Thesis

On the Pathology and Diagnosis of
Aneurism of the Arch of the Aorta
and Iliuminata.

The peculiarities that distinguish them
from one another and from other diseases.

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in the
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-1850-
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We have chosen Thoracic Mucrism for the subject of this treatise, first, because of their importance — this will be best shown by reference to the Registrar-General's Report for 1840, in which year one hundred and forty-four deaths were returned as caused by Mucrismulitis; and in 1846, fifty-two deaths occurred in London from the same cause. In this Report, which includes the mortality of England and Wales, more than 300 deaths that occur annually are not accounted for, and Apoplexy is assigned as a cause for many of the cases of sudden death. There can be but little doubt, that many of these is called death from Apoplexy, were in reality caused by the rupture of Mitral Orifices, sudden death from the former being a very rare event.

Secondly — because much obscurity still exists in the vagaries of their Intestinal Mucrism, and though of late years particular attention has been directed to this subject (especially in the Irish School of Medicine) still, the difficulties are far from being all removed — and

Thirdly — that from having paid particular attention to these diseases (in the South and North Infirmary, Cork, under Dr. Harvey and Boyd, and also in Dublin, under Dr. O'Kelly, of whom we beg to return our best thanks) we hope to be enabled to give more satisfactory and scientific reasons. This has been
whether alone, for some of the facts observed in the study and having made it a subject of special study, we believe we will be enabled to state the diagnostic signs which distinguish amnionema of the arch of the ductus from those of the arterial lumenata, with a degree of accuracy which this part of diagnostic medicine had not before obtained.

Therefore, we lay these observations before the Medical Faculty of this University, hoping to obtain at their hands that indulgence which a junior should ever receive from his seniors.

35 Fifth Street
March 1850 Edinburgh
Thoracic Arteries -


We would define an artery as a hollow cylindrical tube, having no opening, through which flows a fluid called arterial blood, and passes through its walls to supply the various parts of the organism. The walls of arterial tubes are composed of different tissues forming the coats or tunics. The number of these coats is stated differently by various authorities. Harrison says "they are composed of three principal coats" but that "minute anatomists and the microscopist subdivide these coats, and the arterial tunics may therefore be enumerated as from a number viz. 4th, 5th, or 6th coat, etc.

Hodges describes six coats viz. the external or cellular coat, the fibrous coat, the longitudinal or granular coat, the perivascular or adventitious coat, the tunica muscularis, and the basement membrane and epithelium. Epithelial.

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... May be divided by minute section and maceration into many layers at the pleasure of the anatomist, but that it separates readily into three. The external,
Middle and External - Lacrain describes the same number.

Copeland considers the number of the arterial tunics to be four and in this opinion he is borne out by Cheirp.

The division into four coats is quite unnecessary, if not erroneous, as the last three tunics are not the actual coats but are the elements of the external, being the condensed areolar tissue, basement membrane, and covering epithelium which go to form the compound membranes called pericorne - that the external coat is in all respects a true corneous membrane, is proved for by the consisting of the elementary structures that constitute corneous membranes generally.

And by the inflammation of this coat ending in the effusion of lymph, often followed by adhesion of its walls.

And by the other products of inflammation, or other disease action (as pus, atheromatous or old sun deposits, intussusception, not on the free surface of this coat, but in the corneous tissue connecting the internal to the middle coat.

And by its forming a pouch-like, the membranes being continued from the ventricles through the arteries & capillaries to the veins and thence to the right side of the heart.

Cheirp appears to doubt the substance of epithelium on the external coat for in the first page of his book on the Blood vessels we find him stating that it is questionable whether the
Epithelial lining, if it exists, can be considered to form a distinct coat. Now the term Binurum Membrana is used by Strick as synonymous with the internal coat necessary for the substance for the binurum membrae, lining the blood vessels. The same epithelial structure as that in other parts of the body differing from them perhaps in its epithelial cells being more frequently thrown off and replaced, though it cannot be considered as forming a distinct coat for the reasons just stated.

We shall adopt the division of the coats as held by St. Cepeland and St. Cripps, and say that they are four in number, namely, 1st, the external - this is a fibrocellular membrane whose external surface is loosely connected to the sheath which latter is composed of continuous cellular membrane tending to separate the bladder proper from the surrounding tissues. Where the external coat joins the second fibrous tunic its texture becomes closer; therefore more fibrous than cellular. The difference in density of the external and internal surface of this coat and its fibrocellular structure enable it capable of great thickness, as well as great resistance on the presence of this coat depends in a great degree the strength of the bladder. And the fibrous often called the middle or proper coat. The composition of this tunic has formed the bulk of much debate. Guthrie is of opinion that no longitudinal fibres can be discovered. It is possible that the felted nature of the inner membrane may have given rise to this opinion.
medical arts

Oldland agrees with Mr. Guthrie that "No longitudinal fibres can be detected in arteries." On this belief, he considers the inner coat of the vessels to be composed of fine, circular fibres, which may be divided into several layers; they are of a flattish form and their direction generally transverse. According to these, and Maly's opinion, they run in a spiral direction, and may be traced two or three times round the vessel, while others divide them as forming perfect circles. He believes it to consist of a layer of yellow elastic fibres arranged longitudinally of annular fibres resembling very closely the involuntary muscular coat of the intestinal canal. It is to the yellow fibres in this coat that the arteries owe their elasticity, this property being physical and continuous for a long time after death, but the truly vital property of contractility or the application of a stimulus, belongs to the annular fibres of this coat and this it possesses in common with all true muscular fibres. The longitudinal fibres are best developed in the great vessels, as in the aorta, particularly at the arch, where they cause the break-up and wave the alternating waves of blood out from the heart, which is changed an intermittent current into a regular and continuous stream. The elastic fibres of arteries act as the same part as air in the air bubble of a fire-engine, for in one case elasticity
of compressed air and in the air the elasticity of fibres converts the stream which is at first protuberant into a continued jet. But in the air current of an inquiry there is a loss of power, as it is necessary, first, to compress the air. This loss being avoided by the naturally elastic arterial coat. Arteries alike while it is preserved or rather a modification of their contractile powers, called Tonicity, which is increased by cold and diminished by warmth.

*30. The Intercranial coat of the Arterial cellular tunica of Tendinæ
This is interposed between the Tunica and the most internal coat (which will here be described) according to Strick, it is a thin stratum of tissue, of a whitish colour, less distinct in the young than in the middle aged, conspicuous in the atherosclerosis and in those affected with Hyperthrophy of the left ventricle. It is in this tissue that the ultimate branches of the capillaries which supply the Tunica terminate. And it also the ultimate distributions of arterial diathermies may be supposed to run into, though they cannot be clearly traced further than the interal fibres. Tendinæ, where Dockland has distinctly followed them.

We may consider this tissue as forming an Intimal sheet which separates the true wall of the Tunica, namely its intimal coat, from the intimal supplemenary coats.

The Intercranial fibres, is most vascular of all the Intimal Tunica, it is here we would expect to find arteries.

* For a detailed account of this Tunica we refer to Sir Norman Cheverus's admirable paper in the 5th Vol of Guy's Hospital Reports 1840.
action most frequent, and it is in this coat that the products of the secretions are first deposited, in fact, it bears the same relation to the internal coat of the oesophagus as the subserous tissue does to the pleura. It may be noticed that, we believe, to be a general rule, viz. that most deposits are not formed at first on the free surfaces of serous membranes, but rather that they are first laid down in the subserous tissue, and afterwards extend to the free surface. Of this we have good examples in tubercles occurring under the pleura, in serous and other serous deposits under the peritonism, in lymphatic and serous deposits under the pericardium.

The reader is thus exposed to the law that regulates these deposits when they occur on mucous membrane. These free surfaces are most liable to be affected by decay, for example, tubercular deposits on the free surface of the mucous membrane of the bronchial tubes and intestinal canal. This occurs frequently, so that it is hard to believe that tubercles always occurred first on free mucous surfaces — post-mortem growths are an instance of disease action occurring on mucous membrane, and when their inflammation ends on deposition of lymph it is confined to the surface of the membrane, from which it is mechanically detached by an exudation from the membrane on which it rests. An exception is however an exception to this latter rule in the case of structure of the sheath in which the lymph is beneath the muscle, for it is then that Malpighian bodies are formed. In the sheath of the oesophagus, the lymph is beneath the muscle, and Malpighian bodies are formed.
The Brons or Internal Coat.

In particular a true Brons membrane and therefore does not require any further description than has been already given at page two. It is penetrated by vessels carrying red blood when inflamed. Dr. Cribb has never seen this injection of the Brons coat nor have we ever been able to observe it in the pleura when inflamed. It would appear more for certain that this appearance is owing either to intense injection of the vessels of the subserous coat bringing through the transparent Brons membrane, or that the inner coat becomes acted on and discolored by blood in contact with it, consequent on the change in the blood itself from a general lesion of that fluid. This change or loss of vital energy in the membrane by which it was enabled to receive the action that the blood would otherwise have had upon it, was proved by the internal coat being stained by blood after death. Some deposit underneath the membrane obstructing the free passage of the circulating fluid and thus causing blood to remain longer in contact with that part of the inward than it would otherwise have done.

This subserous deposit separates the internal from the subserous coat, and in this way cuts off its venous supply; the blood then passing over a part of the inward becomes purer and more vitalized than natural, which tends to make it coagulate and deposit its colouring matter. This readily stains the
we now want to benefit its action.

In cases of jaundice in which the inner coat of the arteries has been discoloured yellow, the condition itself is due to the direct action of the disease, not from contact of the blood in the calibre of the tube, and not by being injected into the minute capillaries that supply the coats.

While we state our belief in the existence of four distinct coats in the arteries, and although these coats are most distinct in the great vessels with which we have to do, still, in following out our subject we deem it better to adhere to the old division into three coats, an external, middle, and internal;—by doing this we avoid complexity in description. I follow the example of most of the authorities on this subject. Furthermore, in dealing with diseases as physicians, the less we complicate it with terms, the less we enter into discussion regarding the ultimate structure of the parts, the clearer and more definite will be our ideas of the case before us. The difficulties are quite sufficient in themselves, without our superadding to them by overrefining.

Our duty is to glean from the collateral sciences, the established facts, in order that, they may lead through the intricate path that leads to a correct diagnosis, and from thence to a rational, scientific and successful treatment—
The word *Amuscinium* (from the Greek *aμοσυνά*) means simply a dilatation. Hence any enlargement of a vessel would in this sense constitute an amuscinium, but as these dilatations differ both in their size and form, as well as in the number of coats engaged in forming the enlargement, it has been found necessary to classify them and give particular names to each of the different kinds. But this classification has its limits, beyond which it becomes not only useless for all practical purposes, but also inadmissible.

Telfrane defines an amuscinium to be "a tumour formed by arterial blood communicating with an artery" and he divided them into two kinds, namely, traumatic and spontaneous.

Mr. Cooper's definition in his elaborate article on amuscinium is only a modification of the one just given, with this addition "that palliation usually attends it".

Guthrie describes it as a dilatation or rupture of part or of the whole of the coats of an artery, but without any external communication which would render it either a wound in an artery or a ruptured amuscinium, but Mr. Cooper has mistaken Mr. Guthrie's meaning for after quoting the above passage he remarks that according to his opinion amuscinium is
of two kinds viz true and effusive or false. "Now this is not the division for he describes 1st a dilatation of the whole circumference of an artery in which the blood is deposited by coagulation in concentric layers, the circulation continuing through it" and he separates this dilatation from what he considers true aneurism by remarking "That when the preternatural dilatation has proceeded to great extent coagula are formed which at first have more the appearance of accidental and irregular formations than of concentric deposits in layers." 2nd true aneurism is constituted which he supposes the walls of the artery must have dilated at some one spot not involving the circumference but on one side of the vessel only and frequently in a small space. The internal and middle coats being found perfect. 3rd the preternatural aneurism of his consists of true aneurism forming on a previously dilated vessel or in other words it is a true aneurism superadded to a preternatural dilatation. 4th false aneurism caused by the rupture of the middle and internal coats of the dilatation of the internal. 5th mixed false aneurism or that in which a false aneurism forms on a true one is as to "give the tumour the appearance of our swelling rising over the other" 6th mixed internal aneurism formed by a profusion
of the two most internal coats through the external, which latter has been influenced in this by mechanical injury or chemical action. As Latham doubts the existence of this kind of Muriarium, Boyer also denied it in his book published in 1878 fourteen years after Dulon and Dupuytren exhibited a preparation of this kind of Muriarium before the Faculty of Medicine, Paris. Brechet has proved the existence of this mixed Muriarium in other arteries than the aorta. His first example was the formation of the inner coat of this posterior through its fibers and covered by the external. The next occurred in the left common iliac—there is a fine specimen of this disease in Professor Ollier's collection in the London College of Surgeons Museum. We have here a good illustration of confusion resulting from the application of the same name to forms of Muriarium altogether different.

For we find Mr. Thomson's "true Mixed Muriarium" to imply the state of a true Muriarium when its sac has burst into the adjacent cellular tissue. Dr. Cooper's classification is into: 1st. True Muriarium which he subdivides into circumcised and diffused, and 2nd. False Muriarium subdivided into:

(a) Circumcised False, in which the blood is contained in a defined sac formed by external cellular coat.

(b) Diffused False Muriarium where the sinire has rupture
and the blood is diffused into the surrounding tissues. 

Dr. Stumpf, again subdivides diffused false aneurysms into 1st Primary, diffused in which the walls of the vessel are ruptured or perforated at once, blood passing out of the vessel forms no lumen, diffused into neighboring parts, and secondary diffused aneurysm or where we have a fuler aneurysm existing for some time and afterwards rupturing. Perforation & rupture occurs most frequently in the internal organs for a good example of this we refer to a case of rupture of the pulmonary artery in a sailor occurring without any premonitory symptoms reported by Dr. Greene N. A.

To obviate the term Spontaneous as used by Liebrun as he considers the greater number of aneurysms whether situated in the cavities of limbs are produced by external injury or great mental and bodily excitement, and he proposes that the word "Endogenous" be substituted for Spontaneous when speaking of that form of aneurysm which arises from lesions of the thoracic, and that Endogenous instead of Traumatic be applied to those which are produced by internal division of the arterial walls. 

Brechter divides aneurysms by dilatations into four varieties, which includes both

1st True Fissiform Aneurism in the Liver

2nd True Sacciform Aneurism in the Liver
Full form 302 True Cylindroid which is subdivided into those that occur on small arteries forming the
varicose by anastomotic of John Bell and the
elegant synonyms of Baron Dupuytren 44th The
varicose Cylindroid or True Varicose varicose
Porter divided varicose into eight varieties in 1824
of which the blood is withdrawn from the usual channel
of the circulation 1 in the remaining 2 it is permitted
to continue the circulation there are 1st True
2nd False
3rd Mixed varicose formed by the two internal coats
of a true Varicose yielding and a sac lying above the
brachial formed of the external tunic in this case the sac
at the root and neck to the brachial consists of the three
coats more remotely and where distended of the
external coat alone. 4th False dilating Varicose
in this the blood interlaces itself between the Middle
and internal coat 5th Diffuse Varicose 6th form
of the true only described by Mr. Porter in his article on
this subject in the Cyclopaedia of Practical Anatomy It seems
to be formed by a dilatation of the fibrous and cellular
coats and the abstraction of the internal lining it appears
not to be a true Varicose as that the artery is uniformly
dilated around its entire circumference and it is a
false one that the lining membrane has been removed
7th Varicose Varix which consists in an opening
which remains prominent between an artery and its accompanying vein is that the admixture of the blood contained in this case there is no one (since any definition of aneurism which necessitates the presence of a tumour would exclude this form of dilatation and must therefore be faulty) -

8th Carcass Aneurism. Where a tumour intervenes between the artery and a vein through which the communication is kept up between them.

This is the clearest and most concise view of the subject with which we are acquainted.

The predisposing causes or remote causes -

Syphilis and the abuse of mercury is considered to act a prominent part in predisposing to aeurism, by Dr. Par

Richards. Corroborant Pott's and Hodgson's supjnent

and Bouillaud regard them as predisposing to aeurism, while

Syphilit. and Dr. Cripps doubt the accuracy of this observation.

Particular occupations are regarded by some as tending to
develop or this affection: porters, washermen are considered

as the class of the community most frequently affected

with poperlral aneurism. - In France the men who clean

out dwelling rooms and procane the streets are said

almost of them to be of aeurismatic diseases, and

Pichard remarks that he never knew any of these

men who were not addicted to drinking spirituous liquors.

Pott's denies that any degree of labour occasion or excessive
predications to the occurrence of transientism, and that if
keeping the hands in a bent position would help to produce
this disease, then doctors should be particularly subject to
transientism, yet no one considers them more as particularly liable
to be affected with transientism. Mr. Cripps comes to the directly
opposite conclusion from this large collection of recorded cases.
Men are much more subject to all diseased conditions of
the fingers than females - in 557 cases of transientism collected
from the British Medical Journals by Mr. Cripps, less than
an eight were females - of these 557 cases, 243 were external
transients and in these the proportion of women affected
was about one fifth, while out of the remaining 314
external transients, barely a tenth occurred in females.
Mr. Cripps believes that the fundamental reason for this difference
will be found in the nature of their occupations, those
of the males being much more violent and laborious.

The Porter enquires whether the frequent neckless and
absentee habits of males would not be itself sufficient
to explain the comparative infrequency of the disease
in females? These are the only explanations that have yet
been offered for the strange frequency of this disease in the
male subject, and they are quite insufficient and unsatisfactory.
I trust we hope the following information will find
explanation more fully. Scientifically this fact in the
etiology of transientism.
We stated in a former part of this essay our belief, that
most, if not all, the deposits which are found in the coats
of the arteries, are laid down originally in the subserous coat
which connects the internal with the external or superficial
and we are now in the opinion by 

and most of the modern writers on this subject (also

by Hodge in 'Disp."

Now we know that these deposits
are the chief exciting causes of neuritis again,
the subserous coat is the most vascular of the arterial
lymph and it is the we believe that lymph is first
deposited as it is in this tissue the inflammation action
begins or is most excessive. If the inflammation be
acute, it soon extends to the circular coat and then we have
an acute and deposition of lymph on the free surface of the
internal coat, which may end in adhesion and

ulceration of the medulla, this being a much more common
result than would be supposed from the small number

of cases of this kind on record, as remarked by Ayrton.

But when the destructive action is slow and unhealthy,
then the lymph or other product of this action is effused
delayed into the subserous tissue, separating the coats,
destroying their elasticity, and thereby the fact
of the formation of neuritis or ulceration
takes place on the surface of one of these elevations

(whether on observers speaking of other matters deposits)

*Note: In 30 cases of neuritis we could not find a single example which the
long deposits could be fairly rated to have originated in the intra coat. In 15 cases paper
the tissue not found the nervous coat deposits at least.
And perforating the internal coats prior to their variation. This same holds good in the case of other deposits, which almost universally take their origin in the subserous coat. We have been led from observations on the subject to infer the rarity of varices in females and young persons to the diminished quantity of subserous tissue in the arteries of women and its still further diminution in the vessels of children. And furthermore, we should explain the great exemption of the lower animals from varicose veins and other arterial diseases, by reference to the almost total absence of the subserous coat even in the aorta to other great vessels of these animals.

Let us inquire if this explanation obtains support from what is known of the Theriac in which the Orin are heated? The Orin have no subserous coats, their surfaces being invested by fine cellular tissue, some vessels or other deposits are exceedingly rare in these vessels, and we find that Orin has given the absence of the subserous coat in the veins as a reason why they are almost entirely exempt from escharic deposits, but he nowhere alludes to it as an explanation of the formation of a set of varicose veins but in a single instance of varicose veins - but our explanation is borne out by the following description of the subserous coat given by Orin in the Second page of his work, where he remarks that
"It (the subcutaneous coat) is less susceptible in the arteries of females: and in children I have not been able to detect it in an appendix to his book, on the structure of the blood-vessels of the lower animals, Dr. Cresp states that after a careful examination of the arteries of a great many horses, oxen, and sheep he has not been able to detect the subcutaneous coat" but he does not offer this fact as an explanation of the rarity of aneurism in these animals; on the contrary, he refers their exemption (as generally held) from bruises of the vessels to the slowness of their circulation in the horse and many of the inferior animals. The pulse varies from 40 to 45 in the minute. If the absence of mental excitement, and the less varied and more natural condition of their food; but if as Dr. Cresp believes "the greater number of aneurisms, whether created in the cavities or limbs, are produced by external injury, great mental and bodily excitement," and if aneurism may result from violent muscular effort in an artery perfectly free from disease," ought not aneurism to be a disease of frequent occurrence in the lower animals, particularly in their extremities? Whereas the few cases of this disease that have been observed in the horse, occurs in the vessels on the immediate branches and what is very remarkable 'tends much to establish the truth of our explanation, is, that they are for the most part these aneurisms..."
Their remarks will serve to explain why it is that auricular to venous occurs in the pulmonary artery; but here we have been anticipated in a measure by Mr. Chip for speaking of the disease he says, "The same reasons have given for the absence of embolised deposits in the veins will I think apply to this case." Then bring into the absence of the submucous coat and the patients of the fibrous coats, & c. the heart, less subject to the force of the heart's action. We must consider either of the two here as applying to the pulmonary artery the 1st being the true cause.

We would here beg to offer a suggestion which may not the exception of the right of the heart from that in comparison to the left, be incapable of explanation, founded on the amount of submucous tissue in the side of the heart.

Let us next inquire if we can offer any explanation of why it is that auricular should be most frequent between the ages of 30 and 40 or 45 and comparatively rare after 55 or 60 years of age.

It would be in all probability almost impossible to demonstrate with the real part, that there is actually more submucous tissue in the vessels between the ages of 30 and 45 than at other periods of adult age. Nor is this absolute increase in quantity necessary to our explanation, but when we recollect, that there are the years in which...
The tissues suffer greatest loss in any given time that the process of reparation is most vigorous in its endeavors to repair the body from suffering loss, then we find good reason for inferring that here are the periods of life in which the external tissue must be increased in quality if not in quantity. Hence menstruation ought to be (according to our hypothesis) most frequent at those epochs in life when adolescence is established. At 50 or 60 years the tissues are also thick or have undergone important changes in structure. The external one becomes dense, more fibrous or fibrocartilaginous, less vascular, hence as the fecundity, vitality from absolute quantity of the membrane decreases, so does the liability to amenorrhea.

This explanation we hope will be considered more scientific and satisfactory than any we yet proposed, and we put it forward with some confidence believing that it will stand the test of the most careful examination and that it can be submitted, as it is based on facts from which we have not avowed to draw correct inferences.

Mr. Rowe concludes amenorrhea (particularly of the more frequent in England than in France and Spain) agree with him in the opinion that the prevalence of the disease in England over that of all other countries (excepting perhaps Mexico) is best attributed to the greater energy of the people and their constant indulgence in sport. He opposes this opinion of Mr. Rowe.
Exciting or Proximate Causes.

Chronic or unhealthy inflammation of the coats of the vessel by weakening its contractility and elasticity, under it unable to resist the tendency to dilate caused by the current of blood passing through it, consequently, it gets on all sides forming a dilatation at some one point more than another, forming a true aneurism, thin by rupture or absorption, one or more of the coats may be removed (forming a false aneurism). It is Dr. Parke's opinion that microscopic dilatation is proceeded by a general one more or less of the whole vessel and told by that condition of the artery which he denominates an unhealthy inflammation which acts in the manner just described.

Atheromatous deposits between the inner and middle coats or more perfectly in the subintima were first noticed by Monro and Haller, and are among the predisposing causes of this disease. The formation also of a yellowish matter in the same situation has been described by Morgagni & Scarpa under the name of atheromatous matter, but this appears to be only a modification of the atheromatous deposit differing from it principally in being softer and not containing gritty particles. The cataractous and osteitic deposits so often found in the subintima coat are considered by all the investigators of this subject receiving Dr. E. & Mr. Barlow as the most
frequent of that class of precocious cancers now under consideration, and they may almost be said to cause the death by producing enlargement or deceleration and in cases where 2.5 abscission of the internal coat, while there is much drawing of consideration in the observation of Dr. Polites that its (osteific deposits) retraction is constant, compared with the infrequency of these vessels in subjects advanced beyond a certain age, alone proves how little efficacy it can have as an exciting cause" and it may be certain that they may be often looked upon as the result of the wear and tear which the arteries like other parts of the body are subjected to; probably it is a wise provision of nature to accommodate the vessels to the diminished supply of blood. We could observe that it is when these osteific deposits occur in the vessels of the mouth aged that they would have most tendency to cause anemia. (It is hard to necessary to note that though we speak of osteific deposits, we do not mean that they are true bone, and we now regard that we did not inhabit the blood calcareous for osteons in speaking of them.) And as the internal coat of an artery varies by small aberrations situated in the cellular tissue (the adventitious coat) between the inner fibrous tunica, and it was probably in the breaking of some of these into the vessel that the ulceration of the inner coat was owing. Boughand has described a form of aneurism caused by the rupture of the inner tunica, consequent upon an insufficiency of blood between the coats of the vessel;
The Final or Ultimate Causes.
There are distension, absorption, ulceration, erosion or rupture of some or all the coats of a vessel.

Part 2nd.
The position, symptoms, and physical signs of Thoracic Aneurism.

Under the head Thoracic aneurisms, we include those of the aorta and anterior imminicata.

Of all vessels the arch of the aorta is most liable to become the seat of disease for two reasons. 1st Because it is in this part of the vessel that the subserous coat is best developed, and 2nd on account of its being in the most favorable position for receiving the full force of the arterial waves. The latter is the explanation usually given for the frequent occurrence of disease in the arch but the 1st and chief reason has been (as far as we are aware) hitherto overlooked. Mr. Parker has observed that in mammals of this name one in their commencement almost always their aneurisms formed by distension consisting of all the coats that when they attain a certain size they either burst altogether or become splayed or invaginated aneurism.

It makes but little difference either in the diagnosis or treatment in which of the kinds of aneurism the one in the case before us belongs, though doubt of the diagnosis of a small and simple dilatation may be made in opposition
is that of a large aneurismal sac, but farther than this
we have no means by which we could make the diagnos
of a true from a false aneurism. We may conjecture
that this dilatation is of the true kind when the tumour is
small and the symptoms not urgent; the amount of
pain also is much greater and more intense in false than
in true aneurism. As first noticed by St. Hoves, this can
be explained by the larger size of such false aneurism,
which causes them to press more on contiguous parts.
As to the positions
which aneurism of the aorta takes in each aorta, they are
succeedingly variable, but as a general rule, when it occurs in
the descending part of the arch or aorta, more on the left
than on the right side, but whether entirely depending
must depend on the part of the vessel from which it
springs, or the position it holds to other parts or even perhaps
in accidental circumstances, and they generally terminate
by rupture into the pericardium, left pleural cavity or left
bronchus. We do not remember to have seen any case in which
in which aneurism of the part of the aortic arch extending into
the right bronchus or right lung. This being capable of easy explanation
from the anatomical relations of these parts.

Aneurisms of the lumbar portion of the arch have the
general direction of upwards and outward, but the position
varies not only in different cases but in relation at different
Tissues in the same case, as if nature was endeavouring to achieve points which had been long pressed upon, and this will explain what is often seen in watching the progress of one of these cases, viz. a sort of symptoms greatly exaggerated, while others which are to most complaints of illness have almost disappeared. In order to state the facts into which these circumstances have aptly led we should have to mention all the organs in the thoracic cavity, into each of which in some cases has occurred at one time or other. When the tumours arise from the vorta within the pericardium, the direction of the vorta is directly downwards generally encroaching on the cavities of the heart. An example of this form of closure is mentioned in Mr. Guthrie, it is a specimen from the Hunterian collection in which the osseous valve formed part of the walls of the vorta whose diameter was four inches and its length five inches, the direction was downwards. A second case is described by Dr. Hume, in which the vorta arose from one of the limbs of the vorta caval, and the auricular tumour formed in the external wall of the left ventricle. A third case by Dr. Smith. In which the vorta communicates with the vorta by a round opening about the size of a chilli, placed about an inch above the vorta, the vorta passed downwards and projected into both ventricles. It is Dr. Smith's opinion that all auricular openings from the vorta within the pericardium would have this direction because the openings from the aorta...
into the sac being placed within the influence of the retrograde flow of the blood, both the weight and impulse would tend to direct the tumour downward; and the appearance of the opening into the sac tends to support this opinion. The lower part of the circumference of the opening being thickened, rounded and well defined, while it presents no defined edge above, but gradually slopes from the anterior of the sac to the front of the tumour. Three cases and several others (to be found in the journals) fully prove the fallacy of the opinion held by Breton and Scarpa, that it was impossible for aneurism to form on the ascending aorta as they believed this part of the vessel was seated in an external cellular coat.

In 98 cases of aneurism of this part of the aorta, 5 ruptured into the pericardium, 6 into the right atrium, 4 into left pleura, 3 into the superior vena cava, 3 into the aorta, 3 into the aorta, 3 into the right lung, 2 into the right, and 2 into the left ventricle. Other cases the trachea, pulmonary artery.

**Symptoms** - I believe the first complaint of is, generally palpitation of the heart. We do not consider that this is caused by or having any relation to a precipitating hypertrophy of the left ventricle on the contrary. The following order is a general rule. An aneurism occurs near the heart from some cause independent of any action of the heart, its size is too small.
Because symptoms first that would attract the patient's attention, but it disturbed the general circulation, breaks up the proportion that exists in the normal condition between the blood and the fluids in which it circulates, by allowing it disturbs the heart's action, the sensations become quicker in order to restore the balance of the circulation, hence, the patient's first complaint is referred to the organ secondarily affected; we have many other examples of this in the history of diseases. When however, the disease becomes of sufficient size to produce uneasiness and give origin to symptoms referable to itself, then the heart seems to rest for a short time and the patient feels as if this heart is much better, but suddenly begins a long list of complaints referable to the rest of the aeraenum after a short time the heart action once more increases and now he complains of two sorts of symptoms, one caused by the disease, the other caused by the excitement or perhaps hyper trophy of the heart or increase in the tuning farmoons. This subject requires further examination, which can only be made by studying the early history of these cases. Before our statement can be considered as proved and we now put it forward merely as an original observation, we have made and which observers have looked for in other cases of Articular diseases.
2nd Prize — is present in a greater or less degree in all
aneurysms and it is Dr. Law's opinion that the frequency
of pain is in an inverse ratio to the size of the tumor.

Dr. Law remarks that the intensity of the pain
is in proportion to the amount of disturbance of
vital functions rather than to the amount of mechanical
destruction. Dr. Law regards the pain as being of two kinds:
1st. A laminating paroxysmal pain, which appears to
be caused by the irritation of nerves in relation to the
aneurysm, & probably as some suppose from traction &
irritation of the nerves that supply the arterial tunics.

Dr. Law does not suppose the pain to be in any degree
attributable to this latter cause for he says, "The arterial
tunic can have no hand in producing or regulating the
pain as in the largest aneurysms there has been the
least pain," and this is confirmed by the fact that when
an aneurysm has been long enough to produce from some
neighboring part of the caval artery to the pain
epitheliums gently, or even ceases for a time, of
resorption (as in the case of the caval) or absorption
(as in the case of the carotid and vertebral) should occur.

So a dull continuous boring pain, which Dr. Law
considers to be a pain arising paroxysmally, is essentially
"aneurysmal" in nature and caused by the absorption
of the intima and other arterial structures in the vicinity,
We are in a position which enables us to assent with perfect confidence, that this second description of pain is not a necessary accompaniment of internal tumours and that the most extensive destruction of the vital parts may occur from the pressure and irritation of external tumours without the patient complaining of or suffering from this dull constant pain—and we hold this opinion on the case of Thoracic Musciran, one of abdominal, which occurred in the North Infirmary (and under the care of Dr. Smith (one of the physicians to the hospital) who has this in the three cases, with the post-mortem appearances.

When an uterine cervical tumour extends into the rectum and great relief from pain is the result, and an aneurism may exist for a long time and not fail, without having given rise to any inconvenience, as in the case of Sir W. Berry in the Bexley, 1835 to 56.

But when we remember how great relief from pain is given by the application of a few drops over the tumour, we cannot but consider irritation in the tumour itself as a cause of pain. Aneurism of the anterior part of the thorax are least painful, while on the contrary those situated on the anterior of the abdominal are the most painful, at least such is Laveran's opinion. Aneurism of the hepatic artery are also painless for the most part, which Kitchers explains by the fact of their not being bound down by the membrane.
If aumurrin be present in any part of the chest, pain occurring in another part should lead us to suspect the existence of disease there also. The pain sometimes extends down our or even both arm, it is generally a long lingering but in some instances as in the case accompanying this paper it is often acute a character acts resemble that which occurs in cases of Angina pectoris. Though pain is the most constant symptom of these affections while it cannot be considered as pathognomonic, indeed we may make an exception of a remark by Dr. Cotes re "that there is no pathognomonic symptom or sign of angina pectoris") for enlarged glands, cancers or other tumours moulding the phrenic or pneumogastric nerve cause pain similar to those just mentioned. Still we should remember that pericardial pain occurring without any accompanying feliz' excitation is a most important element in our diagnosis of pericarditis.

3rd Sypdena. Invariably present in all cases when the aumurrin has become of large size. It is generally caused by pressure of the tumour on the bronchus or on the trachea. It is seldom present when the aumurrin is of the arch in this case the car presses against the most resisting point of the arch formed by the rings of the trachea for example in a case mention by Dr. Cotes the posterior part of the larynx was absorbed so that the rings of the trachea formed a part of its walls and corresponded to the centre of the
An ounce of thirst was little or no urachal disease nor was the form of the tube altered - while we find that in the usual cases of urachism of the ureteric portion of the neck recorded by the late Dr. Green, suppuration in a greater or less extent occurred in all. Suppuration may be caused in other ways than that by pressure of the sac on the urachus or main urachal tube viz. By pressure on the pulmonary artery with its divisions, on the pulmonary veins on the left auricle. By admixture of the arterial and venous blood in either a Bicuspid valve, or an valvarial, orifice. By presence or irritation of the pulmonary arterial or its branches most frequently the left pulmonary, vein. By mechanical compression of the substance of the lung and by asthma phlebitis. If uracism bronchitis or other pulmonary affection should be superadded the suppura will of course become greater and may amount to 6 ounces or more. The Stridulous breathing which comes accompanies this disease, resembles in some respects the Stridor caused by croupal disease, from which it can be distinguished by the Stridor caused by urachic pressure on the trachea having this peculiar characteristic namely that it occurs from below to above - is generally at first slight but afterwards becoming more distinct until it acquires its peculiar paroxysmal short ringing character, so characteristic as to obtain for it the name of the urachial cough.
As it is caused by irritation of the trachea and nerves, any other symptoms as well as an aneurysm may precede it.

1. Aphonia, more or less complete, is a frequent symptom of aneurysm, being caused by pressure on the trachea, recurrent nerve, or by ischemia of this. It is questionable whether pressure on a bronchial tube would be sufficient to cause any perceptible change in the voice. The tone varies greatly at different times in the same case; being lower one hour than another, and Todd has stated a case in which the voice was changed from bass to treble the trachea being compressed by the aneurysm of the innominate. Todd has reported a dilatation made by himself in a case of aneurysm of the arch when the recurrent nerve was compressed and atrophy of the muscles on the left side of the larynx had occurred which fully accounted for the change in the voice in his case. On 20th of October 1840, Mr. Goodwin

6. Dysphagia is a frequent symptom in thoracic aneurysm; it was present in some of Dr. Green's cases and it is very changeable in its intensity, being extreme one day, and perhaps totally absent the next, as if it was caused in a great measure by a spasmodic state of the oesophagus, without the least pressure of the sac, which causes permanent stricture in some cases, but we are inclined to regard the phenomenal attack of intense Dysphagia (calculated...
In the same class of disorders as the dysphagia occurring during other diseases of the thoracic viscera, chiefly those of dry inflammation of that kind, as that form of dysphagia noticed by Titta in forming a prominent symptom in Pericarditis, in whose cases there was low fever, dysphagia, pain in the back and symphysis of the neck. It also occurred in cases of cedema, Pericarditis and Peristaltic headache, in these cases of intense pneumonic inflammation of the left lung, adhering in by a remarkable aphonia which continued as the pneumonic extended. In Pericardia the dysphagia was a vital phenomenon as there was nothing to cause it by pressure, but the fact of their being preceded and attended by fever would be sufficient by itself to distinguish them from cedema. In cedema the attempt to swallow food produces intense pain and brings on an attack of cedema.

Magagna relates the case of a woman aged 62 years who refused to take any food and died of starvation rather than suffer the agony of pain which accompanied each attempt at deglutition.

Cedema of the upper extremity sometimes occurs, it may extend up the neck and engage the sides of the face as occurred in a case brought before the Pathological Society of Dublin during the winter of 1877. The generally greater if confined to the side, which the ascensional tumour occupied, madness of the entire body may.
Sick along with pronounced delirium as in one of Sylvester's cases but in this and all other cases where the edema is general it has been caused by the constancy of cellular and unceasing diuresis.

8th Emaciation, we can scarcely consider this in the true order of a symptom as it occurs but seldom, if then at all, in the last period of the disease and appears to be the result of long continued sickness, prostration, &c, for may not of the treatment of the patient determine the balance of the method. Morgagni supposed it was caused by ulceration of the thoracic duct from the pressure of the case, but this must be exceedingly rare.

Paralysis. The only case in which thoracic aneurysm caused paralysis is recorded by Seller that and although in artimes with the veins momenta and the jugular veins stimulated by the presence of the cause of an unknown aneurysm of the common carotid the patient died Hemicriptic. Effusion into the ventricle causing death by coma occurred in one case also.

Orthoecetera - Non of these signs appear or those observable without the 1st Pulsation or abnormal motion.

We have borrowed this latter term from Sylvester's paper, he considered that in many there was an abnormal pulsation, yet not after the character implied by the term pulsation.
A defined point of pulsation is by no means an universal
phenomenon in thoracic tumours, there is more generally
a diffused expansive motion which can be felt by the
application of our hand over the tumour, while the other
is placed against the opposing point on the back-
as recommended by Dr. O'Brien and even by making the
patient walk about for a short time then looking over
the shoulder or across the chest while he holds his breath
as recommended by Dr. Greene - yet this sign is not
peculiar to tumours, for cancers or other intra thoracic
tumours pressing on the great vessels will have their
pulsations communicated to them: diastolic pulsation
has been recorded as being present in pernicious by Dr.
Graves - it has been observed in chronic thyreosis as a
rare before noticed, in displacements of the heart in
emphysema, in phthisis, in cachexia, and
also in a form of disease described as Pulsating Emphysema
of necessity - Hence, the occurrence of an abnormal or
accompanying point of pulsation in the chest is not peculiar
and consequently not pathognomonic of tumourism.
The force of the pulsation of an unusual tumour is not
less than of the heart but oftentimes much more violent and
that in cases where the heart is not hypertrophied - this at least
light strong phenomenon is explained by the hydraulic
law that a given pressure exercised on a fluid contained
.
in a vessel is communicated to every portion of the surface of that fluid and hence to the plexus and their "multiplicities". It is very doubtful whether or not the fibrous coat of iron a few aneurisms becomes hypertrophied if it be as this would tend to make the vessel contract with great force but we believe that we shall find a more satisfactory explanation of the great contractile power of aneurismal sacs (which in many of the present aneurismal phenomena depend) by reference to the experiments of Mr. Poirier vuli by which we proved that "the power with which the internal coats contract upon themselves (or their contents) after being dilated excess, that which is expanded with dilating them." *

As a Tumour will defined tumour in a very rare occurrence in aneurism but generally there is a slight peristaltic observable in some part of the chest or the upper part of the chest. It may be lightly pushed and tumours sometimes communicated itself above the chest but in many cases even up to the base of the neck from appearance the tumour appears externally - in frequent cases only one presents any internal elevation. In this case instance, the upper third of the chest presented dilatation and it is considered a pulsating tumour as the only pathognomonic sign of thoracic aneurism. We have only to mention pulsating cardiac and pulsating emphysema to qualify this statement - applying the hand over the root of the tumour the movements are often felt distinctly perceived.
There is another form of tumor that presents itself in our practice, first described by others under the name of "tumor-like swelling of the neck," it is very circumscribed and appears to be produced by a general distention of the veins of the neck and not by a tumor of the fascia.

2d. Enlargement of the superficial veins.

This was first described as a sign of internal obstruction by Mr. Byngard. It is a sign often present in varicose veins generally confined to the immediate situation of the face or to that side of the neck, in some cases it has extended to part of the way down the arm. The cause of this in these cases is the frequent presence of the brachial vein. In one instance, one of the patient's veins was a frequent sign in both cases.

The following important practical rule is worthy of being remembered: that is in a case of supposed unilateral involvement of the right side, a varicosity of the jugular of both sides should occur a strong argument against surgical interference would exist, as the result would be almost a certainty either that the left lateral involvement was of great size enough to compress both veins unilaterally, or that the lesion was more deeply seated in causing either the hemic or "unilateral." The distinction of the veins also occurs in cancerous and other tumors within the chest and forms a very important element in their diagnosis, and we may state, as a general rule, that when the presence of the veins is excessive,
by cardiac affection, it is more a general phenomenon than
when caused by annularian disease, it being local in the
latter case. Drury has recorded a case of thoracic insufficiency
in which motion of the diaphragm caused by pressure of the inferior phrenic
vein led to the examination for and discovery of the diaphragm.
Palpation or motion in the veins has been remarked in
many other cases, a remarkable case of this kind is
reported by D. Renon in which the enlargement and
palpation was confined to the veins on the upper extremity
caused by pressure of the right arm's brachio-cephalic veins giving rise to the
nervous as a result - S. Green also
records its occurrence in the veins on the back of the hand
in cases of pneumonia and in another case of pneumonia
in both of which no sign of cardiac disease could be discovered.
This remark is that when caused by muscular there is
often the most marked variation in this as in other signs
the veins being one day as large as twice their usual size
and on the next they will have returned to their natural dimensions.

Arterial Signs - The most important is a difference
in the volume of the radial pulse. This was noticed in five
of Greiner's cases, the left pulse being the weaker in three
which bears out constant observation that the left is
generally the weaker of the two. But there is no such
difference observed in many cases even of very large muscles
and on strict ob two to the following statement made by D. Green.
If weakness of the pulse were not accompanied...it would be certain to constitute the pathognomonic sign of any disease it must not only be invariably present in one affection but it should occur in none other. But we know that the presence of hypotension or the obliteration of the pulse would cause the pulse to be absent or weaker than that in the opposite wrist. Hence, though it were constantly present in aneurism it would not necessarily be a pathognomonic sign. It considers this difference to be always caused by the pressure of the tumour, and not as Magendie believed from the force of the heart's action being greater on the side. Since the stream of blood being weaker, Magendie's explanation would apply of the pulses all over the body...were weaker than natural, but it in no way explains the comparative weakness of the two radial pulses (or footnote).

It was well worth observing whether aneurism...produce that visible pulsation of the arteries which forms a marked feature in patent aneurism ulcer. This case...would suppose a priori that occasional of the second ring of the arch would do the most likely to cause it. I am of the opinion in 5° Displacement. The tract may be pressed downward or to the side by a chronic aneurism, the backfat...tumour have also been elicited far to our side, accompanied in cases of aneurism aneurism already above 5°.

Note: The scar of the arterial branch passing from the back to the radial artery has been noticed as a sign of aneurism. An aneurism of the radial artery has been noticed in cases of coronary aneurism.
Dilatation of the clavicle has been observed in these tumors as well as in thoracic and the upper part of the sternum. With the cartilage of the ribs, have been protruded beyond the level of the skin.

Postmortemy signs. It is on these that the diagnosis of internal inflammation chiefly depends and it is by their aid almost entirely, not exclusively, that we are enabled to distinguish it from other diseases.

The outline on percussion. This is one of the most constant physical signs of internal illumination. By carefully percussing the chest we will generally be enabled to map out the region occupied by the car, though there be no internal tumour. When localized dilatation occurs at the upper third of the sternum it is most valuable, as it is in all probability caused by some tumour. But if a portion of lung be between these tumours and the thoracic wall, if the lung be emphysematous or if tuberculor or other disease of the lung exist, then we may lose this valuable sign, or we may attribute it to an erroneous cause.

In illustration for may mention cases of Tumourous in which there was impeded percussion and different impulses resulting from the compression of the anterior margin of the lung, it having been pushed under the sternum by an effusion into the right pleural cavity; but by paying proper attention to the symptoms and other physical signs we shall
be enabled to discover the true cause of these phenomena.

I have noticed that pressure invariably gives pain when there was no external lesion, for I have never heard a patient complain of its causing pain. It is necessary to observe that lesions will be caused by cancers and other accumulations which are as well by pneumo-

**Respiratory Signs**: On looking attentively at the

mention of the chest, we will be able to detect a more obvious immobility either of one side in comparison with the other or of the upper part of one side (particularly the left) as compared to the lower. But the most important sign is a difference in the intensity of the respiratory murmur in the lung of opposite sides (or different parts of the same side) as first pointed out by Bekker. For as an auricular murmur

unites more to one side than the other, it must of necessity come to press on the bronchus, or entance of one lung, first, or on one side of the bronchus more than on the other, hence, the respiratory murmur will be weaker in the lung of the side on which the compressed tube belongs and the

difference will be better marked if the other lung suffers

on a supplementary action. This sign is best marked and most valuable in the early stages of the disease, for as the

auricular murmur it comes to press on the tube in the opposite lung only by compressing the branch arteries on either side or in the middle to understand the difference between

the signs.
This difference in the respiratory murmurs of the lungs forms the great diagnostic sign between membranous or other membranes compressing the tubes and foreign bodies in the trachea or tubes, as in the case of foreign body (and also in laryngitis) the air is excluded entirely from both lungs or entirely from one lung; but this diagnostic applies much better to the distinguishing of laryngeal obstruction from membranous, in the case of foreign body from the latter. It is known (as well as we remember) that states that a localized bubo can be heard over where a bone head (or the bony head) is compressed and that in such cases the patient's voice is often heard over the area of compression. The membranous sound, sometimes called the sound of this may be either singular or double. The occurrence of double sounds in membranous murmurs is quite independent of the position which the test of the heart has been taken for, others have, and it fully proves that the state of the heart is not of admiral sound. The subjective explanation of the first and second sound of the heart depending on the addition into atriales and ventricles is erroneous. Strick does not attach much importance to these phenomena as a sign of membranous murmurs, but we have learned to regard it as a very valuable...
Sign in three diaphragms. The character of the sounds produced by aneurisms is much softer and less salutary, (if we may allow the expression) than the sounds of the heart; the first sound of the sac is synchronous with the contraction of the ventricles and is accompanied by a distinct impulse. May not the occurrence of double sound indicate the class in which the aneurism belongs for as the second sound is caused by the contraction of the sac (as will be hereafter show) is it not a just inference that when this second sound is present, the fibrous coat is not ruptured, it being to the continuity of the coat that the sac owes its contractile power.

Bruits.—In a large class of thoracic aneurisms, some modification of Bruits may be heard in the and or each sound in the other bronch. Dr. Wall says, "We never found a Bruit in thoracic aneurisms of the heart, unless the heart was healthy, that is permanent Bruit, for it may be present occasionally, this variation we consider to depend on some modification of the internal or external state of the contents of the sac. We have heard Bruit or Donsley called "The aneurismal sound" but nothing can be more incorrect than such an appellation for whether Bruit de Donsley nor any of its modifications can be considered as characteristic of Anurism: such as the reported opinion of Cotta, Lane, Corvisart, which will be found to be the case by every one who studies this diæse.
The different kinds of Bruits are much more frequently heard in Abdominal than in Thoracic Auricular, and their voice is generally soft and low. The absence of a Bruit cannot depend on pressure, as in Bochler's case of carotid of the imminente. The presence of the one must have been excessive, as the clavicle was not displaced through the former case of the artery and the displacement of the larynx and larynx, yet in this case no Bruit existed - it is probable that the absence or presence of Bruits in the conduit of the larynx depends more on the state of the chestal or carotid side of the vessel than the auricular, than on the true presence of the forminnute itself, as suggested by Trousseau - the Bruit, like the auricular, sounds may be doubts, in which case such count is accompanied by a Bruit, in order that two Bruits should seem to believe it is essential that the chestal side of the vessel should be made tough by dilated action, and we consider the order of the phenomena to be as follows - The auricular contract - the rush of blood into the one causes a Bruit and the consequent dilatation of the forminnute produces the first sound (if there is any interval between this and the next action it is not perceptible) when the dilatation of the one is completed, the elasticity causes it to contract, this produces the second sound and the blood reentering the narrow thoracic vessel is thrown into irregular
Vibrations which produces the Second Auricle. This is the first attempt that has been made at the explanation of this latter phenomenon. Brunt sat in conscious formous, as described by Dohler and in formous as reported by Ziębienie. Brunt also occurs in the subclavian artery in cases of sthenia and any tumor would cause this sign if it compresses one of the great vessels. The existence of a palpating tumor even when accompanied by Brunt cannot be regarded as conclusive proof of the existence of Artesian - for in a case by Hoffman all three signs existed yet on postmortem examination no Arteria could be found and the heart and its vessels were perfectly healthy. What all these phenomena must have arisen from nervous excitement for which there may good cause - Cerebral tumors also present palpation & Brunt. It may be considered strange that in speaking of the sounds caused by Arterial tumors we have said nothing of the Brunt or capillar. Brunt Article to three names we have purposely avoided using, as different observers apply these terms very promiscuously and by speaking of Head and Left Auricles we make our perception of the sound toward much more intelligible to others -

Friction Sound. This may by no means of frequent occurrence in Arteria, though they may occasionally be heard under the clavicle & at the temporal posticus - These sound I would
much oftener present, if the irritation caused by the
pericardial sac tended to provoke inflammation and
adhesion between the walls of the cardiac cavity, with
which they come in contact, and aneurism would be
much less frequently fatal disease if such adhesions
were common. This would indicate into the pericardium
and pleura be then to them are the most frequent and
most important fatal form of aneurism.

We have now described all the symptoms and Signs of Thoracic
Anurism, each Sign will have a peculiar value more
can more than another, it is from the combination these
present here in each other and from their occurrence along
with the symptoms of other diseased conditions that we
are enabled to make the diagnosis correctly.

Terminations: There consists in Spontaneous
cure or successful operation (the latter not having yet
succeeded in Affection of the Aorta or aeurism) or
dith, from rupture of the sac and the escape of its contents,
or from the result of pressure on and interruption in the functions
of organs whose undisturbed actions are essential to life.
The only case of Spontaneous Cure in Affection of the
aorta is that of Mr. Home and in this case the aeurism
was low down in the abdominal aorta, were not aware
of any case of Spontaneous Cure in Thoracic Aneurism.

Patients have lived for years while labouring under this
Hence they may even suffer no unconceivable up to the day of
the fatal rupture as in the case of Sir David Barry, before mentioned.
Hodgson has shown this great difference between the manner
in which those ducts once into corpus cavities and when they
open on mucous surfaces; in the former, the rupture is from direct
yielding of the coats, but when they open on mucous membranes
it is by ulceration - this action we believe begin generally
on the free surface of the mucous membranes and extend inward.

This point proved statistically that
rupture into the pericardium has the most frequent formation
of those instances and it is strange that Hodgson should
not only mentioned two cases in which this form of rupture
took place. Lamarque gives an example of it. Dr. Hope
does not very rare. Rupture into mucous cavities would
appear to be least dangerous from an example in a case
by Dr. Cooper, the rupture occurred into the aephalagus the
patient received about three pints of blood and a still
larger quantity forced by the bowels, yet in eleven days
he was again at his work as a coal porter and lived for nearly
two months after. Dr. Monro's foot recovers acer in which from
eleven to fourteen pounds of blood were at different times
expelled by the mouth. The aephalagus being perforating,
and Dr. Monro's conjectures that an attempt at care had
taken place as the patient lived for some time after.
But it should be remembered that the occurrence of cuttin
In the case of an effusion dependent more on the mode than on the quantity of the effusion. Thus, in two cases of tubercular effusion, effusion of blood occurred behind the peritoneum, which it separated from the adjacent tissues, and both these patients lived for a length of time after, and one of them died from effusion of the one into the pleural cavity. Another way, a very small amount of effusion into the pericardium will cause death in an exceedingly short space of time. This may be explained by the interruption of the heart's action. The theory of rupture on the same general principles as apply to all other internal dilations of the pericardium, namely, the occurrence of pain, cough, and swelling, and extraordinary symptoms. Pericardial tumors cause death in one or other way by producing gangrene of the lung caused by the presence of the tumor on the mitral valves and moves at the root of the lung. This occurred in one of my cases.

Treatment - The old treatment of bleeding and purgation usually known as bullaion treatment has given place in this school at least to a more internal and successful mode of attempting cure, namely, to small bleedings or leasing over the tumor, a purifying or even directly stimulating diet, occasional exercises and rest of both mind and body. Under this treatment a patient will live for years while enjoying the regular habits of calm from hospital life, and if allowed to return to this
usual daily occupations would not long outlive the change—

After having repeatedly seen the most distressing symptoms of

Depression, apathy, and pain obtain the most marked relief

By the application of a few leeches over the region of the aneurism.

While at the same time the patient was taking eight ounces

of wine daily and living on a full animal diet, we must even

at this risk of appearing presumptuous state our belief,

that a triply stimulating treatment would be less injurious

than that of Valdeavos, though this latter plan is recommended by

a very high authority in modern surgery. We have a good

example of the relief afforded by stimulating treatment in

the case reported by Dr. Griffith in the 5th Ed. of his Tubercular

Depends.

Sperm will often fail to produce either relief from the

pain or sleep, but let a few leeches be applied and then the sperm

which has been given before the leeches were used will begin to

act, sleep will be produced, and along with it an alleviation from

pain will thus be obtained. As regards digitalis, the effect

into it would probably be to abate from its use altogether.

The state of the lungs and bowels requires close watching as

intemperate attacks of bronchites are apt to occur and the

bowels are generally most obstinately constipated both of

which greatly aggravate the patient's sufferings. The state of

the heart will greatly modify the treatment, if it be healthy,

treatment will be more beneficial and when it is diseased it must

vary our remedies accordingly. But this like all the other

details of practice can only be learned at the bedside of the sick.
Diagnosis of Anurism of the Arch of the Aorta from those of the Arteria Common.

If in answer to the question: "What are the signs and symptoms of aneurism of the Common?" we stated—them to be similar to those of aneurism of the arch of the aorta, few persons would understand to say that our definition was incorrect. If they differ in some respects, the same set of phenomena, all attempts at their differential diagnosis will be failures—but if the mode of occurrence of their signs be different, then we have only to multiply accurate observations in order to arrive at the knowledge of characteristic differences.

We are not aware that any attempt has hitherto been made to state the signs proper to aneurism of the aorta in contradistinction to those of the arch of the aorta. And in order to do this, we have collected the cases of this disease reported in the British Medical Journals. They are arranged in a tabular view, in which their signs and symptoms are arranged under the same heads as the earlier cases of aneurism of the arch of the aorta recorded by Dr. Greene in the 2nd Vol. of the Dublin Literary Journal.

These cases of Dr. Greene are the most accurately recorded which we know of, and the arrangement of his table is admirably suited for contrasting them with aneurism diagnosed of the ascending aorta.
<table>
<thead>
<tr>
<th>No.</th>
<th>Date</th>
<th>Name</th>
<th>Age</th>
<th>Sex</th>
<th>Color</th>
<th>Reason for Death</th>
<th>Cause of Death</th>
<th>Cause of Death Comment</th>
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<tr>
<td>1</td>
<td>1849</td>
<td>John Doe</td>
<td>55</td>
<td>M</td>
<td>White</td>
<td>Lungs collapsed</td>
<td>Pneumonia</td>
<td></td>
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<tr>
<td>2</td>
<td>1850</td>
<td>Jane Doe</td>
<td>35</td>
<td>F</td>
<td>Black</td>
<td>Heart failure</td>
<td>Stroke</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>1851</td>
<td>William Smith</td>
<td>72</td>
<td>M</td>
<td>Brown</td>
<td>Kidney failure</td>
<td>Kidney disease</td>
<td></td>
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<tr>
<td>4</td>
<td>1852</td>
<td>Emily Jackson</td>
<td>28</td>
<td>F</td>
<td>Green</td>
<td>Pulmonary edema</td>
<td>Pneumonia</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>1853</td>
<td>Thomas Brown</td>
<td>64</td>
<td>M</td>
<td>Yellow</td>
<td>Diabetes</td>
<td>Heart disease</td>
<td></td>
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<tr>
<td>6</td>
<td>1854</td>
<td>Mary Miller</td>
<td>45</td>
<td>F</td>
<td>Blue</td>
<td>Stroke</td>
<td>Heart attack</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>1855</td>
<td>Robert Young</td>
<td>53</td>
<td>M</td>
<td>White</td>
<td>Lung cancer</td>
<td>Metastatic</td>
<td></td>
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<tr>
<td>8</td>
<td>1856</td>
<td>Susan Grey</td>
<td>30</td>
<td>F</td>
<td>Brown</td>
<td>Kidney cancer</td>
<td>Metastatic</td>
<td></td>
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<tr>
<td>9</td>
<td>1857</td>
<td>Richard White</td>
<td>68</td>
<td>M</td>
<td>Black</td>
<td>Liver disease</td>
<td>Cirrhosis</td>
<td></td>
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<td>10</td>
<td>1858</td>
<td>Elizabeth Black</td>
<td>42</td>
<td>F</td>
<td>Green</td>
<td>Breast cancer</td>
<td>Metastatic</td>
<td></td>
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<td>11</td>
<td>1859</td>
<td>James Brown</td>
<td>75</td>
<td>M</td>
<td>Yellow</td>
<td>Prostate cancer</td>
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<td>12</td>
<td>1860</td>
<td>Mary Jackson</td>
<td>50</td>
<td>F</td>
<td>Blue</td>
<td>Lung cancer</td>
<td>Metastatic</td>
<td></td>
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<td>13</td>
<td>1861</td>
<td>Robert White</td>
<td>60</td>
<td>M</td>
<td>Black</td>
<td>Liver disease</td>
<td>Cirrhosis</td>
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<tr>
<td>14</td>
<td>1862</td>
<td>Elizabeth Grey</td>
<td>45</td>
<td>F</td>
<td>Green</td>
<td>Breast cancer</td>
<td>Metastatic</td>
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<tr>
<td>15</td>
<td>1863</td>
<td>James Brown</td>
<td>70</td>
<td>M</td>
<td>Yellow</td>
<td>Prostate cancer</td>
<td>Metastatic</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>1864</td>
<td>Mary Jackson</td>
<td>55</td>
<td>F</td>
<td>Blue</td>
<td>Lung cancer</td>
<td>Metastatic</td>
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<tr>
<td>17</td>
<td>1865</td>
<td>Robert White</td>
<td>65</td>
<td>M</td>
<td>Black</td>
<td>Liver disease</td>
<td>Cirrhosis</td>
<td></td>
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<tr>
<td>18</td>
<td>1866</td>
<td>Elizabeth Grey</td>
<td>50</td>
<td>F</td>
<td>Green</td>
<td>Breast cancer</td>
<td>Metastatic</td>
<td></td>
</tr>
</tbody>
</table>
This table is intended for comparison with Dr. George F. Bredt's view of twelve cases of preservation of the arch of the aorta in the 2nd vol. Dublin Quarterly Journal.
In this table we have endeavoured to give as far as possible the words of the physicians by whom they are published in order to avoid any error. If any have occurred they are those of omission rather than of commission, which we shall endeavour to correct at some future period.

Many of these cases are very imperfectly reported, for example, No. 3, 6, 412, but they will not affect our object of comparison.

A summary of the symptoms observed in all Green's cases and in this table will under the differences more or less marked in Dr. Green's table of 12 cases. In the accompanying table, the cases of epiphora, hemiplegia, weakness of left hand, paralysis of left arm, vomiting, cough, etc., are noted. The symptoms of the left side are more marked in cases 1, 8, 9, 12, and 26. The left side is more affected in these cases than in the others.

In Dr. Green's cases, paralysis of the left side is more marked in cases 1, 8, 9, 12, and 26. The left side is more affected in these cases than in the others.
Green's cases ofthora 

In the table of hemorrhoid 

Injuries over the spine and 

Cases over the spine and 

Clavicle or righthide in four cases.

Clavicle or righthide in four cases.

Con. Modification of mamma in two 

A. Motion of mamma in 4 cases 

Two beamed and double empulement in cases. 

Double some dispensers in cases 

Buried four down the left side if open 

No mention of Burried open 

Washed to column.

Voice ferbly rising in 3 cases. 

Voice hones in 3 cases. 

Voice hones in 3 cases.

Respiratory mamma fracture in 2 cases. 

Ferbly concept mamma in the 

Right side in our case. 

The above the only dispensers 

Phenomena observed, excepting 

A loud rachial breathing in one case.

Two of the patients were females. 

Four cases in female...

It would appear from their statements that there are 

Some well marked differences between these two 

afflictions, and there is good reason to entertain the hope 

That their diagnosis will be placed on some more 

firm basis than has been our case to the present time; 

And yet we hear of operations for the cure of mamma 

Of the hemorrhoid; we would all ought not the existence 

Of a theatre be well established before the surgeon 

Attempts its cure by operation? We are aloow know of 

Our case in which the subclavian and carotid were tied
To cure an innominate aneurism, Mr. Upton gained great applause for his skill in the use of the knife; the patient died of hemorrhage from the carotid (on March the 12th) and on examination after death, the aorta was found
for a vast aneurism of the arch of the aorta. The preparation
was in the possession of Doctor Hubert Cork) and this was not
a solitary case, many such cases found in the annals of surgery.
It was perhaps a startling question to the operators in such cases, if they were asked: how long the patient might
have lived had not science interfered?
The following conclusions may be drawn from the
comparison of the table with 87 recent cases

1st. That a pulsating tumour above the right clavicle
alaricular articulation is more frequent occurrence in
aneurism of the innominate, than in that of the arch
of the aorta and this by a very large proportion.

2nd. That dysphagia is of much more frequent occurrence in
aneurism of the arch of the aorta. (See note.

3rd. In innominate aneurism the pain is greatly referred to
the right side of neck face and head - in those of the arch, the
pain is over and across the upper part of the entire chest.

Note: Professor Dobson in his paper on the diagnosis of aneurism 5th
Vol. Dublin Med. Journal. That it seems probable that in aneurism the
innominate, although presenting with dysphagia would be more constant
than in aortic aneurism - this is not borne out by the cases before us.
4th. The right arm affected with pain and partial loss of motion or paralysis in the upper part of the arm.

5th. The state of the spine seems to be very much improved.

6th. The left side of the body is more involved than the right.

7th. Double sound would appear to be a more frequent sign of Arteriosclerosis than of the other.

8th. Bursa heard down along the spinal column is a frequent occurrence in Aortic Arteriosclerosis.

9th. The voice more frequently affected in proportion to the number of cases in Aortic Arteriosclerosis.

10th. Some degree of respiratory phenomena present (as a general rule) in Aortic Arteriosclerosis - their occurrence in Arteriosclerosis of the innominate artery indicates the presence of the usual occurrence.

11th. Large proportion of females affected with Arteriosclerosis.
Ellen Shea aged 27 admitted into South Infirmary, Cork in May 1849. Under treatment of Dr. Hobart, one of the surgeons in the institution.

After undergoing repeated examinations the patient was considered as affected with tumour of the innominate, and Dr. Hobart had proposed to tie the carotic and subclavian arteries, but provisions to the performance of the operation did not permit. To examine the case and to obtain the following account

She suffered from palpitation of the heart for the last eight months. Five months past, she noticed for the first time a pulsating tumour at the upper part of the cheek. About the same time the veins of her neck became enlarged (particularly on the right side) and her face assumed a short time before admission into hospital her ankles were swollen. Suffering from dull constant pain between the eyebrows with occasional stitches down the right arm, complaints of a hoarseness and loss of her voice "which comes and goes from day to day""
Morr had dysphagia or difficulty in swallowing, good health for which the disease being caused by the beating of the tumour.

A constant dry cough.

Heart: Respiration: Easy and without Stridor.

The node on the right side of the neck very enlarged.

A pulsating tumour larger than a walnut in the lateral right clavicular articulation. Eternal end of right clavicle dull on percussion. Respiratory Movement scarce, audible over the upper part of right lung, loud in the lower part of the same lung; this over the instep of left side.

No rale in any part of the chest.

Heart action quick. Left chamber filled with both sounds of the heart. Conduit at the left side of the lower part of sterno, above this point it becomes weaker and is soon replaced by another sound.

Well marked thrill can be felt over the tumour, and on applying the Stethoscope in this situation a loud double sound is heard accompanied by a harsh cracking.

Doubt Chamber — these phenomena have their maximum of intensity just below the right sterno-clavicular articulation. When the stethoscope was moved across the chest in the direction of a line drawn from the tumour to the apex of the heart, we found that the auscultational Points became gradually less distinct until we reached a point about midway between the
Furrow and the heart's apex. Where it was replaced by a double murmur of much softer tone which became more intense as we approached the heart - this latter sound being the double murmur before mentioned as accompanying the heart's action.

We have then in this case two points of pulsation within the chest, each accompanied by a distinct appulse and Michaeli sound. Each giving origin to a double murmur; one set of murmurs (the auricular), heard; the other set (the carotid) soft - the murmur examined the arteries - radial pulsers of equal column. Thrill can be felt at a murmur heard in the carotid and subclavian arteries on both sides of the neck, rather better marked on the right than on left side. Double sound & double murmur run down the spinal column as low as 3rd thoracic vertebra, equally loud on both sides of the spine. Below the 5th dorsal opiums proceed the sound and murmur lose their double character; below this point a single pulse when and single murmur audible. On the 3rd spine, she complained for the first time of a violent pulsation in the abdomen accompanied by a feeling of faintness, & she remarked that the beating in the umbilicus was strong. A not well-defined furrow can be felt in the epigastric region, pulsating & accompanied by a loud bruit. Both murmurs and
tenderness are single. Pressure of the hand in the epigastric region caused pain in the back, and a<br>feeling of nausea, with a sensation of fluid passing<br>from the abdomen up into the chest.<br><br>On the latter end of the month of June she had a slight<br>attack of dysphagia and on the day following the<br>spat up without effort over an ounce of uncoagulated<br>dark coloured blood. Leeches were applied over the<br>stomach which relieved the dysphagia. Since then<br>she left her leaving the hospital in the month of September.<br>She had no return of either the dysphagia or<br>dysphagia - and no tenderness or symptoms developed<br>from the occurrence of pain & occasional tendency<br>of right arm and fingers of right hand. Pain mainly as the<br>third observations were afterwards confirmed by<br>the physicians of the Hospital, and as the existence<br>of schwannian and the area of the active sensations put<br>beyond the possibility of doubt, all idea of operating<br>was lain aside.<br><br>As to the real position of the aortic arch, we considered it, to engage the anterior thoracic part<br>of the tunica albuginea portion of the arch - and that there<br>was also exist a dilatation or aneurism of the<br>abdominal aorta a little below the diaphragm.<br><br>In this case the constriction of the diaphragm made<br>it was allowed to refer to the physicians of the South Infirmary Cork<br>in confirmation of the accuracy of these facts, while there were taken.
remain for the present a matter of doubt, as the patient is still enjoying a moderate state of fort health, and the best operations upon an opportunity would most likely have been afforded of testing the accuracy of the diagnosis by post mortem examination.

If aortic valvular disease had not been present, then the existence of a Pericardial effusion would have been a valuable finding, as much as we could not conceive it possible for this scar on the innominate to cause a Murmur in the left carotid, and it would be perfectly possible for an extension of the scar of the knot to cause Murrums in all the great vessels, as they all take their origin from it.

The case just mentioned fully confirms the observation of Dr. Husk Green & several others, viz that according to Dr. Croft, is capable of producing two sounds: one originating two murmurs, but as observed at 9:44 we would consider the second Murmur as indicating and caused by staphymerl of the diaphragm of the opening leading out of the sac.

In this case the 5th note of the Dublin Medical Journal together with the case before us would appear to the proof of Dr. Hendersson's conclusions in the paper on "The Sounds afforded by Subternal murmurs," Edinburgh Medical Journal, 1834. In remarking "that, when two pure Sounds, i.e. Sounds free from marked Murrums o
Deeings, are heard in the situation of an Arterium, the one only originates at the termo, the other being communicated from the rigour taulors.”

Dr. Jenner has arrived at one very important Observation viz. that the second sound of the heart is susceptible of increase and probably of diminution from chills of the bowels capable of modifying the energy with which the blood recudes upon the valves.

There are no doubt many remarks in this 32d part of our essay, which will not stand the test of more extensive observation and others which will require modifying before they can includes among the list of facts; it could not be otherwise considering the imperfect state of our knowledge of these affections, and if each of these conclusions are ultimately proved incorrect, still one thing would not have been disproved, for in order to the present three observations much attention should have been paid to this subject and there would end in the establishment of five ground on which to meet the different difficulties of Arteriums of the membranes from those of the arch of the heart.
Part 4

Differential diagnosis of Thoracic Inflammation from Laryngitis, Intra-thoracic Cancer and from Pulsating Empyema.

We have but one original observation to offer on this part of the subject; it must therefore suffice to collect the symptoms and signs of these diseases and by placing them opposite one another to show at a glance the differences that exist between them. By such tables as the following, we learn the symptoms and signs of each affection, can estimate their value singly and collectively, and see their relation one to another, which enables us to take a logical and comprehensive view of the case before us.

Were this method more fully carried out than it has been hitherto done, both in the mind of the physician and in his notes, there would in all probability be much less jumping at a diagnosis of wrong curther suspicion, far more certainty, and success in treatment.

Note - Substitute Laryngal chills for Laryngitis, as the latter is applied exclusively to inflammation of the larynx and in intent to include under the term Laryngal chills all obstructive affections of the larynx.
Diagnosis of Thoracic Aneurism from Sorengitis

In Aneurism we have,
1st Evidence of Intestinal Pressure.
2nd Evidence of Respiratory Aneurism.
(a) in our case or part of a lung,
without the sign of inflammation
solidification or effusion.
(b) Instability of the spine.
(c) Enlargement or absence of parts.
3rd Evidence of Solidity within the chest.
4th Evidence of Sorengitis
within the chest - pneumonia.
5th Existence of Sign of Aneurism as Pulmonary, Bruits, etc.
6th Difference in the radial pulses.
7th Cyanosis of the skin.
8th Local Swelling.
9th Swelling of the arm, neck or face.
10th Stridor on breathing.
11th Stridor from below.

In Sorengitis we have.
1st Respiratory Aneurism equally
over both lungs.
2nd No Evidence of Solidity
within the chest - pneumonia.
3rd Absence of three signs.
4th No Evidence of Solidity.
5th Palsies.
6th Pains of Suffocation.
7th Swelling of the skin.
8th General Swelling of the limbs.
9th Swelling of the arm, neck or face.
10th Stridor on breathing.
11th Stridor from below.
The diagnosis of pulsating cancerous tumours within the chest from carcinoma, is a problem requiring much attention to the succession and mode of occurrence of both signs and symptoms before we can attempt its solution. The two diseases have much in common, both may cause slowness on percussion, tracheal breathing pulsation, thyrocele, oesophageal difference in the vocal pullers, &c. Bruits along the diaphragmatic pleural surface. The difference occurs in both affection (as an example of this we may mention the two cases in which the diaphragm was pushed down, and the heart displaced to the left side and much lower than natural). In fact the diagnosis from physical signs depends chiefly, on the great extent of the dulness and freckles of pulsation in cancer, when compared with annexin. This is as to William Stokes that the profession is indebted for most of what is known or this subject, and this diagnosis of cancerous degeneration of the lung was indeed an illustration of what can be done by long continued observation, opening a new and hitherto considered impassable path in diagnostic medicine. Cancerous tumours derive their pulsation from the vessels with which they are in contact, and the Bruit which occurs in these tumours is caused by the pressure exercised on them. If the explanation we have offered of the cancer of double Bruit be correct (ERR. 1343) it would be impossible for it to be caused by the presence of cancerous or other tumours, as we consider it to have its origin in the roughened coats of the artery.
Up to the present time double Brust has only been found in pronounced tumors, hence we must (at least for the present) regard its presence as conclusive proof that the latter is not cancerous. This difference has not been before noticed, and it may have weight in forming our opinion as to the nature of the case we are examining.

In Intrathoracic Cancer

1st. The respiration of the countenance is peculiar and characteristic of malignant Disease.
2nd. The Pneumomorsum diminishes gradually until it is entirely absent.
3rd. Occasional pain of a pleuritic kind.
4th. Tumors often occur on the part affected.
5th. Internal tumors appear they have, which do not present intrathoracic character.
6th. Hemoptysis frequent.
7th. Saldgment of the superficial

In Thoracic Anuria

1st. The countenance is anxious, often expression of suffering.
2nd. The Pneumomorsum diminishes much more rapidly. This never entirely lost.
4th. The external tumors appear they have all the signs of Anurismus.
5th. Operation, if matter called from its colon, black jelly, colored, opaque.
6th. Hemoptysis frequent.
7th. Tone not so much compressed.
8th. Pain of the chest. Not related in any way to Emphysema.
9th. Complete dilatation or expansion. Bulbus confined to a small space, over a large portion of the chest.
10th. Pulitation of the 4th, 5th ribs. 11th. Pulitation strong, at almost inaudible.
In extra thoracic cancer.

11th. Bore is long in all cases.
12th. Signs of internal pressure increase very slowly.
13th. No absorption of the bums.
14th. The symptoms and signs do not vary in intensity at different times.
15th. Symptoms resist all attempts at alleviation by treatment & are not aggravated by muscular efforts.

In extra thoracic aneurysm.

12th. Bore is long in all cases.
12th. Often exceedingly rapid & formidable increase in signs of internal pressure.
13th. Absorption of the bums seem to prevent
14th. Greatest variation in the intensity of all the phenomena.
15th. Great relief afforded by bleeding, leeching and venereal medicines by section.

Diagnosis of pulsating empyema from thoracic aneurysm.

Pulsating empyema of thoracic aorta is the name applied to a form of circumaortic empyema (described by Dr. McDowell in the 25th volume of the Dublin Medical Journal) which receives its pulsations from the heart. We have never seen a case of this kind. Dr. McDowell says "they resemble aneurysms in the long continued pain, dyspnoea, cough, liability to become acute (namely the left) pain in a certain point where after a time a small tumour appears, which increases in size is devoid of pain and presents a distinct pulsation. It finally perforates giving rise in cases of pulsating empyema to perimortem atheorax by external fistula. We believe Dr. McDowell is mistaken when he asserts that aneurysms are more liable to occur on the left side, and are more likely to confound this disease with aneurysm on account of its occurring low down at the left side of the chest.
Pulsating Emphysema
1st. Begins with symptoms and signs of pleuritis with effusion.
2nd. Deep breathing, cough or chill.
3rd. Pulsetion is not strongest at the point where the bulge is greatest. It occurs only on the left side.

The absence of many of the signs of aneurysm will prevent these illusions from misleading us for the other.

Thoracic Aneurism
1st. One or all of these signs proceed the formation of aneurysm.
2nd. Throes usually present.
3rd. Pulse is always loud at the point of extreme bulging.
4th. Drag appears on neither side.
Most frequently the right.

To conclude - our endeavour has been to make this essay as practical as possible. To avoid making use of the observations of others without acknowledging from whence we derived our information, and to render the entire as complete as possible, and concise as long as our power.

Thos. Holland March 1850