foreign bodies in the osteoporosis—

1st. Loss of teeth.
2nd. Paralysis.
3rd. Injuries of the facial and labial muscle.
4th. In the muscles of the tongue, soft palate, the pharynx and the osteoporosis.
5th. Affections of the inflammatory nature.
6th. Pressure on the osteoporosis from without, muscles of the mouth, tongue, pharynx, esophagus, epiglottis, larynx, and the neck. Delargy cervical glands, joint and bone, muscular
The By-chances in the Coasts of the Oesophageal Gastro-oesophageal reflex is a common cause of ulceration in the oesophageal wall. The ulceration in such cases being brought about by the individual's independence in swallowing liquids for meals, of frequent use the careless habit of putting foreign bodies into the oesophagus in all such cases, owing to the Constitution, the superficial layer becomes more serious.

The oesophageal ulceration is a very serious complication indeed to the surgeon to baffle against in the case of an unsuspected foreign body. And I shall briefly describe the different forms which will be most likely encountered.

1. Superficial ulceration - This variety is not constant but intermittent and in various forms. The oesophagus is therefore of an intermittent nature.

2. Fibrous ulceration - This variety is constant, and one that will engage the serious atten tion of the operator; it is due to recalcitrance after injuries, such as the swallowing of corrosive fluids, vitriol, aperient, etc., accidental, as by

by the injurious habit of swallowing salivating waters.

3. Malignant Structure - As its name implies, it is usually of an Eruption mass nature, and forms another barrier of important complications to the operator. Such structure are usually formed at either end of the Cervical Trachea, but they have been also met with in the trachea just where the left Bronchus comes in.

4. The preposterous Constricting of the Wind, or neglect in the removal of large fragments from the Wind.

5. False Pride, or a dirty habit, if I may so term it, in persons sleeping with Gulstafth in their accents, instead of removing them before retiring to their beds at night. There are instances on record where Gulstafth have fallen in the crevices, whilst the individual was portly of a meal, suddenly slipped down the throat and been inhaled in the Daybreak. On the other hand there are cases, some say to say, or record where Gulstafth never have administered any treatment to Rectitude, but at the time.
had a fits of palpitating in their mouths, and
which got dislodged, passed down into the
Oesophagus and were impacted there. In
infecting such a state of matter, one cannot
but regard it as from paroxysms
and ignorance, amounting almost to
culpable neglect, in administering the
Anaesthetic to such a patient without doing
at first removed the palpitating from the
Patient's mouth.

The Symptoms of Oesophageal Obstruction
They vary considerably according to the nature
of the impacted body, the position in which
it is fixed, and the state of the Oesophagus
itself. In some instances large pieces, bones
and other bodies take up such a position and
become so impacted that no characteristic
symptoms of their presence is manifested,
and not until rapid death by Herniation
from Penetration, after a slow admitted
process has been going on for a length of time
through the Oesophageal walls into the aorta,
is often accompanied with vomiting, it is brought to
light by a Post Mortem Operation (1) (2)

The recent symptoms are dyspnea, which is most of all manifested when the respiration is mechanically suspended; but when disturbed by various reflexes, the dyspnea is equally manifest in respiration. A sense of suffocation, dysphagia, dysphonia, dyspnea, often lead of surprising death, great irritability, pain in the neck, thirst, or in the abdomen of the stomach, and brochial oppression; paroxysms of movements are noticeable in the lower jaw, and extremities of the body, and in the jaw sometimes, they amount to almost that of a tetanic reaction; faucemacia, dyspnea, paroxysms, hectic, and death by tachicardia occur.

In the patient, expectoration, vomiting, and retches, are blood may even profusely come from the passage; consequent on the foreign body being forcibly impacted in some portion of the tube, or refer its displacement; and passage into the stomach, on the expulsion of it through the mouth, there is usually cessation of the nervous symptoms already mentioned, but not always so, for the body of the patient that the whole of the body has not been removed, or that another foreign body may
be lodged in the trachea or esophagus, well marked, and hence the occurrence of retching as to the location of the body are not always to be relied upon. Esophagus denote the existence among persons only a sense of discomfort indicative of perforation as a distinct, or undiagnosed perforation of the esophagus; whereas, a large body, regular shape, will promote retching and perhaps its expulsion in the effort. In cases of immediate retention of the foreign body in the esophagus we have those symptoms occurring to themselves, which are characteristic of inflammation, suppuration, and even perforation of the esophagus.

Some foreign bodies give rise to special symptoms; in substance, stones, teeth, hair, blades, and the like, are apt to give rise to pitching sensations, and sometimes will cause the esophagus, when the body is retained in it, irritation, and large doses obstruct the passage of food.
The Diagnosis of Foreign Bodies in the Oesophageal Tube...

This is not always a certain matter from the history of the case, and the examinations described by the patient may be deceptive; or the history may be wanting in children, lunatics, and suicides. Oral inspection alone, with an oesophagoscope is usually of much use, although MacKenzie mentions a case in which a flat bit of bone was detected two inches below the cardiac partition in the anterior wall of the oesophagus.

Ascultation of the oesophagus is of little or no use, nor in prognosis of foreign bodies in the oesophagus.

External examination may detect a foreign body high up in the oesophagus. Large bodies may cause obstruction of the guttis in the neck, so that the inspection can be clearly seen. Exploration with the fingers through the mouth may detect a foreign body high up in the oesophagus. Above this, one has to be careful in distinguishing between the feel of the edge of the pharynx and that of a piece of needle, fishbone,

forks, hooks, or the like. The operator, instead of detecting the presence of the foreign body
and in determining its density by
laying an empty sound, a flexible, wholesome
rod, tipped with a cone or the Peruvian Metallic
knife, which gives a slitting sound as it strikes
against the impacted body. For this purpose a
special resonator has been invented by
Duplay and patented by Colton, provided
with a sounding box and an exhaust(1)
It is a very accurate instrument and in one
instance actually recognized a coin in the
tube which had eluded all other means of
diagnosis. Any instrument used in exploring
the Arthropharynx should be graduated and the
sound of possible passed down into the stomach.
A foreign body may pass detection as the
Arthropharynx owing to a collection of mucous around
it, or secret food (2) and (3).

A fragment of a second brother of six the
Arthropharynx of a Maggla was not detected
until it was revealed at the post mortem
examination, and then it was found penciled
behind.

(1) Frij A. Page 49
(3) Seguier, 'Dict. Encyclopedique des Sciences Medicale,
and, 'Arthropharynx,' p. 515.
Beheld a fold of the pericard membrane in
which it had been poutet.

The faringing methods of exploring the carphage
for diagnostic purposes may be performed
with the patient recumbent, sitting
on a chair with the head well thrown back.
Now to bring the axing, the mouth and
pharynx as nearly as possible in a direct
line with the carphage. But when it is found
necessary to the extraction the patient in
order to explore the carphage, then the head
should be placed in the recumbent posture, with the
head below the level of the table, or couch, on
which the patient lies, so that the mouth,
pharynx and carphage are thus brought
into the same plane. Sometimes errors in
Diagnosis may arise in locating the body in
the trachea, and then performing a needless
section on the

(1) Deinert a averse, t. itb. p. 260
(2) Deinert's manual on the practice of surgery, p. 145. (1852)
instance a patient suffering from suffocation was supposed to have Swaroom of the air-passages and was treated accordingly, when it was afterwards found to be due to compression by a foreign body in the Oesophagus. (1) The introduction into Modern Surgery of the Stenograph in the diagnosis of these Foreign bodies impacted in the Oesophagus which can be stenographed to advantage is of very great assistance to the Surgeon in formng a correct Diagnosis, and in the location of the Body (2); (3)

(1) Cavedini - Bell de la war Anatomique, p. 174, 1872
(2) J. W. White - Annals of Surgery of August 1876, p. 338
(3) J. C. M. Roy - Med. news., N.Y. 1893 vol. LXXII.
The Prognosis in Cases of Obstructed Respiration

This is usually favorable when the foreign body has been promptly and carefully introduced. It will be seen, however, that the operation has been promptly and completed, and, indeed, will be the more so if the foreign body has been retained for any length of time. Inflammation, suppuration, ulceration, and at necrosis formation with penetration from rough hair and twisted substances, render the prognosis uncertain and more grave.

The ultimate effects of a foreign body suspected in the Oesophagus are death by suffocation from pressure on the Trachea, or others, or from when the foreign body is firmly lodged in the Pharynx, or death may occur from irritation of the Esophagus, causing paralytic of that organ. Inflammation may set the foreign in by nature bodies, or it may occur from accretion or impregnated by nature of the Oesophagus from the detrition of a foreign body, which may become

Permeability
In a healthy body, the alimentary tract (1) is often the site where foreign bodies may remain for years. The foreign body often causes no symptoms or discomfort. Occasionally, it is expelled, and foreign bodies pass into the alimentary tract as if they were swallowed. 

Sometimes, these foreign bodies become encysted, and they may cause abscesses on the surface of the body and be discharged with the exudate of the abscess, or be extracted through the openings (2). Sometimes, the abscess may communicate with the trachea, the bronchi, the pleura, the lung, the mediastinum, or the pericardium. When subjected to foreign bodies, the alimentary tract, after being obstructed from the alimentary tract, passes through the whole alimentary tract and are voided at the anus. Some of these bodies may cause ulceration of the alimentary and intestinal tract.

(1) Monte, Insekt, in Kühne's Handbuch 2006. 1875
(2) Cohn, Bever of the Mount, in 317, 1879
(3) Poulet et al., in Nantes
Tract, with the formation of an abscess within the peritoneum, on the peritoneum, and the peritoneum of the intestines of the body they become discharges (1) seen at the Bographic.(1)

1. Neptune's meanders, an encounter given to which three different substances, swallowed by the same individual, emerge through a many abscesses, at the right and left Hypophyseal, and at the Renal region, respectively (2).

2. Hypothetical, as leading to produce multiple lesions of a serious nature, these may seem penetrate the Tendons, the pleurae, the pericardium, the posterior surface of the heart, the interventricular septum, and the left coronary vein, and thereby cause sudden death (3). A fishbone may penetrate the Oesophagus, the pleurae, and pericardium, and around the surface of the left ventricle (4). But the fishbone and itself has been surrounded by penetration

(2) Memoires sur le Corps Etranger de l'Oesophague, Paris 1848.
Through the intercalated disentanage (1)

The Treatment of Foreign Bodies in the Oesophagus.

Surgical Authorities on the subject of foreign bodies in the Oesophagus are all agreed on the general plan of treatment, which is forcible suspension or a curettage. Although I entirely differ in my views from those gentlemen, I shall content myself at this juncture to withhold my objections to many of these methods and instruments employed by them in the treatment of suspected foreign bodies in the human Oesophagus, until I have first given a description of their system of treatment.

It is the acknowledged principle that when foreign bodies are suspected in the Oesophagus, they should be promptly removed. Sometimes deportation of them takes place spontaneously, or during the effort to swallow liquids, or solid food, or by shifting the patient on the back whilst in the act of swallowing, or by introducing the review, or the pharynx thus causing sickness. If all ends...
Domestick measures should fail, then it will be compulsory either to detach the body, or retract it with instruments; or binding such measures, to resort to the more severe operation of Perforation. But the course to be adopted will necessarily depend upon the nature of the body, which can only be determined by means of the sound and the surgeon's fingers.

In a suitable case, if the patient can swallow, vomiting may be encouraged by the administration of digestible drugs, or, if it be impracticable, then the drug may be injected Hypodermically, or even injected through a Catheter, which has been allowed to pass by the side of the impacted foreign body into the Stomach. (1) One tenth of a grain of the Hydrolate of Ipecacuanha will be found enough for an adult. If, on the other hand, the body is irregular and unstable in shape, then under no circumstances must vomiting be induced, as the emetic measure may remove all the body become more seriously impacted. It has been recommended

(O. Nokel. Arch. T. Klein, Chirurgia. 1862)
That when a coin, or any such substance, is lodged in the upper part of the oesophagus, the patient should be laid prone upon a table with his head supported over the edge by an attendant; the patient is then introduced sufficiently far enough back into the throat so as to draw the tongue forward in order that the retching produced may force the body out of the oesophagus. But if the method fails then the plunger must be injected with peristomal acid, and the instruments used for the purpose are the Horsehair Proctomy.

Fig. 1 & 2 page 49, Proctomy with Spunge at one end and a Plunger at the other end to catch coins, &c., Fig. 4, 5, 6, 7, 8, 9, &c. Elastic Proctomy, Fig. 5, page 49 and the Acuphoresis Horaces, Fig. 7, 8, page 49, and Fig. 3, page 49
Fig A

1. Horse Hair Probing Closed.

2. Horse Hair Probing Open.


5. Elastlastic Probing.

6. Probing with Stilson.

7. Acrophageal Forceps, box joint, blades opening from right to left in the oesophagus.

8. Acrophageal Forceps, blades opening anteriorly.
Whatever the instrument is that is going to
be used, it should first be warmed, and
then cold. And as Longensheath recommends,
the patient should be made to swallow
some oil, or salt should be forced down
with the sponge.

With an ordinary form of forceps, a body
not far from the esophagus may be
removed; or by the hooked or jointed
forceps, Kaim's forceps, and Bagni's flexible
loop of strong silicon wire and the force.

Caries can be removed with Gruntz's oscillating
or round basket enucleator, or with a ridge
enceleator. A sponge Jackson may be
inserted beyond the body fluid made to
remain at rest until the sponge is dry,
and then withdrawn, and to sweep the foreign
body before it in its withdrawal. The
Horsehair Jackson (Harwood, and others), when
used, should be introduced closed, right
beyond the refractated body, when it is opened,
by pulling on the handle, so it is withdrawn
it sweeps the esophagus and entangles
any object which it encounters in its
withdrawal. Both the sponge and Jackson.
Jackson's Procure Driers. &c. or rubber obstructions inflated with air or water have been employed, but in their use the greatest skill and gentleness should be employed. Should the second Carotid present any obstruction to their withdrawal, these then movements should be pressed gently against the back wall of the Pharynx. Sternotomy is dangerous & unpleasant, they sometimes are tightly caught in the mucous membrane of the Oesophagus, and give additional trouble in extracting them.

(1) And even Oesophageal Thrombosis have been performed on account of their rectification (2) with a fatal result, following (4).

In the use of the Oesophageal Forceps, the mucous membrane of the Oesophagus is often bruised in the base of the Forceps, or even lacerated to such an extent as to cause much difficulty. There are Two Kinds of Oesophageal Forceps, one in which the Blade

1. Wocher, Soc. et Cie, 1876. 2. Lelong, Soc. et Cie, 1876. 3. Wocher, Soc. et Cie, 1876. 4. Leprize, Soc. et Cie, 1861.
of a naturally occurring type in which they open anteriorly (2) and I may mention a third variety to be seen in Holmes's system of Surgery, Vol II, Page 525 (3). The foreign body before being employed should be incised and forced gently through the tissues with thin blades, closed and used as a probe and sound, the blades should then be opened and the foreign body seized and withdrawn with clear care. If the foreign body be large, to be safely extracted in bulk, it has been suggested to fracture it in the foreign and remove the broken into pieces, and be passed down into the stomach by an alligator.

And certain authorities have gone the length of suggesting that lettuce might be practised to advantage, and more particularly when the body is in the thoracic portion of the osphageal. All such operative procedure, in the adult, should be done without complications, but in children, whose cases should be bound to their sides by a broad bandage, and in nervous adults, anti-stretch are necessary. In the case

(1) Fig 7, Page 49
(2) Fig 8, Page 11
(3) Fig 3, Page 11
of inestible foreign substances, a

There are, of course, along the
intestinal tract, the practice advocated is to
Gently force them down into the stomach. Deco-
substances should not be forced down into
the stomach, since Esophageal perforation
result; or the pleura may be penetrated with
fatal consequences. (1) Moreover, the cecum has
been penetrated and danger of death followed.

It is interesting to observe that whilst
dentist works with teeth, legs, safety pins and
jets have passed safely through the rectum.
(2) Yet in a case mentioned in St. George's Hosp.
Rep., 1869, p. 219, a copper coin caused fatal
death. 

It is advised that when metals are used, the teeth
are in the thoracic portion of the esophagus and
cannot be extracted, that the phrase of "the lesion
of the lesser of two great evils" should be practiced
and that the body, instead of being allowed to
remain in situ and produce fatal consequences,
should be removed.

(1) Kernmeyer, Handbooks der Chirurgie, 3, 334.
Adelskamp, Congress of German Surgeons, Berlin 1872.
Should be forced through the stomach,
according to the nature of the foreign body so
special Methods in the extraction of it follow:
(1) A perforate in the occipital portion of the
scalp with the help of external instruments.
(2) The Jacon (3) Means of meat have been perchled into the
stomach, and lacerated to relate one case in which a
mass was extracted by the Jacon (3). Hutchison have
been extracted by sliding a slit bullet along the line to
engage the point of the bullet by gravity, and
then piercing it with the shot (5). Or the hoock have
been removed with a need attached to it, to protect
the mucous membrane from laceration in their
withdrawal (4). Need a similar object has been
accomplished by framing a large bullet along the
line to force the bullet by pressure, and then drawing it
within the instrument (5). Op ex lead bullets need
the nature wire dropped clean into the Chinophores
have removed an impertinent bone. Should all these
Methods fail then the last resort is to lay open
the Chinophores from without.

(1) Befung return to the literature on this occasion.
(2) Berlin Med. Dec 5 1876
(3) Berlin, Med. May 5 1870
(4) New Med. Ocean, Mar. 1871
(6) Yaun. 1872
Asphyxotomy

The removal of foreign bodies, protruded further the Osophagus by making an incision through the walls of the canal, is what is known as the operation of "Asphyxotomy," and it is the very last resource, which the surgeon has to adopt, in order to save his patient's life. But the operation is not always performed in cases where foreign bodies are in the pharynx, it may be performed for the structure of the tube, or for tumours and stricture.

In making an incision into the Osophagus there are three distinct methods to be observed.

1st By external incision in the neck from the integument straight down into the canal, as what is called External Asphyxotomy. And here I may mention a modification of this operation, viz. what is known as Asphyxotomy through the tegmen, in which the incision is made through the integument and the two incisions are brought together to encourage union by just intention, or as near as possible, and the occurrence of stricture, but in the case of Asphyxotomy the cut edges of the Osophagus are stitched to those of the other, so as to establish a fistulous opening through which...
While a feeding tube is inserted and the patient's existence prolonged, and by making an incision into the esophagus from within its cavity, gradually through its walls, as in the pleural structure of the tube and thereby facilitate subsequent aspiration. The operation known as External Esophagostomy will be performed.

3rd. The last method is what is called Combined Esophagostomy, by which the external incision is utilized to afford access to a cutting instrument within the esophagus as previously described under the head of External Esophagostomy.

Before the reader can the third group of operations on the subject will engage my attention; although I will have occasion presently to suggest the adoption of my method of opening the esophageal tube as applicable to the third, or "Combined Esophagostomy." But as I have previously stated. My object is to deal with the joint method, or that which is known as External Esophagostomy.

This operation was suggested by Verneuil (1), but it was not successfully performed until the

[1. Pathological Surgical, T. III. 854, 1043]
Year 1938 by Cousneaud (1), and in 1848 it was
recently advocated by Van xceurm (2). Since
which time the operation has been repeatedly
performed with satisfactory results, although
the mortality, when run into consideration
the number of operations that have been performed
in the annals of surgery, is still high. In the
year 1857, Kocher (3) gave the first series of
important statistical information, which
consisted of 120 cases. And in the year 1874
Ejgloff (4) brought Kocher's statistics forward
with a collection of 15 more cases, reaching a
total of 135 cases. And he showed that the death-
rates under this operation rose at 24.4 per cent.
In the Med. Rec. ov. 27, 1877, Vol II, Page 330-334,
Dr. Bell Briggs, Ejgloff's statistics forward with the
addition of 82 operations, making a total of 217
up to December 1877. Of these 22 operations, 13
were performed in America, 10 in France, 8 in
England, 1 in Germany. Of these 5 proved fatal.
Of that of the 167 cases operated on and recorded

(1) Cousneaud, Mwr., de l'Acad. Royale, de chirurgie. J. H.
(2) Mwr., de l'Acad. Royale de Med. de Belgique 1848
(3) Deutsche Zeitschrift fdr chirurgie. 27. Jg. 97.
(4) Beratüge klinischen chirurgie. 12. 143.
The death rate was reduced to 22.5 per cent. The ages of the patients were seen to vary. Of the 167 cases, one was a patient of 12 years old, one of 3 years and 2 months old, one of 2 years and 3 months old, and one of 5 years and 9 months old. The periods of the operation varied: 46 of the cases were operated on within the first three days, 74 within one week, and 46 of the cases within one month. Iglffen enumerates 25 different articles that have been ingested, in the Breslauers. Of these, 62 per cent are represented by dental plates, 30 per cent are metallic, 5 of the remainder, at least 10 are of such materials as would likely be recognized by photography. Of Dr. Wirth's record of 32 cases, 17 cases were dental plates, 9 of them 13 received and 4 died, 6 were living.

D. T. Stony was cutting, 1 a piece of bone and 1 a molar. Since the record up to December 1847, eight more operations have been successfully performed, and by including the one performed by me on the 18th October 1850, which forms the subject matter of this paper, then the total number of cases of Brophy's stones up to December 1858 will be 176, and the mortality will stand as near as possible at 22.00 per cent. It is very interesting.
interesting to observe that the mortality was
lowest during the Clinical Period of ancient
history than before it. These are, therefore,
the very little reason to doubt that the difficulty
of the extraction and the unpalatable progeny
attributed to Bouncing Storing by Bounce of
the Old School, are referable to depletion
matters of to six other causes.

The length of period from the extraction of
the foreign body in the Oesophagus, until its
removal is very variable.

In this view, in reference to another article on this
subject that has already been made, one article
appeared in the Lancet for the year 1891, Vol.
Page 779. Says that he had found that the
longest period of extraction of a foreign body
in the Oesophagus and removed successfully
was 3½ years in a child, and the
body was a Copper Half Penny. Since that
time S. G. Bickell extracted an impacted toothbel
of 6 years and 4 months duration (1)

No. 2. p. 66.
The location of the foreign body in the Esophagus is an important question which should engage the earnest attention of the Operator, and for this purpose the various perciplcs and graduated jetblings must be passed into the gullet before the commencement of the operation. Now that the operation is at our disposal, and more particularly in those cases of Esophageal obstruction, where the foreign body is likely to be entertained to advantage, then it should be most carefully employed, in order that the Surgeon might be fully equipped with the necessary means to succour the sufferer, and remove that might arise. There are really some very interesting cases on record on the location of the foreign body by the Ethigraph, which it does more clearly than can be estimated by the Surgeon. In the Accidents of Surgery, August 1896, p. 233, is recorded a case by Dr. J. W. White, in which a Jazeb stone lodged at the bend of the second and third dorsal vertebrae was successfully removed by means of forceps, After an X-Ray Exposure, in another case operated on by J. C. McEady, an account of which appeared in the Med.,
Nov., 7th, 1878. Vol. XXII. The patient of the rejected attempts had been made with scalded, etc, to locate the body, and prove carefully, was subjected to the X-ray exposure, which distinctly showed the foreign body. In that case a tin whistle, lodged superficial in the mechanism of the back about 1 inch above the spinal vertebra.

Before the operator proceeds to perform the operation, the next step is to see that the instrument case is supplied with the following instruments and appliances.

Perfectly clean and in good order.

- Forceps, Tongue Forceps, Cephalic forceps, and Extraction Forceps, Morrean forceps, scapel, blunt-pointed suction, retractor, thump, cork stopper, artery, and forceps, forceps, dissecting forceps, long-bladed toothed dissecting forceps, scissors, needles, needleholder, periosteal elevator to assist in removing the foreign body, American needle, looped and blunt hooks, probes and protegenda, Acetone, Acetone, Acetone, Acetone, Acetone (probes), and tubes. Three or four bits of copper sheet, electroplated, 12 inches in length, 1 x 1/2 inches, six inches, and 3 1/2 x 1 inch, which will
will be formed to be very useful during the 
 stages of the operation by the use of retractors
 being made of copper, they are easily bent to
 meet the sudden unexpected coming of the
 course of the operation, by way of sufficient
 retraction to the adjacent tissues without injury
 to them; in fact when the sheath of the
 cervical bloodvessels, and the left lobe of
 the thyroid gland and Trachea are reached.
 the use of these broad copper retractors is
 indispensable, serving the double purpose
 of retraction and protection to the accidental
 surrounding of these parts. The artifice
 drainage tube, and very "Brochingotite",
 a description of which I have previously given
 in these, selle, calgot, silver wire,
 bismuth, cotton wool and lint, sterilizing
 lotion, medicated wool, moraccic acid,
 iodin, surgical acid and other antiseptics
 dressings, chloroform, and cocaine
 with a hypodermic syringe and needle.

It is to be remembered that the operation
 is more easily performed when the foreign
 body is impacted in the cervical portion
 of the Esophagus, within the two first thirds
included, between the upper and lower
Hyroid arteries, for it is true that the two
sides of the plicae are readily separable
from each other, allowing a wide space
around the plicae and manipulation of the
surgeon(s) below them. Point the bifurcation
attaching the operation progressively increase.
And more of the neck be short and fast,
 Sic consequent to the close proximity of the
carotid sheath to the pharynx and
ascending aorta. And the consequence narrowing
of the two and whose sides are joined
respectively by these structures. Indeed
under circumstances a full sized bronchus should
be introduced through the mouth and
forced against the tube so that
it can be felt externally as a guide to the
operation. It will be found to be a better
diode than a pair of curved forceps, or a
sound, or special sound as is usually
recommended. Or even the sound with
projectile lance to pierce the tissues through
to the outside (1) Bond mixture of
Cine referred to by Beirond, by desoud
and others. Some sounds an armed

(1) Key RK page 116
With Jœglecher's means to reach the wall of the
jelly vacuolously forwards retrogradumophagy of
bassa herbeianus (Steller Eozypagos tenus
Reiss, 1780 cited by Michel). A telescopic
tube, or even an ordinary metallic or even a
flexible boracic, serves the purpose quite
well. It is well to understand the mobility
of the oesophagus in the direction, its axis
which is certainly most remarkable. It can
be pulled up to about 1/2 inch from its
thoracic attachment, so that a foreign
dbody, or even a structure below the mucous
in the neck can be got at by pulling up the
oesophagus from the thoracic cavity.
Method of Performing the Operation of Aosophageotomy. —

Three different lines of incision in the neck have been recommended by eminent authorities, which are as follows:

1st. Begin, preferred to make the incision parallel to the trachea. This is a more peculiarity of doing so, since it is really anyone traversing the anatomy of the human neck, in which the structures may be an oblique direction, coming at the root of the neck, nearest to that a parallel incision in part of the question, and very likely to avoid the superficial vessels and nerves, which might have escaped injury in the oblique incision of the lateral method, which is generally employed. But, besides this, there will be, from the constriction of the neck, more traction of the parts required to expose the oesophagus.

2nd. Nicholson advises that the incision be made in the median line as in tracheotomy, he then cuts through the isthmus of the thyroid gland, expose the oesophagus.
backed and to the left of the Dacca, I
must say this is a hazardous and difficult
method, and more likelihood of injuring
the recurrent laryngeal nerve than in the
lateral method.
3. The Lateral Method, is the method
by which either
The selection of the side of the neck on which
the operation should be performed, will
greatly depend on an internal and external
examination of the neck, so as to ascertain the
situation of the foreign body, or any other
circumstances indicated otherwise; For on
the side of the neck on which the body
extends nearest to the side on which the
incision must be made and directly
over the projection; should the foreign
body not project more in one side than in
the other, then the left side of the neck is
certainly to be preferred, entirely on account
of the fact, that the surgeon's left hand can
be thus advantageously brought to bear
upon the larynx, Tasch, and by and
body, forcing the minor side of the structure,
and covering theullet towards which the
operation
Operator has to make his way with his knife but on account of the left lateral access of the breast, you must in the back of the breast, a position that it occupies just at its origin, to occupy more on anterior position in the center of the breast.

The two great practical points in the operation are:

1. The isolation of the central chest to the outside, leaving the operator to work in Approach forwards, the bullet in compression.

2. The immediate arrest of hemorrhage by tying every vessel, whatever artery or vein, with one, thus avoiding the extravasation of blood into the cellular tissue.

The position of the patient during the operation. The patient should lie upon his back with his shoulders slightly elevated. He should be placed close to the edge of the operating table, with his neck, shoulders, arms, and chest bare. Adenomas may or may not be visible during the whole time of the operation.
As early during the first stage as the
dysphagia has been opened, when Dr. Winder
suggest the use of cocaine, with the
discontinuance of the chloroform, and
particularly so if the patient has suffered
much previous to the operation. The patient's
cheek should be drawn up, and the head
turned towards the right side. Be at first
the left sternomastoid muscle on full
stretch. The surgeon then standing upon
the side on which he is to operate, and
having previously ascended the junction
of the precord cuticle and superficial vein
over the crus, an incision through the skin, platysma
myoides muscle, and the branches of the
superficial cervical nerve commencing
at about the middle of the inner border
of the left sternomastoid muscle downward
and upwards towards the sternal noticle to
the extent of about 3 inches or less. He
he divides the deep fascia along the anterior
border of the sternomastoid muscle, along
which border a communicating vein between
the facial and the anterior jugular may be
met with. The edge of the sternomastoid
muscle
Muscle is then divided and the base of the parts relaxed by raising the head, when the muscle is drawn upwards by the retractor. The depressor of the tongue which swells come into view are then drawn upwards. When the pterygoid muscle will be observed which it may be necessary to divide near the pterygoid bone as recommended by Béjat; if not the muscle is drawn downwards. The pterygoid fascia, which is firmly blended laterally with the sheath of the large cervical vessels, is now divided. The vessels are drawn downwards at the junction, the junction of the artery should be felt fou, which will be found very mobile slipping to and fro under the fascia. Should the fascia be friable; the cervical artery may present the character of a flat cord. The internal jugular vein lies here beside the artery, stands large and thick, and can be readily surrounded. Therefore every care should be taken to avoid doing so. These vessels, along with the vagus, vagus, recurrent nerve are contained in what is called the cervical sheath or
Joyce of the deep cervical fascia. At this stage of the operation these vessels, along with the glossopharyngeal nerve, are to be drawn outwards towards one of the broad electroplated copper retractors as recommended by Mc. The direction must now be carried on cautiously with a straight blunt-pointed dressing, the blade of which should, as much as possible, be turned towards the parotid sheath, and the cutting edge towards the Thyroid body and Trachea, the direction being directed backward.

The patient's head should now be raised slightly by two or three rubber colds of the joints, and the larynx of the deep cervical fascia be divided along the outer edge of the Sterno-thyroid muscle, then the capsule containing fascia of the Thyroid gland is to be opened if a lobe of that gland be in the way, the loosened lobe of the Thyroid gland is next to be drawn upwards and downwards, so as to expose the Trachea, beneath which will lie the Areolar tissue between the course of the Superior and Inferior Thyroid arteries upon the anterior surface of the
Vertebral column will now be seen. The
Tensor Collis muscles, aid crossing it transversely
behind the common carotid artery is the large
professor Wharton artery, which, if found, satisfying
with the progress of the operation, will have to be
divided. Between two ligatures passed by an aurochsen
noodle, the pieces Coloured, is seen off then.
The recurrent laryngeal nerves will be seen
ascending along the groove between the Trachea
and the Esophagus. And should it be necessary
at great they be drawn downwards and
succeeds with a new cut lanced in.
Should the Esophagus be in a collapsed
condition it should be carefully opened
between two pairs of forceps, and then
opened at some little distance from its
junction with the Trachea by a series of
successive nicks in the longitudinal direction
recommending by Bell. Or it should be
expanded with a stinger, or olive-shaped
instrument, and an succession of about muscles
in length made directly through the walls on

(1) Institute of Surgery, Vol. II. p. 301. Lond., 1838
The incision so recommended, practically separates the sternomastoid muscle, and the covered sheath with its dependences on the one hand from the tongue, pharynx, the trachea and the oesophagus with the thyroid body and its superficial muscles on the other. And it should be remembered that in such an incision, the structures which cross it, in its length and depth, as the Platysma, Nigrolearis muscle, and superficial cervical nerves, the Omohyoides, muscle, the muscular filaments of the Descensus Linguali, muscle, the posterior auricular, and inferior Thyroid arteries, both of which arteries it may be necessary in the course of the operation to ligature and cut across. It is therefore manifest that a very considerable longitudinal incision can be successfully made into the Oesophageal canal without Janet or future detriment. In operating on the Childs Oesophagus, however, it should be borne in mind, that the ligament of the Thyroid gland is attached to the Thyroid bone and should not be injured.

(1) Fig D new page 149
in the drainage having been made in
the manner described, directly through
the walls of the tube, and the foreign body
of not too great depth with the greater
distance directed into the canal through the
pericervix, removed by forceps, the closure or
membranes of the wound in the drainage
and not will not engage the surgeon's
attention. On these points, according to my
opinion, the surgeon of the Old school thought
at least not to close better wound, but to allow
motion to close them by itself. Whilst the
surgeons of more modern times think
apparently, some surgeons, like Lidwell
(1) advise that the mucous membrane should
be stitched with catgut and closed, and that
the external wound in the skin should be closed
with silk at its upper end, whilst others
secure with Karacic acid, or a drainage tube
should be inserted down to the external wound
of the drainageway, down to join went to cloe
the latter, which being sutured from the wound
down the drainageway. The water removed in the

As it is most absurd with a stomach, and a
Bronchial abscess, and a weak bowels of pils.
And at first been allowed that under such
Treatment primary union occurred in two
Cases. The jejunum during the term was continued
by means of De Morgan, and the occasional passage
of the feculent fluid into the stomach by which
Removal of the abscess was found. Some surgeons
advise that to pass the tube down into the stomach
not only to a little beyond the opening for the
Duodenum, and at stated periods for cleansing,
Eating, through the month or more. These are
Others who advise that the tube should be
Withdrawn and retained in that position from the
Hour of the operation until the Duodenum
wound was cicatrizid. Among these, who are
Offered to the closure of the wound, advise
That liquid food should be given through the
Stomach from the very first, even of small, if no
Defecation by the wound. And that external support
During defecation by a compress, will materially
Reduce the escape. M. T. A. Southea
Affirm from acid surgeons, and advice retaining
of the muscular coat of the Duodenum (1) Provided
The

The edges of the wound are clean-cut and free from bruise. In cases where the
penetrating wound is at or near the vertebral column (which is always more
troublesome in the thoracic region than in other parts of the body), and by January
recovering, the incision of the muscle may become
expected and thus interfere with the healing
of the fracture. But primary union is not likely
to take place of the bony jagged edges from them
penetrated. Wound and speculated. This view is
supported by a consideration of cases recorded
where the foreign body was removed from
Dean Norton, Ann of Trinity (1837)
McGreer, Jan 1856, May 29
Coleston
Jewett 1857, July
Ann, Ann of Aug. 1858
where the foreign body was removed through the
mouth, primary union proved unsuccessful.
In three cases (Long, N. Y. Med. Journ. 1886
Jr. 503; Lukens, C., Journ. 1886,
primary union did not take place.

Reconstruction may be looked for between
a fortnight and a month after the operation
as a rule, but sometimes it is delayed until
the end of two or even three months.
After treatment -

The administration of food may be carried out in two ways:

1st By anterior Dacronate or Suppositories.

2nd By the direct introduction of food into the stomach by means of a soft tube passed through the recumate or nose or the wound in the neck.

If Dacronate can be retained they are to be preserved, thus avoiding the irritation caused by passing a tube into the stomach, as well as the contact with the wound of food repugnated by the stomach.

During the difficulty of obtaining primary union, even of the Oesophagus be sutured, and also of maintaining an aseptic condition of the wound and consequence of the escape of saliva, through it, free drainage should be provided for by leaving the superficial wound partly open and by inserting a tube which should reach down to the opening in the Oesophagus. When there is a copious exudation, the wound should be syringed out with some aseptic or hot saline solution, and the dressings changed frequently.

The plan adopted of allowing the patients to swallow small quantities of warm acetic acid

Lotion
Lotion is useful, in the greater part of the Jewish eruptions through the wound and in the way thoroughly irrigated from the bottom; it palliates thirst when once begun. gum or resin is being given by the mouth. The wound is thereby kept sound, and thereby there can be no tendency to secondary suppuration. A frequent complication of this eruption, indeed, which is always liable to be attended by serious results, —
The past and present literature of the oesophagus, jaw, and nipple.

Of foreign bodies impacted in the tube, the extraction of foreign bodies so impacted, either by means of instruments through the mouth, by what is termed the extraction method, or by what is termed oesophageotomy.

The well-known text books of anatomy, surgery, and the medical publications in the journals with respect to the surgery of the oesophagus mentioned below really represent what I consider the most important in thoroughly grasping the anatomy and surgery of that important portion of the alimentary tract. And what I have most care studied on the subject of this thesis.

My object in doing so is not only one for accumulating facts in recording

here the prominent results and monographs,

but that it might, in after, serve as a

ready reference to any readers on the

medical science of the oesophagus.
The sources of Operative Anatomy, and Surgery are threefold:

I. Text books on the Anatomy of the Oesophagus.

II. Text books on the Surgery of the Oesophagus.

III. Articles and abstracts in the weekly, monthly, quarterly and annual Medical Journals with Retrospects and John Ocean.

I. Text books on the Anatomy of the Oesophagus.

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42. Asfaygotomía en forjera con los dos toros. 

43. Asfaygotomía en forjera con los dos toros. 

44. Asfaygotomía en forjera con los dos toros. 

45. Asfaygotomía en forjera con los dos toros. 

46. Asfaygotomía en forjera con los dos toros. 

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The examination with Photographs and Sketch of the Patient showing the incision that was made, at present represented by a scar in the skin, and the foreign body that was inserted.

Case - Henry Frequent, aged 25, a labourer, residing at Westhead on the Santa Lucia Mountain of the Island of Dominica, consulted on 11 June, in the 18th of October 1880, for difficulty in swallowing.

Present History. From boyhood he had acquired the habit of forcing food, and often gagged by the large masses he would swallow without them being "stuck" on his throat.

Recent attack. At seven o'clock on October the 18th he had returned home from a hard day's work, and began to eat his dinner. And that while in the act of swallowing a lot of stewed pork, which had been cooked for his dinner, a lot of the flesh, as he called it, had slipped past his mouth, and got down into his gullet.
in jest lay the Keig River, and prevent
in swallowing fluids: that his relations
had made several efforts with the handful
of powder to free one of the globs, but had failed
as they could not reach it, and that they
had even given him frequent mouthfuls
every five minutes to swallow, and had seen him
get up to four times a day down into his
throat. In the course of getting the lungs to
pass through; they no sooner had the water
and oil been swallowed than they returned
again through his mouth.

Condition on Examination. In Physical
Appearance he was that of a well-built
black man, about 6 ft in height, strong
and muscular, a long neck and a high
mouth with bad teeth. 
He was nervous,
your tongue, eyes bulging, sectaries conjunct,
a jadex in the head and near of deafness,
faltering trembling from his mouth in quantities
most times running a watery groaning mucus
strangled with blood, temperature 98°; pulse 89
; inclination to vomit; a feeling of suffocation

(1) Photographic of patient signed ARS X Mitchell X RVIII 9-133
From a glance behind his bridgepier, a
sensation of uncertain and dull pain in the
left side of the mouth, just above the breadth
of the cheeks. The bowels and coeliac to
breathe frequently. He could not see how
extended, or recognizability. Intensified
pain at a spot within the corresponding to the
fourth cervical vertebra, and followed by
a degenerate action of the fluids through
the mouth and the nostrils. Pressure at this
spot caused pain, and the feeling of a large
and rare impacted stone, about the size
of an ordinary walnut. I auscultated the heart
but no sounds were elicited from it, to lead
me to believe that it was an auscultation
Diagnosis. "Pulsating Prolapse Jokes,
Tremors, and Rumbles."
with a
Elasticated Artificial Cystitis, all of
which failed to ease the body. To arrive at the
conclusion that any justifiable statement,
that the sensation had been caused by a bit
of meat, was not the correct one. And that
it was more like a bone, or some such
substance, than anything else, which
had resisted against the body of the
patient.
The cervical sinuses and could not pass beyond it: The respiration in the Cricopharynx being in most part of the tube corresponded to the upper margin of the recurrent cervical sinuses, which project on the left side.

Progress: If the man be allowed to remain in its present posture, passing already severe symptoms, death may ensue.

Conquainted the patient, and his friends who had come along with him to my consulting room, of this, and advised that the respiration be speedily removed.

Operation: After making a complete and satisfactory examination, I attempted to extract the body through the neath, in the dehiscence at, and near, it down into the hollow. I applied the Cricopharynx straps in which the blades open in the centre. The blades directed, but they seemed to be settling under, as the central blade, when the von temperament was opened, tends to a shorter slip in a straight direction than the central, I must tried the Cricopharynx straps in which the blades open in a lateral direction. And
and recommended by Dr. Linton and Mr. Syme, but found that I could not get the blades between the body and the oesophageal wall in order to set up the good grip, the folds of the mucous membrane interposing. Occasionally I did lay hold of a bit of soft matter which came away with the forces that on occasion seemed to be exerted there, still the impression remained. I made an attempt to dislodge the bone, and to pass it down into the stomach; but I was unsuccessful.

I then assisted the effort by bringing the patient's chin slightly downwards, and with the thumbs and middle fingers of the left hand grasped the left sterno-mastoid muscle, and the right side of the tongue. As I rid the oesophageal from beneath and drew it forward, whilst with the right hand holding the pylorus through the mouth and pressing firmly upon the foreign body, so as to slide it over the surface of the body of the stomach, but all my efforts were fruitless; and as the patient had, at this stage, a fainting
Attacked with cold sweat, I proposed to the
abed my friends that they should allow
me to perform the operation of "Duod.bzting",
which they readily agreed to.

The patient having been placed on a couch
with his side facing, and being close to
the edge of it, and just passing out of the
first stage of chloroform into the second
stage, his shoulders slightly elevated, and
with his eyes and head turned towards
the right side, roan to first his sternum and
turning on the left side of the neck on the
stretcher. The other of the neck having been
thoroughly cleaned with a solution of 1-20
carbonic acid, and all of my instruments
soaking in a solution of carbonic acid of
the strength, standing on the same side
of the patient's bed on which I was about to
operate with a straight blunt-pointed
knife, one of which the sketch in the middle
of the paper which I used in performing
the operation. I made an incision here

Knife used in performing Duod..bzting.
makes long extending obliquely along the anterior border of the sternocleidomastoid muscle at a point on a level with the lower clavicle, down to within three quarters of an inch of the sternum notch. The other, superficial fascia, platysma, digastric muscle, superficial bloodvessels and branches of the superficial cervical nerve were cut through, then the deep cervical fascia was next cut level the edge of the sternocleidomastoid muscle exposed. The patient, at this stage was under all but one of the effects of chloroform, which was soon again administered to bring it up to the operation. Head was quite completed, then head was raised and chair brought to the left side, so as to relieve the tension of the parts. A broad electroplate copper retractor was then applied to the edge of the sternocleidomastoid muscle which was drawn outward, as one retractor was applied to the depressor of the tongue, the platysma muscle was drawn downwards with a hooked force, during this procedure the fingers of my left hand frequently played
With the curved blood-ducer, clasp on opening the Thyroid capsule, with a series of quicks, with the back of my finger turned downwards, the curved sheath of the blade piercing the Thyroid capsule, the left lobe of the gland was exposed, drawn upwards forwards, and to the right, along with the vessels by a retractor; a circular surface. With a retractor, now placed over the cervical vessels and nerves, and curved upwards and to the left. All tension of the parts having been relieved by raising the patient's head, my dissector, arterial retractor, then came into view between the attachments of several very tortuous blood-vessels, which turned out to be abnormal branches of the superior Thyroid artery, whilst the superior Thyroid was smaller in size than usual. I found it impossible to reach the thyroid at the stage of the operation. Clasp not inserted. Had ligature with double ligature. Three large branches of the superior Thyroid artery, clasp cut them between the ligature. Had also to cut and clasp with ligature of arterial a similar number of veins. The arteries, however, stuck.
With this desire, I then entered the Esophagus, cut its orifice, and, at the projecting point, where it was much engorged, in the groove between the Esophagus and the Trachea, the mucous membrane grew. With my thumb and forefinger, as previously described, I fixed the Esophagus, and tried to force the foreign body up into the Pharynx, but without any result. I had occasion to observe that during this effort, the portion of the Esophagus impacted ascended up into the Orifice to the Detest of 1/2 inch, sustained by forcing up the Esophagus towards the Pharynx. Whilst the Esophagus impacted remained in the mouth against the foreign body, it was then acted at the orifice of the Esophagus, and after the Esophagus and the foreign body had returned to their normal position, the foreign body, still resting on the foreign body, it moved again out by it.

The incision into the Esophagus—

Attracted by the results of an Esophagogastrotomy which I had performed on a cow in the month of September 1879, which animal had been choked by the incarceration of a piece
Green orange in the Asylum (all attempts with the probang and blunt of the abdominal gasous distension by an incision into the bladder having failed) which operation I had performed by opening the lot by the direct incision so recommended by all recent authorities that had resulted in a permanent structure and a fistula that admitted a good sized goose's quill, and showing the goodness of movement of the muscular coat of the Asylum over the surface of the muscular membrane, considering the practice of direct incision to be the wrong one I determined to open the bullet by two separate longitudinal incision as follows —

1st. Letting the bullet now with the foreign body firmly fixed in it, so as to bring a much of its posterior surface, which rests on the anterior surface of the ventral column and the structures on that surface, permanently into the wound blind incision just suggest, that in all such efforts, the less means of the thing, and the more durable with one's purpose. (see letter) I then proceeded to the suitable-means.
Sceps and clamps more than the mucous mem

brane and retract it forward and to the right with a blunt looped forceps. And then, made an incision of about one inch in length into the mucous membrane on the projecting Groningen body.

Half an inch anterior to the incision, and parallel to it, that I had made in the muscular coat, I next passed three

a longitudinal incision 1.7 inches into the walls of the gallbladder through its muscular coat only, on its posterior surface, and through three medium-sized teeth. Carved them out just through the posterior edge of the incision for the Groningen that they would escape as such from the opening of the incision. And I brought the ends of these directions, armed with separate needles, carrying as long loops of traction, over to the surface of the patient's mouth. Replacing the tongue

in the incision that I had formed it in before the operation, and strategically in that incision; with the aid of a flat blunt probe, and

a few gentle strokes with my knife, I

exposed the muscular coat from the

mucous membrane and retracted it

forward and to the right with a blunt looped forceps. And then, made an incision

of
price lacerated and ligated cut out. Notice through the anterior margin of the incision, and the instrument of the sound. The incision then made sure as arranged that the center, in muscular, forward, the same or muscular membrane, leaf, similar to the flap of an ordinary straight-edged envelope. The foreign body was then gently removed with a pair of ordinary dressing forceps, and I found it to consist of the Patella of a Regal by that had been stored, 15 inches in length, its greatest breadth was 1½ inches, and the mean 1¾ inches. And it weighed 162 grains. Not now that it has been

Accompanied of all tendinous and cartilaginous attachments, cleaned and dried, it measured 1½ inches in length, its greatest width is 1¾ of an inch, and 43 of an inch

width and weighed 78 grains.

The portion of the bone as it stands is supported in
the supraperos, was with its long axis lying across the
Canal from right to left, its articular surface was
turned forwards towards the phalanges, and its
inner rough surface with tendinous attachments,
were turned downwards towards the variceous
Cavity, so that they were actually cutting in the
Dorsal angle opposite to solide key hold of (1) I

Examined the interior of the joint with my finger,

Pulling it up and

(1) See Fig. XV, page 134 and Fig. XVI, page 135.
and down, so as to form an idea of its mobility and general structure. I observed that on the right side of the canal, where the perforation had occurred, the mucous membrane showed signs of ulceration in patches, evidently the result of previous erosion, and that the wall of this gallt was not resoluble at that portion as elsewhere. The body of the seventh cervical vertebra was very prominent more so than usual to be expected, and which had no doubt increased the downward progress of the foreign body assisted of course by the constant erosion of the mucous lining of the gallt joint described. By subsequent observations at post mortem examinations that I have made, I must record the fact that amongst the negro race in the area, and those炯炯 who carry heavy loads on their heads, that the body of the seventh cervical vertebra is more prominent anteriorly than otherwise; I found that the origin of the gallt was at a point midway between the lower surface of the body of the fifth cervical vertebra, and the upper surface of the body of the seventh cervical vertebra, the perforation being.
Below this point. At this stage of the operation, I passed a gridding tube through the mouth, down into the stomach, having previously coated that portion of the outside of it, with the large edge tissue carbolic acid solution 1½ inches above and ½ inch below the upper and lower ends of the incision into the mucous membrane, thus wetting a Band of your linen cordage around the tube, into which I rubbed in powdered boracic acid until it became smooth. The surface of these slunged and carvical wounds having been dusted with boracic acid, I next proceeded to bring the edges of the cut mucous membrane together by through three fine catgut sutures, as recommended by Dr. Lister, that were armed with needle and hanging from the wound, through the incision edge of the mucous, which were then tied by a series of double throws of the sutures as shown in Fig. 17, page 136. This I adopted in view of the ordinary procedure, in order to approximate the outer surface of the mucous membrane, and the inner surface of the muscular flap, which immediately closed.
Closed view it, as much as possible. The clearance of the resectional flap was effected in a similar manner, only the subject was a little larger size, and the details were

**Page 136**

The little ligatures of the inferior phrenic vessels which had been cut during the progress of the operation, being all collected at the corner end of the resection and brought out on to the surface of the wound. Each ligature being tied at its end, from its reagent each separate vessel. I closed the cervical wound with three silk sutures as shown in figures XIX and XX.
I treated him every day, sometimes twice a day, beginning on the first month with a mixture of 0.2 gram of chlorate of potash and 0.1 gram of acetic acid to the ounce of water, which he also used every four hours or very abnormally. By the first 48 hours a certain amount had taken place in the middle third of the water content, and to the extent of one inch, I emptied off the tube from the stomach for an hour or two, and concluded that portion and found it in a condition similar, perfectly intact to the stomach, with the still eugenic of acetic acid only imbedded in its effervescent tissue. I applied more acetic acid to the surface and replaced the tube in the stomach for another 48 hours, when I removed it again and found that portion of the caustic had dissolved and had disappeared from the surface of the tube, the remaining portion of the caustic to all appearance was intact and fresh. Being convinced that primary remain in the esophageal wound had taken place, I gave my patient a glass of stiff brandy and water to drink, which I judged without reference to any difficulty, or without any feeling of
Jain was lying out of my reach at the foot of the precipice. As a precautionary measure,
I removed the tube with the output that had been soaking in carbolic acid, rinsed it
in the Koranic or Hudson stream in the first instance and returned it into the
hermetic jar. I removed it altogether, gave my patient breath to resuscitate him until the 8th day,
when the capsule of a kettled joint of grief, boiled
mutton and milk, swallowered as heartily as
he had ever done in his life before. At the end
of the 8th day of the operation, I cut
all of the tube section in the main wound
which opened for 1-2 inches at the upper end
that afterwards healed nicely by granulations.
On the eleventh day all the ligatures in the
vessels had come away. And the wound was
healing quickly. I did not return to see my
patient after this last on the twenty-second
day after the operation he called to see me, to
show himself as he said, and to return me
his grateful thanks for all that I had done
for him. The wound had then actually healed.
My patient has never suffered from the
true that it was first operated upon, and any 
complications or complications arising 
from the operation, up to the last day that I saw 
Bain, being the 25th of November 1899, a day on which 
I very briefly gave one of my lectures which 
appears at page 139 of this thesis.

Remarks. I now proceed to a review of 
the varying points in connection with the question 
of surgical therapy as performed by me.

The old methods of procedure by direct incision 
through the mouth of the tube, and the often treat-
ment of the patient and wound, are in very 
experience the wrong ones. In the direct 
incision methods, with closure a membrane 
of the incision in the mucous layer, owing 
to the mucous glands and loose nature 
of the mucous membrane, the cut edge of the 
mucous membrane have a tendency to erosion, and 
consequently retard the union. The advantages 
to be gained by my method over the old one 
can be said to justify itself, the weaker, or more glandular, and lower mucous membrane, lying between 
the incision in it. And the lower edge of the 
incision in the thymus and outer mucosal
and connective tissue layer, is affected by
that portion of the same layer which comes the
section in the mucous membrane when the
edge are adjusted; then forming a barrier to
the escape of nasal and respiratory fluids by the
mucous in the deep layer and the much; and
that the method of adjusting the edges of the ent
mucous membrane by twisted felt and flexible
and shaped caliper cutters (Fig. 84, page 136)
supports them and wards off looseness of the
edges, with few, if any, of the
such use, the cutters tend with the usual kind
notions of necessity give more space between
the mucous membrane and muscular fibers
and which space is minimized by the
insertion of the cutters as I did. I am certainly
convinced that the cutters as the mucous
membrane are arranged by every method, and even the syringe's
quality (be that of cutout, or defect of healthy
juice) is encouraged, and therefore a greater
certainty of primary tension occurring; and that
even, if tension of the mucous membrane should
take place, the position of the muscular fibers is
such that the bad effects of tension become
trivial. In cases of inflammation, relaxation
Repression, and the loss of the gullet. Their method is impracticable, as a closure of the
oesophageal seam, in the muscular part can be
affected whilst it should embrace the channels
of the gullet. To be Bathed with
Allemandy and Foreign fluids of a
Magazine nature: The webs of postulations,
Cervical cells, and the formation of Stillks
are minimized.

Interdict the Production of Senesce by thy,
administration, as it young-nesse to bathe, or by
inserting the tongue downward to the throat, where
foreign bodies are impacted in the oesophagus,
as being most dangerous. In this act of vomiting
a proper body may penetrate one of the vital
tissues and death ensue; or the oesophagus
the body may become more firmly impacted,
in the circumstances I consider the practice is
Theoretical and a bad one. The use of the
Horse-Bain and George Fawcett's to sweep
out the gullet as recommended in Text
Books; the subject is also regressive, as they
must destroy a lot of the Cephalic vessels,
and glands of the neck; the membranes, and cause a certain
amount of permanent rigidity in the face.
The system of forcing down into the stomach all digestible foreign substances, even soluble bodies lodged in the thoracic esophagus, which cannot be extracted by the usual means, is dangerous, and these, as the cause of death, would, in my opinion, and that of my profession, might be overcome.

I conclude, absolutely, the practice advised of forcing open the esophagus and aspirating contents to be healed by starvation. It stands in reason that to allow the healthy surfaces to be united with secretions from a daily mouth, the physiological and anatomical joints for the prevention of dangerous matters, together with regurgitant matters from the stomach, cannot be a sound practice.

I am certain that the present esophagus, which occurred in a human being, can occur but have occurred of these alimentary fluids, and have kept off the wounds.

I claim precedence, therefore, not only for the method of performing this operation, but also for the cutting or the mucous membrane on the edges of the incision in the soft and loose cutis, but that I was
The first who can read out was closing
the oropharyngeal incision, having done so.

4½ years previous, to decide its publication.

My notice for puncturing the eardrilled
outlet orifice in the mucous coat during
the course of the operation, was to facilitate
their secretion afterwards; as well as to avoid
injuries of retraction during the operation.

Then puncture in the mucous membrane at the
margin, before the foreign body can be
extracted. Then done to facilitate their retraction
after the puncture of the canal, and being
opposite to the mucous memban, both together
formed junction of retraction.

For the oropharyngeal tube, corded
with ailed eardrilled outlet, I claim that it
lay directly in contact with the mucous membrane.
And in the position of the tube which was the
point of intersection, where intersection changed,
must have been going very well. Through the eardrilled
tube, served as a steady means of keeping up an
absorbent influence in that portion of the
canal. And from the absorbent properties and
solution; nature of the outlet, it formed a good
means to retain absorbent lodged against the
formed; all of which added to the happy
result of pregnancy. interest that occurred; and
is so desirable in every case of digging.

The washing out of the Lucullus cavity
in the purification of the evolutions, as then
stated, is mostly important.

The practice of introducing the tube
through the mouth at stated periods by feeding
purposes is not a proper course to pursue, as the
purposes of the tube must lead will destroy the
united mucous membrane, or possibly even
break down whatever little union there
might have between place. But very careful
feeding tube can be kept in the cough from
the very commencement with safety and
comfort, and have the assurance and
satisfactory results both to the year and
patient of the use of instillant instillants.

Since this operation in Henry T phraseon-
 accordance of June 1883 and July 1884,
I had the great luck to perform digging
on two other cases which went with a lot of
dread, and another with a green many.
I performed those operations. Exactly in the
same manner as I had done in Henry
Fenugreek's cure. And in both instances the
animals recovered within eight days.

The results, therefore, of my three successful
operations, one on Man and two on
Cattle, performed by my Method, are
compared with the one performed by me
in the cow by the Old Method, are so
encouraging that I would never attempt
to perform the operation under any other
Method. And I confidently recommend
it to my Profession.
The Acroplastite -

During the attempts of extraction of the breast impacted in any patient of Hayessellichis's goutt, experiences great difficulty from the folds of the mucous membrane, and the collapse of it into the foreign body, as in the operation of Acrophynx forepa; as to the one with the bladder, opening anteriorly, they were positively useless. To the posterioriac part of the posterioriac back of them, when the breath was opened, one as a hyphen and then the anterior, consequently they had no slipping from it. The lateral blended verge, although they deleted the cancer, could not be so and gulp the body on account of the premacular condition of the mucous membrane. Subsequently to other operation I had three cases of with some inspection that gave no considerable trouble in extraction an account of the folds of the mucous membrane. I therefore set to work to invent an instrument that could be used as a probe, sound, dilator, washer, and extractor, all combined in the one instrument, which I named the Acroplastite, of which the picture on
A true representation of the instrument

represent the instrument closed

ready for use. A - The head of a screw D.D'

which passes through the seat E, and down

the barrel of the instrument for some little

distance. E' is the seat, which is wider

at its front end, then at its center, but

at the center and the seat close and just close to

the barrel, existing of the instrument, there

being a space between them. When the head

A is turned from right to left, the seat recedes

in the direction H H'. And then the head E V T'

goes: H K the handle of the blade, and

H K' the handle of the blade, which helps the

instrument steadly. On the back of the instrument

at the back of the head, is a hollow groove,

which runs down into an opening through

the posterior blade, used along the groove.

And through the opening, a long piece of

soft csa can be placed, marked B B' X G X G.

The jaws can be detached, and can be removed

and replaced according to circumstances.

If the head A be reversed from left to right

then the seat will pass down the instrument

and close its blades. The Ardagh secto...
is graduated and has four blades. Although I saw constructing one with three blades, one
acetabular r. lens, two blades, a right and a left.

Fig. 10 shows three of the blades entered in the small extracting forceps drawing
through the acetabulum. It will be seen that the
acetabular r. lens, lower blades have a longer slot
than the others, so that when opened and
having closed on a body the grip will be
opened. The Osseous osteotome adjunct of the old
Lorenz groups being used, of the Kerrison and
Spring Silvernagel etc., and will protect that
fitting of the saw come to make sure from being
injured by these instruments if they are employed
through it. I have used and the good instance
of saving the involvement in a patient with
suspected foreign body in the Osseous osteotome.
Since its invention, but it works admirably
in the Osseous osteotome, and I recommend it to the
use of the surgeon in cases of suspicion
of a foreign body in the gut, and various cases of great
value in these times of Nazi groping.

The Osseous osteotome may be used as a dissector, at
which cut down a plane in case of Osseous osteotome
thus which the foreign body is located here.
covers the tube than when the incision is to be made. By a series of joints which I am applying to the instrument it can gradually be lengthened whilst in the mouth, and made to cut the sternum, consequently being impacted in the thoracic and deeper portions of the canal can be acted upon with the instrument, and thereby cut the change of directly puncturing such bodies. Down into the sternum, it can be substituted for all other extracting instruments to advantage. The mere delatation of the soft parts, locally, with the lateral creases, does not render sufficiency, as in the present and posterior walls, upon which the Displacement on the other hand delates, the whole tube as once and being the breast exposed, in which the calibre of the tube is brought out in full stretch whilst the incision, extracting, is engaged with the impacted body, which they bring up into the grasp of the breast of the instrument where it is closed, and if the body be then forced, something on to the Displacement walls, the Displacement is covered in the patient, whilst the extracting scores itself body can yield. Thready, and another portion of the tube delates, and so on until the body has been here translated. When the
When the upper end of the Draphegas is dilated, that portion towards the sternum at once, naturally, dilates to receive the supposed head. And here the 'Draphegite' may be found useful in relieving impurities. That only remain the section dilating room of the Draphegas to receive them.
Fig. XV represents the Rutilus a Bray/ / as it was extracted from the gullet/ of Henry Harpman, by/ Mr. Bensom, Coldeen on the 18th Oct/ 1880
Fig. XVI. Represents the Batella of a Key
Extracted from the gutlet of Henry
Menzies in the 18th Century
1890 by W. Menzies Calder. The
Bone is preserved in the Steen, Glasgow
and is enclosed in a cased in the
Declaration attached to the Steen by
Henry Menzies
Fig XVII - This painting represents a "Oesophageus".
of a case, 1, in the muscular coat showing the
application of catgut sutures, and the least
of them in approximating the cut edges of the
incision into that membrane —

2. Shows the testicles in which the
muscular coat has been excised and the
flap turned up showing an incision into
the muscular coat. The green represents
the veins reflected in the tube.

3. Shows the 2nd Edges of the incision into
the muscular coat closed, and that into
the muscular coat being closed.
Jamaica A.D.
Parish of Saint Elizabeth

I. Henry Langdon, do solemnly and sincerely declare that on the Nineteenth day of October One Thousand Eight Hundred and Eighty William Johnson Goldie Esq., Bachelor of Medicine and Master in Surgery of the University of Edinburgh and a registered Medical Practitioner in this Island performed a Surgical Operation on my neck by cutting down on to my gullet opening it and removing therefrom the bone called the Business of a Dog which I had swallowed by accident whilst Jayaking in my canoe. When the bone was removed it was found with bones but St. Helen cleared the bone and dried it. The photograph attached herewith and marked "A" is identity of Photograph of one holding the said bone by a String. The bone is marked "B" for identity and in St Helen's Possession after the operation I made a quick recovery and never suffered from any difficulty in swallowing at the time of the Operation or since.

And declare this solemn declaration conscientiously giving the same to be true, and by virtue of the
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1. Arterial Sinus
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15. Hyoid bone
16. Thyroid cartilage
17. Hyoid cartilage
18. Gr. hyoid cartilage
19. Hyoid cartilage

Fig. 184. Lateral section of the thorax of man, aged 57, at the level of the upper part of the superior mediastinum seen from above (J.S.)

3.V. Body of third thoracic vertebra; M.S. Musculi serrati; A., aorta; B., bronchus; D., diaphragm; 1, 2, 3, 4, corresponding ribs; R.L., R.Z., right and left lungs; T., trachea; T.D., thoracic duct; T.I., thymus; R., right; L., left; A.C., aorta; Asc. A., ascending aorta; C.A.V., cranial arteries; R.V., right vagus nerve; L.V., left vagus nerve; A., aorta; R.A.V., right and left vagus nerves; R.P., right phrenic nerve; L.P., left phrenic nerve; R.R., recurrent laryngeal nerve; B.P., brachial plexus.

With special thanks.

A. C. W. C. F. M.
Section of the neck at about the level of the sixth cervical vertebra showing the arrangement of the deep cervical fascia and position of successful cervical fascia. Reproduced by a tracing from Gray's Anatomy by J. Blundell.
A tracing taken from Evans's anatomy Vol. III plate 123 Fig. 170, being a transverse section of the human thorax, immediately above the bifurcation of the trachea.

U.L. upper lobe of right lung; U.P. L.H. upper and lower lobes of left lung; R.B. L.B. origin of right and left bronchi, see this represents the termination of the trachea above lower tracheal and aorta; D.A., descending aorta; D., dilated ducts of arteries; N., left recurrent laryngeal nerve; L. & S. lymphatic vessels; other letters as in fig. 170.
1. The Esophagus
2. The Aorta
3. Venae Cavae
4. Liver
5. Pericardiac part of the diaphragm
6. Fundus of stomach
7. Tubulus Spigiliae
8. Spleen
A tracing taken from Heath's Anatomy, page 628, Edition 1893, Fig. 280, Showing the Aperture of the Thoracic and the Inlet of the Cervical Spine.

**Medial Line**
1. Sternohyoid muscle.
2. Thymus gland.
4. Esophagus.
5. Recessus pharyngis.

**Left Side**
10. Isthmic nerve.
11. Recurrent laryngeal nerve.
13. Left internal carotid artery.
15. Inferior vena cava.
17. Sympathetic.
18. Alimentary ventral artery.
19. First costal nerve.

**Right Side**
20. Internal carotid artery.
21. Isthmic nerve.
22. Phrenic nerve.
23. Phrenic ventral nerve.
24. Occipital nerve.
25. Azygos ventral artery.
27. Sympathetic.
A tracing taken from Brodie's 'Manual of Surgery', to show the relation of the Digastric and its relation to the subclavian artery, carotid, vagus, external jugular, and internal jugular veins. The Thyroid, Laryngeal, and Sphenoid Nerves.

1. The left common carotid
2. The internal carotid
3. The external carotid
4. The phrenic
5. The superior laryngeal
6. The inferior laryngeal
7. The external jugular
8. The internal jugular
9. The subclavian
10. The vertebral
11. The transverse cervical
12. The transverse jugular
13. The subclavian artery
14. The vertebral artery
15. The transverse cervical artery
16. The transverse jugular artery
17. The subclavian vein
18. The internal jugular vein
19. The external jugular vein
20. The subclavian vein
21. The vertebral vein
22. The transverse cervical vein
23. The transverse jugular vein
24. The subclavian lymphatics
25. The tracheo-vascular lymphatics
26. The carotid lymphatics
27. The laryngeal lymphatics
28. The pharyngeal lymphatics
29. The cervical lymphatics
30. The jugular lymphatics
31. The subclavian lymphatics
32. The vertebral lymphatics
33. The transverse cervical lymphatics
34. The transverse jugular lymphatics
35. The subclavian lymph nodes
36. The tracheo-vascular lymph nodes
37. The carotid lymph nodes
38. The laryngeal lymph nodes
39. The pharyngeal lymph nodes
40. The cervical lymph nodes
41. The jugular lymph nodes
42. The subclavian lymph nodes
43. The vertebral lymph nodes
44. The transverse cervical lymph nodes
45. The transverse jugular lymph nodes
A tracing taken from Burde's illustrated Anatomy to show the relation of the muscles to the turtle carotid triangle.
Fig. VI
A tracing taken from Loewen's Anatomy Page 171, Fig. III. 3.
Fig. 191. Horizontal section of the thorax of a man aged 57, at the level of the roots of the lungs, seen from above (5.3).

I. 1. Superior & inferior lobes of the lungs.
II. Esophageal Branches.
A. Anterior mediastinum.
R.P.C. Right pleural cavity.
P.C. Pericardial cavity.
A.A. Ascending aorta.
R.A. Pulmonary artery.
R.P.A. Right branch.
R.P.V. & L.P.V. right and left pulmonary veins.
A.V. Upper vena cava.
Numbers as in Fig. 189.
A tracing taken from Brodie’s Illustrated Anatomy in order to show the superficial areas of the anterior triangle of the neck on the right side.

**Anatomy**

1. The sternocleidomastoid
2. The sucliatic sternocleidomastoid
3. The internal jugular vein
4. The anterior jugular vein
5. The facial artery
6. The subclavian artery of the upper limb
7. The carotid artery
8. The external jugular vein
9. The anterior jugular vein
10. The sternomastoid
11. The platysma
12. The clavicle

**Nerves**

1. Hypoglossal nerve
2. Phrenic nerve entering the pectoral
3. The vagus nerve emerging from the hypoglossal
4. Nerves from the pectoral nerve to the sternohyoid

**Vessels**

1. Subclavian, coll. 2. Ren communication with the pectoral
3. The vagus nerve emerging from the hypoglossal
4. Nerves from the pectoral nerve to the sternohyoid
A tracing taken from Deane's anatomy Vol. III. Part IV.

Page 172, Fig. 172. Being the horizontal section of a human thorax, immediately above the pulmonary valves, and the left auricular appendage.

3. Third costal cartilage
4. D. Superior and inferior lobes, lung
5. P. A right auricle. Pulmonary valve
6. T.A. Right auricular appendage
7. L. Left auricular appendage
8. L.A. Left auricle
9. B.R.E. Branches of right pulmonary artery and veins
10. B.L.E. Branches of left pulmonary artery and veins
11. L.P.E. Left pleural cavity
Other letters as in Fig. 189.