PATHOLOGY

DIAGNOSIS

and TREATMENT

of

THORACIC ANEURISM

by Allan Robertson
The application of the principles and facts of the science of Physiology to the practical art of disease, bears too scant a credit due. That such has been the case is not a little remarkable. That Physicians, skilful, learned, and accomplished, should have accepted the symptoms of a given malady as facts, without at all endeavouring to trace them back to their causes, or to explain them except on the most mechanical principles, seems to us living, as we are, in an age famed for its experimental researches, and the practical application of those researches or rather the results of them, to the alleviation and alleviation of human suffering, altogether incomprehensible. Two reasons, however, may be assigned for this apparent anomaly on account of this method of diagnosis due to the extremely unsatisfactory state of physiological knowledge.
of experimental researches.

The disease has demonstrated more clearly the great advance made in the method of diagnosis within the last few years, and the great aid which a careful and scientific study of that department of knowledge, which had for its object the explanation of the laws which regulate the phenomena observed in all living animals, but more especially in man, affords in arriving at a pretty exact conclusion with regard to the nature of the malady under which the patient may be, unfortunately, labouring, from the eldredge of the following papers.

That such is the case, is at once apparent from the fact, that in certain obscure forms of aneurism, which originate or spring from the posterior and inferior surface of the transverse arch of the aorta, there are absolutely no physical symptoms of the disease, and the only circumstances that lead to the suspicion of the existence of this form of the disease, was the development, time, cause, as far as could be ascertained, gradually of laryngeal symptoms, by it is allowed by all authorities that from the study of these physical symptoms alone, we are enabled to arrive at. In the cases in which the symptoms are well marked, an accurate diagnosis not only with regard to the nature of the malady, but also with regard to its seat, situation, and course or direction of its progress. Thus, in aneurism arising from the transverse part of the arch, or springing from the innominate artery, we have often developed these symptoms, de concentric rings of pressure upon the recurrent laryngeal, upon the sympathetic, and upon the origin or course of the innominate, as far
example, among such traumatic injuries from the involvement of the first
vagility of Blackmore's complication of the second, and differences in the
juxta at which some pressure upon the third, and from the careful study of
these alone, we are enabled with all but absolute certainty, to come to the
diagnosis of Aneurism and not only of but Aneurism affecting an artery
from the Arch of the Aorta at its Transverse part, and passing backwards
upwards to the spine, without letting into consideration the physical
seizes at all.

Again in Aneurism arising from the ascending portion of
the arch, there is and with cyanosis the lividity of the lips and cheeks
resulting from pressure upon the Vena Cava superior by the tumour.
Now the simple explanation of this pathological state is, that it is owing to
a mechanical impediment to the return of the venous blood to the right
side of the heart, and as a consequence of this the engagement of the
veins with blood. But we know that venous blood acts injuriously
upon the brain itself, leading to various change in its substances, and
the development of certain phenomena as homoeoia, coma, etc. etc.
But it must moreover also that whatever tends to obstruct the flow of blood
in the veins, powerfully predisposes to the occurrence of Abuessa,
apanares, or some other of the varieties of diabetic as the case may be.
Of to any or all of the above symptoms has added that of angina pectoris
resulting from any lesion of the heart, the probabilities will the great that
there reside in Aneurism springing from the Ascending Ane, and involving
the pulmonary or other cardiac filaments commences and pressing upon the heart.
But before entering upon the subject, let us define what is meant by the term Aneurism. And how we intend to treat it in the following pages.

By this term there is meant three forms of Anomalous Tumors springing from & involving in increased action all that portion of theorta situated within the cavity of the thorax, viz. from its commencement at the aortic valve downwards it terminates by being transmitted through or between the pillars of the diaphragm. Under this term is also comprehended Aneurism of the Innominate artery.

Various have been the ways of classifying the methods in which this important disorder has been considered, but we think that a simple division of the entire subject into three heads, & its consideration under these divisions, will condense more to the purpose & condensation than any more elaborate system or classification would or necessarily could do. We propose then to treat the subject under these three heads: viz. The Pathology, on which we will be exceedingly brief.

II. Its Diagnosis; on which having offered some few remarks on the general symptoms & physical signs, we shall consider these characteristic of 1st Anomia of the Ascending Arch; 2nd of the Transverse Arch, comprising the Innominate artery; 3rd of the descendingorta.

III. Its Treatment:
I Pathology.

Into the pathology of Aneurism we do not intend minutely to inquire. As this paper has more the character of a clinical rather than a pathological treatise, any lengthened observations upon this important and highly interesting subject, giving rise to such varied results, might seem superfluous. If time and opportunity had afforded it would not have been uninteresting or unprofitable to have examined the rigorous, curious, but erroneous, opinions held by ancient authors concerning the pathology & mode of production of this disease.

We would have found, indeed, that most distinguished physician in his day, believing (as this opinion was shared by Dr. Linnaeus) that the process under consideration consisted essentially of a dilatation or relaxation of a venous vessel, or a depression of the spiry veins, matter under the flesh, where it diffused itself in jerks. Again, in his elaborate work 'De Aneurysmate', Bonnilemni considered Aneurism to depend upon & be produced by a greater or less diminution or entire absence of the cohesion of the fibres that compose the substance of arteries. That this state was the direct result of wounds or accidents of the arteries, or depended upon too violent impulse of the blood, or some other cause.

Not explained, nor even mentioned, by the author. Our space forbids us dwelling at greater length on this part of the subject. We must proceed as briefly as possible to state the opinion formed after...
a careful consideration of the views put forth by the most distinguished Pathologists of modern times, of this important abnormal process.

And first, with regard to the mode of production of a dejectated Aneurism, or where the disease attacks a limited portion of the circumference of the artery, delaching it at that point in the form of a shallow pouch, which soon becomes converted into a sac, narrower generally at its neck, than at its base, or body, it is produced in the following manner. From some oblique process which has not been sufficiently explained, a peculiar change, leading to hypertrophy, thickening, takes place in the structure of the lining membrane of the artery, consisting of, in the large majority of instances, a decided layer of fat interposed between this layer, which undergoes a singular transformation into a yellow, pulpy mass, in short, takes on the so-called atheromatous degeneration. From the irritation resulting from the progress of this abnormal process or possibly from the same edema (as we shall see immediately to be more probable), the middle coat takes on the true fatty degeneration, that form of the disease in which there is a complete elevation of junction, and an almost entire destruction of tissue, of losing its natural elasticity & resistance, it readily yields before the equalizing pressure of the blood, being unable to resist the distending force of that fluid, owing to the loss of its own resistance, or rather its fibres become gradually separated, the newly altered membrane coming in contact with the
cellular sheaths which has also undergone a somewhat atheromatous change, the further enlargement being now specially exhibited at
these points. The wall of the vessel is dilated at that particular part
first into a pouch, but soon is converted into a sac, the walls of
which are composed of the two layers above mentioned.

How it appears probable that the first step in this series of
changes consists in the majority of cases, in a chronic inflammation
of the cellular sheaths, which terminating as it does in its hypertrophy,
thickening of condensation, must interfere with the due nutrition of
the internal coats. But it is well known that whatever diminishes
the amount of blood supplied to a part, or in other words, impairs
its nutrition, powerfully predisposes to the production therewith of
fatty degeneration. This is well seen in the fatty degeneration of
the heart (resulting from disease of the coronary arteries), in the
degeneration of that muscles of a limb as a consequence of paralytic
death, in the involution of the uterus after delivery, owing to
the diminished supply of blood. And so it is that the cellular
sheaths which supply the blood vessels before giving of their
ultimate branches for the supply of blood to of circulation of the
two internal coats, being first affected, is altered in its structure
and composition, and is interfered with the circulation through the
delicate minute arteries ramifying with it, and consequently diminishes
the supply of nutritive and reparative materials to the said coats.

should thereby almost must, lead to the occurrence or rather development of
fatty degeneration, atheroma, and their resulting consequences.

Although this is the most common mode in which this degeneration occurs, it appears to have been placed beyond all doubt, more especially by the labour of the German Pathologists & Barlow, that it may attack the middle coat only gradually, insidiously destroying its elasticity & resistance, so leading to the formations of Atheroma or dilatation as the case may be. This is essentially the result of a passive process & the explanation given of it are by no means satisfactory, so with all deference to the many distinguished men who have written on it, allow us to give the following explanation of it, which appears on the whole the most probable, although perhaps not the most convincing.

It is well known that fatty degeneration attacks the walls of the most minute arteries, producing in these changes which not only interfere with their proper regulating function, but also cause contraction of their caliber thereby diminishing the supply of nutrient material to the part which derives its sustenance by means of the blood which they contain. But we have before observed whatever impairs nutrition in a part tends to the production therein of fatty degeneration. Although it is true that we have no positive proof that such a lesion does occur in the small nutrient vessels of the large arteries, yet as we know that these two forms of degeneration may occur in the same part at one of the same time, & stand in the relation
one to the other of cause & effect, as you see in cases of fatty degeneration of the liver, resulting from the direct effect of a specific condition of the organ, we can see the reason why this may exist in this particular instance, but the cause of the other. In those less common forms of fatty degeneration attacking the middle coat of the arterios, leading to the production either of dilatation or aneurism, the sequence of events then, we believe, is as follows: the small nutrient vessels of the large arteries become affected with fatty degeneration, owing to some latent cause or another, as a consequence of this the supply of nourishing matter to the middle coat becomes diminished, which leads to occurrence of depredation of fat into that coat, due to the loss of its elasticity, & the production of aneurism as before explained.

We are far from denying, however, that fatty degeneration may not, in a limited number of cases, take place here as well as elsewhere, without any appreciable cause, & result probably of imitation, to produce its characteristic effects.

Great stress has been laid on the value of the ulceration on the surface of the internal or middle coat in the production of the disease, but, although we do not go the length to which Robertson has gone, we think that its importance & frequency has been greatly overrated. It appears probable that in majority of cases of aneurism, the perforated, be either of the ways above mentioned, that the walls of the case at first composed of the internal membrane, cellular sheath, may, giving to a process of absorption & ulceration from
pressure of the deposit upon the lining membrane causing its gradual disappearance, ultimately he composed of merely the deposit of cellular sheath. What renders this view more probable is the fact that in all cases, a calcified Anurieus, the three coats composing the vessel can be traced into layers forming the wall of the case, or at all events its neck part of its wall to a greater or less distance from its points of communication with the main trunk of the artery. The most erroneous conclusion have been come to with regard to the pathology of disease by some Hellenic Anatomists from the circumstances of their being unable to trace the internal and middle coats in the walls of the case, but the reason of this appears to lie two-fold: 1. That owing to the amalgamation of intimate union of the structures entering into the composition of the wall of the case from the occurrence in it if it may be of adhering inflammation, it becomes after a time absolutely impossible to separate its constituent parts, or to tell how many coats originally composed it; 2. That, from the pressure of the so-called atheromatous deposits upon it, the lining membrane gradually undergoes a process of absorption & ulcerating following the same law as we see elsewhere apparent in the system, as those in the absorption & mechanical digestion of louse from the pressure upon it of a large Anurieus tumour. May not only so, but the atheromatous deposits itself as was distinctly proved by Hotchkiss (Vol IV Pathologic Anatomic), may be bid not a real
gradually lost by being absorbed into the blood, if then as the middle
layer is always in those cases affected & destroyed, its fibers having
become split up & gradually separated. The aneurism which results
consists merely of the cellular sheath, lined probably in time by
a new deposit ordering its formation. Subsequent progress difficult
of destruction. But time before will not permit us to dwell
longer on this important point. Now let us consider briefly the
whole of production in the second place of

dilation or a localized dilatation of the artery the whole
circumference of which is enlarged to a greater or less degree.
It is produced, in the majority of instances, in precisely the
same way as the true calcifications vary, with this difference only
that the change, instead of being confined to a certain portion
of the wall of the vessel the dilatation taking place there alone.
Into a case, is diffused over the whole circumference of the artery
to a greater or less extent as the case may be. In some cases,
however, it takes place without any visible alteration of texture
in consequence of simply a loss of elasticity & constancy of the
middle coat of the artery, owing most probably to incipient fatty
degeneration of that tissue which has not proceeded far enough to
be demonstrable to the naked, or even if may be, by the assisted eye;
or it may lie though we think it is extremely improbable & is not
supported by any known facts) owing to the result of aseptic ulceration,
a mechanical overfilling of the vessel with blood, leading to a cut
of local paralyses limited to the middle coat, so allowing of its
distension and dilatation before the pressure of the blood, being unable
to regain its normal size owing to its loss of elasticity.

These two examples of the disease have been selected because
they embrace in their pathology that of the other forms of this disease
which have been described, but which are not within the
range of cases of the above, and entitled special attention.

Aneurisms have been variously divided. One very common
division is into true and false. Different authors attach different
meanings to these two expressions. The method least adapted
to our present state of knowledge would be either to call them all
true, or else to divide them into true and false. If to understand
by the former term an aneurism where the walls of the case
are bounded by or composed of the walls of the blood vessels;
by the latter an aneurism where other tissues beside the walls
of the vessel have entered into the composition of the case, as where
from pressure of a process of absorption, ulceration (as previously
explained) or adhesive inflammation, the media, intima, or other
tissues combine to form the wall of the aneurism.

The different forms of aneurism (to the chief of these will only be
mentioned) are the following: the simplest type of all
is the cylindrical, where the vessel is dilated equally.
It is fusiform if the dilatation decreases towards back and
front. It is sarcoidal where the disease attacks a more or less defined
portion of surface of the aorta, and from the pressure of the blood it
then distends first into a pouch and afterwards into a sac.
It is certain where the aneurism is twisted on or distorted round its axis.
Lastly it is rare when there is a communication established between
the aorta of the aneurism and either an adjoining vein or the right
auricle of the heart. Other varieties might have been mentioned
such as hernia, so called false which probably never occurs in the
sense in which it is usually employed, but the above are almost
if not all that present any practical interest.

The size, form, and position of the aneurism vary greatly,
are too being ever found in all essentials alike: however much
they may resemble one another, they vary in size from a
pea or a small walnut to the magnitude of a child’s or even a
man’s head. It is a remarkable fact, and one which we will see
illustrated hereafter, that as a general rule, there is a greater
tendency to rupture in the attacked with more formidable
symptoms in the smaller than in the larger forms of the disease.

The form of an aneurism is greatly modified by the presence or
absence of resisting structures. Thus in certain forms of
the disease attacking the descending aorta, we have the case
assuming a remarkable shape and configuration, as in a
remarkable case just on record by Dr. Bryant, where the
one arose from the descending arc and was immediately
divided into nearly two equal portions, the one passing to the
Mr. Stothers has put on record (Vide his admirable work on the Diseases of
the Heart & Arteries p. 576), in confirmation of the above observation, a
remarkable case of Aneurism of the Aortic Arch, with perforation of the
Aesophagus and left Bronchial tube, in which there were present the following
symptoms - Dysphagia, bellows Murmur, dyspnoea, stridor, from below,
a faintly pulse at the left wrist smaller and feeble than right one. After
these symptoms had continued for a few months they all disappeared.
The dysphagia ceased, the bellows Murmur became inaudible, dyspnoea
and stridor from below gradually, were if not suppressed, at all events,
slowly relieved; pulse at the left wrist lost all traces to its natural
condition, and patient continued in good health, comparatively speaking,
for more than a year; when, probably on some sudden movement
of the body being made, many or almost all of these distressing symptoms
again returned, and continued without intermission up to the time
of his death.
left end, adapting itself accurately to the hollow between the spine column and the ribs, the other passing in front of the spine, assuming a more or less oblong flattened shape. Various are the situations in which tumours of the aorta are found. They are most often situated on the aorta within the pericardium, they are observed arising from the aorta in its ascending or transverse parts, and presenting at the surface in the form of a distinct pulsatile tumour, by compressing some deep seated internal part of the body. They are seen frequently, from the descending aorta & either pressing upon the vertebrae & lungs, or in some few cases forming a distinct bulging & pulsating swelling beneath the epaulette accessible to the naked eye. But not only are the positions of the anomaly various, but the situation of the tumour itself often changes throughout the course of the disease. This has been made self-evident by the publication of several remarkable cases by such competent observers as Stokes, Greene, Gardner & others, in which after the existence for a considerable time of a given class of symptoms, they suddenly, on some movement of the body, being made, ceased, & patient either remained for a time, comparatively ease, or misleadingly a new train of phenomena presented themselves. How the only explanation of this curious fact is, that the tumour had suddenly changed its position, & was compressing some hitherto unaffected organ, or remained somewhat quiescent, there being no vital
important, or highly sensitive part against which it was pressing. The number is also liable to variations than any of the other conditions already mentioned of the disease. In the large majority of instances, and more especially if the tumour is a large one, an aortic aneurism is isolated. The rule, though general, is not without exceptions, as it not every unfaithfully believes that there is accompanying a large aneurism, a smaller one, which, although diminishing its size, may have been the cause of as much suffering and in some cases, more. It may even have been the direct cause of death, to its larger and apparently more formidable neighbour. Aneurisms are more common in males than in females, in the proportion generally, speaking, of five of the former to one of the latter, if the explanation of this is naturally given as owing to the life of the male being much more laborious than that of the female, who usually, follows a sedentary mode of living, and also from the circulation of the former being more liable to excitements from potations of vinous or spirituous liquors or other stimulants of that sort, than that of the latter, who is expected to live quietly, to live, more temperate in her habits, and less exposed to cause of excitement or their influences.

The age at which this disorder is most liable to occur is from 35 to 65 years of age. It is rare between 20 and 30 to meet with it, if it considered quite exceptional if seen before 20 years of age. The cause is sufficiently apparent.
Aneurysms of the thoracic aorta are met with most frequently in the ascending and transverse parts of aorta. The reason of this seems to be twofold: one is, that in these parts of the aorta there are only two portions of the vessel which are subjected to any pressure of the arch. The other is that the vessel is more prone to develop aneurysms from the pressure of the arch. The two causes being that the vessel is more prone to develop aneurysms from the pressure of the arch and that the pressure is more concentrated in these two portions of the vessel. Perhaps a third cause may be assigned, viz., that owing to the elasticity of the vessel and the pressure of the arch, the vessel is more liable to develop aneurysms in these two portions of the vessel.
along with, in the majority of cases, a certain degree of dilatation of the left ventricle. The simple explanation of this secondary pathological condition seems to be as follows: It is a well-known fact that the ventricles is materially assisted in propelling the blood along the aorta and through the systemic arteries generally by the elasticity of the middle coat of the vessels, but more especially of the arteries, whereby the vessel is enabled to regain its normal condition, and by doing so must necessarily reduce the blood at the root of the aorta being supposed to be healthy, i.e., acting normally and physiologically, propel the blood onwards. Now in America as we have seen, the elasticity of the artery is greatly if not wholly impaired, and consequently yielding before the force of the blood, and being unable to resume its normal caliber, it must necessarily offer a certain amount of obstruction to the course of the blood. But we know that should any impediment exist to the course of the stream of the circulation, the blood tends to accumulate in the ventricles, and therefore to stretch and dilate it. But according to a principle in mechanics, a little distance of a spheroidal cavity must acquire an increase of force to propel from it a given quantity of fluid through a globe discharging or conducting tuples in the same time, so that the heart, following this mechanical principle, must, if possible, to overcome, by a species of compensating force, the mechanical obstructions by increased muscular efforts, and leads to its hypertrophy.
II Diagnosis:

The diagnosis of a Thoracic Aneurism is partly anatomical, partly physiological; anatomical in so far as the size & position of the tumour is concerned; physiological from the involvement of the neighbouring structures by pressure upon them or otherwise, giving rise to exaggerated, deficient, or new phenomena as the case may be. The appreciation exactly of the existence of such an abnormal condition depends both on the pathology of the disease which only serves to corroborate, as on a careful study of the so-called physiological symptoms, combined with in all cases the result of physical examination. It occasionally happens, however, that with all these aids, or at all events with half of them, methods combined, it will be found to be almost impossible to come to a correct conclusion, or even to a conclusion at all, with regard to the nature of the disease under which the patient is suffering; and in these cases it becomes of the greatest importance that what is technically called 'history' or the 'previous history' of the patient should be obtained, as it most frequently happens that, there will be found facts which may confirm, give rise to, or entirely refute the idea previously entertained concerning his disease. As long as the tumour keeps to mediastinum, and does not involve the nerves that pass upon neighbouring parts, nor form a visible or palpable swelling, pulsatile in its nature, externally, it is absolutely...
indispensable; but whenever it encroaches upon these parts, it gives rise to a variety of important effects, and so creates for itself a diaphragm. A close study therefore of the relative anatomy of the bowels appears to afford the true, and indeed it may be said the only clue to the diagnosis accurately of these important disorders.

Sometimes it is one of the most latent of diseases, presenting almost absolutely no symptoms, or any physical signs. The patient living on in a state of tolerable health, and having scarcely, if any suspicion of the existence within him of a mortal disease, go about his ordinary avocation, performing it may be without much difficulty, until he suddenly either drops down dead, or expectorates a large quantity of blood, from the effect of which he may either speedily perish, or gradually, but never completely, recover and regain somewhat of his previous health again. Such cases, although infrequent, are by no means rare, as has been abundantly proved, and most conclusively shown, by the laborious researches of Pitcairn. More frequently, however, fortunately for the patient, his friends, and the skill of the physician, the disease calls attention to, and gives evidence of its presence either by the formation of a pulsatile, expansile swelling, presenting at the surface in a visible or invisible form, and so attracting the notice of the sufferer, by his often feeling a sensation as if he had two hearts beating in his chest, or, with or without the existence of this abnormal condition, by the development of a peculiar train of phenomena, due to the pressure of the tumour...
upon neighbouring parts, which to the wary practitioner are almost pathognomonic of the disease if carefully studied and connected in their relation one to another, and which bring the production of so much distress and annoyance to the patient himself, that he is perfectly convinced that he is the subject of some grave organic disease. It becomes apparent then how important both in diagnosis & a forethought point of view, it is that we should examine carefully the chest by all the means at our disposal, that we should note accurately the symptoms complained of, and presented by the patient under observation, and to weigh all the most minute detail of evidence derived thence with all care. In all cases of thoracic disease, more especially if that disease be involved in any little obscurity, & suspected to be of an aneurismal nature. Finally it may be laid down as a general rule: that although in many cases, it is impossible to come to a diagnosis of the disorder by physical means alone, yet by paying attention to, and minutely investigating at the same time, the other & perhaps as important if not and so, class of phenomena viz. the physiological, or as they more generally termed, the general symptoms, a pretty accurate opinion of that disease will, in the great majority of instances, be formed.

As in all other chest affections we have two sets of symptoms from a careful study of which a knowledge of this important pathological condition of the heart may be obtained - & hence, resulting from the pressure of the tumours upon, and
compressions of, neighbouring parts.

2. Those derived from the result of physical examination.

Each of these two classes, to assist comprehending those highly interesting and remarkable set of symptoms termed physiological, or as they are more usually called, general, the second comprehending the signs usually by those four great means of physical diagnosis viz: inspection, palpation, percussion, and auscultation, will be chiefly examined, and then those signs and symptoms found most frequently accompanying or that are characteristic of, or may be said the diagnostic of each of the three divisions of the work above mentioned, will be rapidly considered.

Chiefly from a clinical point of view. Two cases have been selected to illustrate our remarks, all of which have come under our observations during our necessarily limited attendance on the hospitals.

1st. General or Physiological Symptoms:

Much had been said about the existence of a disease peculiar to this disease, but the whole may be summed up in one short sentence viz: that the subjects of ascensional tumours have been, previously to the development of the disease, in the large majority of instances, muscular, full-blooded, active, energetic, and healthy constitutions (if such an expression may be used) individuals, individuals unbrost by disease, of possessing usually that peculiar central dullness of the chest, with a wide ophthoe, plaeoed margin around it expressive of, according to Dr Muntz, this disease.

This rule, with every other of the same kind, has its exceptions, as it is

* Cancel 1861.
While, on the one hand,刑侦ancey declares that Aneurism of the thoracic Aorta, or indeed spontaneous Aneurism, whenever it occurs, no combination with tuberculosis, liver, or the other, asserts that the marked condition which most accompanies Aneurism is that of tuberculosis. The truth, however, as in most other debated points in medicine upon which the most of points opinions are summed up and most dogmatically held, is as for the cure of inflammations by blood-letting, far from being, or, in other words, the combination of the two diseases, although undoubtedly not rare, is by no means very frequent.
found that the subjects of this disease present, in not a few cases, instead of the usual plethoric appearance, a care-worn, emaciated, cachetic appearance. More especially if these coincided with it phthisis, as it most undoubtedly, in some cases, does. notwithstanding Hoffmann's strong statement to the contrary. The contemporaneous existence of Anæmia and tinctures in the same constitution at one and the same time, must necessarily lie far from being frequent for these three reasons: 1. the age or period of life, at which Anæmia or the one hand and tinctures on the other is developed, differ greatly; the former being a disease peculiar to the decline of life, and seldom will before 20 years of age; the latter being essentially a disease of youth and early life, and seldom one will after 20 or 25 years of age. 2. The constitution in the two disorders is essentially distinct; in Anæmia being of a robust nature, and usually well developed, in tincture it is rather of a weakly form, slender shaped, and incapable, usually of much exercise. 3. The causes which lead to their development are in all probability quite different, the former being probably quite produced, at all events predisposed to, by laborious work, straining of body or mind, and from excitement from severe or spiritsuous liquors or other influence of a stimulating nature, as is apparent from the greater frequency of the disease in the male than the female; the latter affecting or being developed in those who have had a hereditary weakness transmitted to them, or who have been debilitated and their systems weakened by a vicious...
mode of living, and bad hygienic conditions, such as bad ventilation, non-nutritive food, little exercise, etc. That, however, they are met with in a few cases, consisting in the lung constitution, cannot admit of a doubt from the numerous cases recorded, but yet it appears to be probable that not a few of the so-called and so described tubercular cavities found in the lungs in cases of Aneurism are or have not been the result of the defective lung and subsequent softened state of tubercle at all, but rather the effect of a low form of inflammation attacking the pulmonary tissue and leading either to gangrene or suppuration, the breaking down of the said tissue, and its leading to the formation of something resembling very much a cavity in appearance, and this owing to the pressure of the tumour upon the pleuric pleura of the lung diminishing thereby its oxygen influence, or upon the nutrient arteries of the lung itself, lessening the supply of nutritive material, and thus predisposing powerfully to the occurrence of this destructive inflammatory process, on a slight irritation being applied such as exposure to cold, moisture, irritating vapours, etc., etc.

Although Aneurismal patients are generally speaking robust, full-blooded etc., yet their weight undergoes considerable reduction in prolonged cases. This is sufficiently explained, in the majority of cases, some suppose, by, on the one hand, the great suffering generally attendant on the progress of the so-called Cardiopathic form of the disease, and, on the other, by the more prolonged, though probably less intense, misery or rather annoyance endured in the Pneumogastric variety. In the
minority of cases, where the emaciation is extreme, and cannot be sufficiently accounted for by the centripetal or the centrifugal progress of the disease, it has been almost universally supposed to be owing to, or the result of, the mechanical pressure of the tumour upon the thoracic duct, necessarily obstructing the flow of chyle along it, and thereby, as most authorities suppose, preventing this most essential fluid, full of reparative and nutritive matter, from entering the blood, and so causing of course emaciation and consequent emaciation, from the cutting off from the sides circulating fluid the almost only means of nourishment and repair. Now without denying the possibility of such an occurrence, we think that as a cause of emaciation it is exceedingly rare, and for two reasons: 1st. that granting, as every one must do, that tumours do sometimes press upon and obstruct the thoracic duct, it by no means follows that the chyle is prevented thereby from entering the blood. On the contrary Mr. Turner has shown scientifically, by the careful dissection of two cases in which the ducts were obstructed, that the chyle may and readily does issue by other channels into the venous system, when the main trunk of the vessel is obstructed, precisely in the same manner as the circulation takes place in a limb when the chief artery is either injured or ligatured, where large vessels from the amount of blood now transmitted through them form the collateral branches in the thorax and abdomen, which flows from them.

* Edinburgh Medical Journal.
We have inadvertently omitted to state the second reason viz 2nd that
irritation applied to the pseudo-gastric nerves in certain parts of its
course, besides the action of that vessel interfering greatly with
digestion, acts probably directly causing to a certain extent
manifested and subsequent emaciation. Of course the tumour may
produce this irritation by pressing upon the nerves, so that in a given
case it would be difficult to tell how much of the emaciation was
due to suffering, how much to pressure on the duct, and how much
to interference with the action of the stomach, supposing these conditions
above specified to be present.
minute sign, have previously escaped detection, in cases of obstruction or obliteration of the main duct, become greatly developed, and capable of transmitting a considerable amount of lacteal or chyleous matter through them, so indirectly that the patient suffers, in the majority of instances, no bad consequence from the obliteration or compression of the duct. If time and opportunity permit we shall return to this subject again.*

There is usually, as a rule, not any posture or mode of decumbency peculiar to patients suffering from this disease; in majority of cases, the patient lies on his back in bed, with his head high. When, however, the dyspnoea is severe, he voluntarily assumes the semirecumbent posture, or has his head raised considerably above his body, by means of pillows. During a paroxysm of laryngeal or asthma-like dyspnoea, patient sits up in bed, with his hands supported on his head, the elbows on the knees. The expression of the face varies greatly; it may be calm, or it may be, during a paroxysm, indicative of great distress; it may be habitual, anxious, or it may be more especially in case of abdominal distress, more anxious, or it may always irritable. The colour of the face varies also, sometimes florid with slight lividity, or cyanosis, in a remarkable degree; at other times, pale and cachectic, lookings. During the progress of the disease, the appetite often fails or becomes expirations, the bowels constipated, & the development of flatus in considerable quantities to the face, much are some of the more general symptoms of the disease. The best class of symptoms to be considered are those produced by compression of neighbouring parts and from we shall consider.
Pain: It by no means always present in thoracic aneurisms, and even when it is so it is not so prominent a symptom as in abdominal. In the latter, disease pain is more frequent and more intense, and has a peculiar lancinating character almost diagnostic of the disease. As thoracic aneurism it has more the character of lancinating, than an inflammatory pain, and the reason is obviously this, i.e., that it is almost always the result of pressure upon, or compression of, the nerves, or of structures, and organs highly innervated and richly supplied with perineurial filaments. It is seldom severe; it is of a somewhat migratory character, and may be felt in various situations, of which the most common are, the shoulder, the side, the neck, or sometimes deep in the chest, or shooting from the sternum to the back. The physiological explanation of pain occurring in the shoulder, and shooting to the arm, attended by in a considerable number of cases, numbness, and loss of sensation, as well as motion, to a certain extent in the extremity, is simply this: that these symptoms depend upon pressure of the aneurismatic outpouching upon the brachial plexus of nerves, directly irritating their fibers, and producing pain at the peripheral extremities, essentially the same phenomenon as is observed in tumors of tumors, where the pain is usually felt at the area, or in cases of eczematitis where we have the pain situated at the point of the penis. Pain in the neck and side of the head is traceable to irritation of the branches of the cervical plexus. Pain over the aneurismatic prominence may be due to irritation of the pleura or intercostal nerve, or to mechanical irritation of sternum or ribs, giving
rise to a more dull or more constant pain. The occurrence of a boring, gnawing, so-called tearing, burning pain, generally constant, and increasing in frequency from time to time, and situated at the dorsal region, indicates erosion or absorption of the vertebræ. Dr. Stiles relates a remarkable case in which, from absorption of the vertebræ, the patient suffered from pressure exercised upon the tumor itself by the superincumbent weight of the upper part of the body, as was evident from the fact that as long as he supported himself with crutches his legs, dyspnoea, and cough were absent, but the attempt to stand without them brought on these symptoms.

Thus each of these varieties of pain may be due to other tumors situated within the chest, as for e.g. Cancer of the Mediastinum or of the Lung, which is capable of producing by its pressure on neighbouring parts such as the brachial plexus, shooting pains into shoulder and down the arm. So of the thorax there is usually, however, this difference between pain as a result of Cancer pressing upon a sensory trunk, and that as an effect of the pressure of an aneurism, that while the former is always constant, the other is either intermittent in character or subject to marked remissions and exacerbations. It is evident then that the occurrence of pain in a given part can only tend to corroborate or confirm the diagnosis arrived at concerning the disease in question.

2. Dyspnoea: is a fundamental symptom of great frequency and importance in Toracic Anæmias, especially when it occurs in certain forms of disease, and also in forms of Cancer referable to the
Dyspnea is important, indeed, in some cases where physical examination has failed to detect anything abnormal, or where it has disclosed only some vague suspicious sign, this physiologic phenomenon, that from it alone, we are enabled to make a guess at and not actually establish a pretty accurate diagnosis of the disease under which the patient is labouring.

The simple explanation of this abnormal state is, that it is owing to an altered proportion between the quantity of air admitted into the lungs, and the amount of blood sent into them by the heart to be converted from venous into arterial blood. This may be caused by whatever prevents the entrance of air, or the exchange, into the lungs, and, on the other, by whatever increases the amount of blood sent into them, and is consequent on a symptom of many diseases. Air may be prevented from freely entering into the lungs by an obstruction situated at the upper part of the windpipe as in Laryngitis and Throat, and it gives rise to the occurrence of dyspnoea from the alterations in the equilibrium between the blood and the air in the lungs. Again, owing to some obstruction at the oriifice of the heart, preventing the blood from passing freely into the left ventricle, the lungs become gorged with blood and thus, in this way, the balance between the amount of blood and the quantity of air being destroyed, the patient breathes more quickly to supply the augmented quantity of blood with air, and so dyspnoea results. How the presence of an
Anomieuse tumours may give rise the production of this peculiar phenomenon in one of three ways: 1st By compression of the recurrent laryngeal nerve or fibres giving rise to so-called laryngeal spasm or dyspnoea; 2nd By pressure directly upon the trachea or bronchi, or also by compression of the substance of the lung, producing what might be called fortuitous or a better term, mechanical interference; 3rd and lastly, by pressure upon the pulmonary pleurae of nerves giving rise to what has been called by Dr. M. Baudin, Asthmatic dyspnoea.

4th Laryngeal dyspnoea: is purely a functional symptom, occurring in paroxysms more or less severe, and characterized by the suddenness, in many cases, of its onset, the distressing character of the symptoms, and the gradual subsidence of the attack, after having lasted for a time, more or less variable according to circumstances. The paroxysm usually comes on suddenly after an emotion has been made, and is accompanied by or rather gives rise to the following symptoms: the face at first flushes gradually becomes more and more livid as the breathing acts more obstructed, the pulse is rapid, small, and weak, the lips assume a livid hue, then a dusky hue, the eye stare; and the patient has a dread, from the suffering and distress of which he is the subject, of impending suffocation. After this has lasted a short time, sometimes only a few minutes, these terrible symptoms of convulsive efforts at respiration which the patient usually makes, along with those of disturbed circulation gradually and rapidly disappear, and he returns to his former condition of
comparative quickness and health, remaining in the same condition until the attack comes on. That the peculiar condition is essentially owing to more or less interference with the recurrent laryngeal nerves resulting from the pressure upon them of an arterial pulsation cannot admit of doubt. The late Dr. John Hald, by a series of careful and elaborate experiments, concluded from demonstrated that when irritation was applied to both, or, in one recurrent nerve, the arytenoid cartilages were approximated, so as in some cases to shut up completely the aperture of the glottis. Not only so, but he proved that section of the Vagus also produced sudden and violent attacks of dyspnoea, which generally went off in the course of a few minutes, when they did not terminate in suffocation, leaving however the animals liable to renewed attacks of the paroxysm on the occasions of any sudden movement or excitement arising from it. It would appear that irritation applied to the inferior laryngeal nerve, which we know to be the motor nerve of the larynx, throws the muscles which approximate the arytenoid cartilages on the crico-arytenoid dilatators and the aryteno-epitrochlear into spasmodic action. Precisely in the same way as irritation or adrenin applied to the esophageal nerve of the frog throws its muscles into violent actions or contraction. But we know that if the arytenoid cartilages are spasmodically approximated and kept in one position, the glottis would be narrowed to an extent corresponding to the amount of spasmodic action.

*Physiological, Anatomical, and Pathological Remarks.*
* Cancel June 1841 for 400.
of the muscles above mentioned, thereby preventing the free ingress of air to the lungs, and so causing dyspnoea, from the alteration in the equilibrium between the air and the blood which must necessarily follow. But compression of the laryngeal nerves may give rise instead of merely spasmodic contractions of the muscles of the larynx, dyspnoea with paralysis of those structures to which the voice is distributed, thereby preventing the entrance of air into the chest from the glottis. Not opening sufficiently as it normally does, and so leading to the production of marked laryngeal dyspnoea, as was first distinctly pointed out by Dr. Todd in a clinical lecture given on this disease. Although undoubtedly compression of the recurrent nerves is the cause, in a large, may almost all, majority of cases, of the production of this physiological symptom, yet there can be no doubt that in certain cases, limited to a number, but probably not so limited as at first sight might appear, it may, may possibly, be has been proved by post-mortem appearances, the result of an effusion of serum into the loose cellular tissue subjacent to the Reinach membrane covering the glottis and centred on the larynx, in short, the occurrence of a certain amount of oedema, glottidis, in consequence of some obstruction of the veins leading from the heart, by the presence of an aneurism upon one or other of the large veins situated within the cavity of the chest, or directly upon the veins emerging from the larynx itself. The swollen condition of the mucous membranes of course diminishes to a certain extent, vigorous inspiration, co-produces dyspnoea.
Mechanical dyspnoea: differs from the last in three important particulars; viz., that its occurrence has less of the spasmodic character, that it is due to the direct pressure upon the trachea, a bronchus, or the substance of the lung itself; and that lastly it is not usually attended with so much apparent suffering and distress to the patient as the last. When the pressure of the tumour is applied to the trachea, it invariably either produces concomitantly, in the calibre of the tube, or some change in its position, leading to the same result, i.e., narrowing the passage for the transmission of air, and occasioning pain to dyspnoea. But this contracted, or indented state of the trachea gives rise also to a peculiar sound of a harsh nature, which has been technically stethus. This peculiar inspiratory stethus originates and arises from the confines of the trachea. Dr. Stokoe has called it stethus from below; when it coexists with laryngeal dyspnoea, he calls it tracheo-laryngeal stethus. It would appear, however, that this stethus is not produced by the narrowing of the trachea alone, as proved by a case which Prof. Smith of Dublin has recorded, in which notwithstanding that one side of the trachea was perforated, and the diameter of the tube greatly diminished, there was at the least trace of stethus; but doubt also to be more or less under the influence of deranged innervation. It is a symptom of great importance, and is one which not infrequently forms the main element in our diagnosis. If it occurs along with...
Fluorescent Observations in Quadriceps & P.R.
larvamped diffuseness, and there is evidence of the larynx as far as larynx lies made out by general and the larynx, larynx of the trachea or air passages, the two presumptions is strong that the case is one of American attacking or springing from either the trachea or the transverse part of the arch of the larynx. In cases the tumour pressing upon the air passages of the lung itself, it leads to the consolidation lying to inflammation having occurred, or it may be merely con-

pression; and in these cases, air is prevented from passing to the head of the lung as compressed, and thus additional work is thrown upon the respiratory lung, a large supply is consequently required of air. Dyspnoea is the result directly from closure of the case into the trachea, bronchi, or air cells, or into the substance of the lung itself, where it is not followed by a fatal result, the blood clots up the air passages and air cells giving rise to a peculiar form of condensation quite distinct from desiccation and simply collapse first described by Dr. Mr. Salter, and preserving the entrance of air for producing dyspnoea.

3rd Asthmatic Dyspnoea. Reminisce, as its name implies, spasmodic asthma in its attacks, and in its remissions and exacerbations. Unlike the larynged variety we have here no undermnissions such as are pretty frequent with, and the reason is probably this: that in these forms of the disease which give rise to the production of the symptom, we have always or more, necessarily of bronchiatic or mechanical dyspnoea combined with it, from the depression of the bronchus. That the mechanisms of its
Production is, in all respects, similar to that of laryngeal dyspnoea, as rendered apparent from the experiments of Helmholtz, Oken, and others. Thus, they produce the powerful influence which the nervous system exercises over the contraction of the bronchial muscles. How these bronchial muscles are supplied with sensory filaments from the pulmonary pleura, haled why irritation of the result of pressure by an anesthetized tumour upon the pulmonary pleura, gives rise to epidermic contraction of these muscles, the narrowing, consequently, of the air passages which they surround, and the production, thereby, of dyspnoea.

Such are the three different forms or kinds of dyspnoea met with as symptoms of the diseases under consideration. Their diagnostic value differs greatly, thus laryngeal epidermic difficulty of breathing combined with stridulous respirations, and one or two other subordinate symptoms, may be all that is required in a given case to form a diagnosis, whilst laryngeal dyspnoea depending on, and shall suppose, compression of the substance of the lung, gives us almost not information as to the nature of the disease.

2. Cough: as a symptom met with in many diseases, but in this disease with peculiar is character that it may be said to be almost pathognomonic of the disease. It has a hushed, slanging, metallic ring, difficult to be expressed in words, but when heard distinctly enough recognized again, and usually goes under the term of laryngitis cough. It appears to owe its origin to pressure applied
to the preauricular or rather the inferior laryngeal nerve, as also
probably to direct pressure upon the trachea.

4. Alteration of Voice: Alteration of voice is by no means a frequent or
constant symptom, and may be absent when laryngeal and
mechanical diseases along with asthmatic breathing are present,
a fact of considerable practical importance in the diagnosis between
Allergic and disease of the larynx. The speaking voice may be
variously changed; it may be hoarse, muffled, and husky; it may
be exceedingly pitch or loud and tremulous and variable in pitch
or simply weakened, with little or no alteration in volume.

This abnormal condition of the voice is due to interference with
the recurrent nerves, giving rise to spasmodic contractions of the muscles
of the larynx as we have previously seen, and to the narrowing of the
lumen glottidis, and the damping of the vocal cords during their action
by the contact of the cartilages, cartilages with these structures as in ex.
the wall of the pharynx. But not only may this alteration of the
voice be dependent upon muscular contractions, but as Dr. Todd
long ago pointed out, it may be owing to atrophy and paralysis
of the muscles of one side of the larynx to result of flattening
and stretching of the recurrent nerve of that side on which the
lesion has occurred. In Amebicus aphonia is not infrequently
absent, and even when present, it is subject to remarkable variations,
occurring within short spaces of time, another circumstance along with
its absence often when serious as presents which serves to distinguish
this disease from that of chronic laryngitis for which it has and not
unfrequently been said to be mistaken, and in which, when disease
of larynx has once occurred it generally remains constant. The reason
plausibly why aphonia is comparatively so rarely met with in
combination with stridor appears to be two-fold: 1st, that in a
considerable number of cases in which well-marked so-called
stridor from below exists without lesion of voice, the stridor depends
essentially upon pressure directly applied to the trachea itself, and
not upon irritation or compression of the pneumogastric nerve
or rather its recurrent branch, which is consequently unirritated
and can't give rise to alteration of any of the normal or
physiological functions of the larynx. And 2nd, that owing to the
crio-hyoidii muscles, by the actions of which the vocal cords are
elongated and made tense, being supplied with nervous filaments
from the superior laryngeal nerve, and consequently altogether
independent of the recurrents, irritation applied to, or compression of,
how latter nerves, can produce no direct nervous influence
upon the movement of the cords in regard to their elongation and
tightening further than that resulting from paralysis or spasmodic
contractions of the hyo-arytenoid muscles, the consequence of
irritation or compression of the nerves above specified.
3. Irregularity of Respiration: It evidently only met with in certain forms
of the disease where the larynx presses upon a branch of
and diminishes to a certain extent its caliber, thereby preventing its use.
entance of air into that lung to which the tumor belongs, and so causing diminution in the respiratory murmur vocal resonance day by day. This alteration in the amount of the respiration in one lung, therefore, in almost all cases, a larger amount of work upon the other unaffected organ, which consequently requires a larger amount of air to purify. The corresponding increased quantity of blood is sent from the heart, and gives rise to the condition of increased respiration. The pulsation of the respiratory murmur is usually general over the entire lung, but may, in few cases, be limited to the lobe or part of one, if the tumor should only involve a small lobe.

6. Pulse: often furnishes indications of considerable importance especially if there be diminution of one pulse at the wrists along with a condition next to be described viz. a contracted state of the pulse. The diminution in the force and fullness of the pulse on either sides by palpation, unless otherwise due to one of two causes, either by being the involvement of the origin of the subclavian or carotid in the disease giving rise to constriction and contraction of these vessels, and so of course a direct cause of the deficient pulsation in the radial or facial as the case may be, or by pressure, upon one or other of these vessels directly by the tumor, producing narrowing of their caliber, and the diminution in the force of the pulse. If the amplitude of the right pulse be smaller than that of the left, it will have more diagnostic value than the opposite condition, because the right radial pulsates normally with more force, gives the fringer the idea of greater fullness than the left. This symptom may depend, however,
not in Arsenious at all, but in other diseases or congenital malformations. Thus there may be entire absence of the pulse in one side owing to an acotious projecting from the joint side, and interfering with the circulation in the subclavian artery. Again from bone development or mal-position of the radial artery itself, no pulse may be felt in the radial position at all.

7. Inequality of the Pupils: Is one of those (physiological) phenomena, which although not pathognomonic of the disease, is nevertheless of great value when occurring in combination with other equally or less marked symptoms, in enabling the physician to form a justly-grounded suspicion, if not certainty, of the existence of an arsenious, as has just pointed out by Dr. G. Airdine, and not only so, but of one limited to, and springing from, in the large majority of cases, either the thoracic and descending portion of the arch, or the innominate artery, and directing the pressure backwards towards the spine.

The number of cases in which the difference between the size of the pupils is so manifest due to the absence of any possibility of being a physiological phenomenon, and occurring in conjunction with unquestionable symptoms of Arsenious, are not very numerous; while slight variation in the size of the pupils are of no uncommon, and with the cases of Arsenious' Disease. But this inequality may lie, in a small minority of people, a physiological
condition, or it may be the result merely of any injury to, or disease of, the eye; and hence the necessity of caution in the interpretation of a symptom of the disease under consideration. It may be laid down, however, as a general rule, that if in any case inequality of the pupils right to left but (more especially) the right, along with dilatation in the force and fullness of the pulse on the same side, exist in connection with laryngeal or any other form of dyspnoea, not dependent upon any organic disease, as far as can be ascertained, the hereditary, is very great, nay it almost amounts to a certainty, that these symptoms are produced by, and dependent upon, and consequently diagnostic of, an aneurism either of the arch or innominate artery, which is pressing backwards and principally expanding towards the spine or one side of it.

That this symptom depends upon interference with the sympathetic nerve, cannot admit of a doubt, from the numerous observations of Valentine, Budge, Waller, and others, which have proved in the most unquestionable manner, that section of the trunk of the sympathetic nerve in the neck produces contraction of the pupil of that side on which the operation was performed. The pupil it would appear derives its arterial supply from two sources: 1st, from the sympathetic, which supplies the radiating or dilating fibres of the iris; 2nd, from the third dorsal motor nerve, which sends branchs filaments to the circular fibres of that organ. Hence why eliminating the
sympathetic in the neck, by throwing the dilating fibres of the
iris into muscular action, dilate the pupil, while caedion
of it, on the other hand, causes contraction of the sphincter of the pupil
from the psoa factor, not being involved, as also from the
circumstance of the paralysis of the dilator of the pupil necessarily
resulting the sphincter had not any means to contract its
unbalance, and therefore contraction of the pupil takes place.
These investigations sufficiently explain the occurrence of the
condition of irregularity of the pupil as a result of compression
of the sympathetic in the neck by the pressure of a haem
Anomalous tumour. Some authorities have supposed that this
abnormal condition of the pupil might be explained by, or
owing to, the interference with the circulation through the Carotid
artery, one or other side as the case may be, by the pressure upon
that vessel of an Anomalous, and so from the influence of the
suppression of circulation on the cerebral substance, cause
contraction of the pupil. But this ingenious hypothesis has been
entirely negatived by the experiments of Dr. Haldeman and others,
who have shown that the effect of suddenly cutting off the flow
of blood through the Carotid arteries is to produce only a very
slight amount of contraction of the pupil, followed, however,
a short interval by dilatation. So
do interference with the psoa-gastric sympathetic in the
neck may also be traced that peculiar symptom of unilateral

swelling, stopping short quite abruptly at the middle line, and occurring over the face and scalp of the affected side, which is sometimes thought to be due to an Abnormal Disease. It seems essentially to depend upon the congestion of the capillaries and small arteries due to that of the paralytic of their coats, due to compression of the sympathetic, as also if the sweat glands being stimulated to increased activity for function, by the influence which this seems to appear to exert over the function and secretion, changes in a part, being lost, or at all events, partially suspended. It has also been said with as far as we are aware, in cases where there was no alteration in the state of the pupils for obvious reasons.

Angina Pectoris: as we have so frequently met with this

Angina Pectoris; and probably only in American of the

Angina Pectoris; and especially in the neighbourhood of the heart,

no doubt that if it is just this Angina, it is something nearly alike to it, from the suddenness of its appearance, the intensity of the pain at the region of the heart shooting through the breast or down the left arm, the shallowness of the respiration, the cessation of an impending death: and the incapacity of the patient making the least exertion.

Then this condition is present, the paroxysms occur with more or less frequency, and greater and greater intensity throughout the disease, and it may be that cause of death in some few cases.

Angina probably depends upon two causes: 1st. A failure of the
hearts aching owing to imperfect nutrition and consequent degeneration of the walls of the heart; and 3rd, a neuralgia of the heart resulting from irritation applied to, or compression of, partly the vagus and partly the sympathetic. Both the Angina which is present in Aneurisms depends upon the latter of these two causes, and results from interference with the cardiac plexus of nerves surrounding the first part of the Aorta, and consequently can probably in the great majority of cases, only be developed where the disease is situated in both portions of the vessel.

q. Dysphagia: or difficulty of swallowing may be traumatic or more often less permanent, and may either depend upon a mechanical constriction of the Aesophagus from pressure of a tumour upon it, or the result of interference with the Vagus nerved. It is least commonly met with in Aneurisms springing from the transverse and descending part of the arch according to Dr. Welch's statistics, less frequently in Aneurisms of the ascending Aorta, and rarely if ever met with in Aneurisms arising from the ascending portion of the Arch. It is commonly referred to the middle or upper part of the sternum, sometimes to the epigastrium. Patient usually being able to point to an exact spot at which he believes the food stops in its passage from the pharynx to the stomach.

The difficulty of deglutition varies from complete Dysphagia, which is rarely met with, to the slightest amount of Mechanical obstruction or phasicolic contraction. Fluids are observed the
more easily swallowed than solids, the attempts at which in the latter case often give rise to pain and a sense of weight, and also to regurgitation, is not a few cases where such the obstruction is slight. Sometimes even a draught of fluid will cause pharyngeal contraction as instance of the Acophaque that nigras can neither pass upwards nor downwards for a time. It is remarkable, that this symptom may arise, continue for a long time constantly, and seem to be the patient’s chief complaint, and yet disappear suddenly, and may remain absent for a long space of time, after it may as rapidly return, and again assume its important position in the train of symptoms. This is one of the grand, if not the grandest, distinguishing features between dysphagia the result of Aneurysm and that produced by the presence of pressure either of the larynx or of the tube itself. This condition appears to be the result of one of the Causes, viz. 1st May be owing to direct pressure made upon the Acophaque itself by the tumour, narrowing its calibre, and giving rise to chronic or less obstruction according to the amount of Compression, and 2nd 1 May be produced from interference with the pneumo-gastric nerve and a certain part of its course, giving rise to pharyngeal contraction of the walls of the Acophaque, and so preventing the bolus from passing down into the stomach.

In addition to these two reasons a third may be assigned viz. that should the compression of the pneumo-gastric be so great as to interfere with its conducing power, then paralysis of the contractile power of the Acophaque is produced. But it is always apparent, that if
paralysis has occurred in the muscular fibres between part of the Oesophagus and those especially if a considerable portion of it be paralysed, there will the food accumulate from the want of fibres necessary to propel it downwards into the stomach, and thus may dysphagia be induced.

15. Compressions of the Veins: May give rise to various symptoms according to the veins pressed upon. Thus if one or both auricles on the superior vena cava be interfered with we have Anaemia of the face, cheeks, upper extremities, and on both sides of the tongue, we have turgescence and marked prominence of the veins of the neck and thorax; we may have congestion of the brain of a nervous character and lead to convulsive consequences. The Anaemia of the upper part of the body may become so developed as to give the patient a most ludicrous appearance. Should the pulmonary artery be compressed, then the Anaemia instead of being confined to the upper part of the body, will be general, and hydrops, ascites, thick to the occurrence of fluid in the pleurae and lastly to oedema of the lung. But this symptom may be caused by Cancer of the Mediastinum or of the lungs, as perchance as Anaemia itself, hence its value as a diagnostic sign is only secondary.

Compression of the Nurturant arteries of the lung by an Anaemic tumour has been shown to give rise to pulmonary gangrene; but for obvious reasons this is a symptom that cannot be depended upon from its being a symptom or result of so many diseases.
and death. Haemoptysis is a symptom of Anemia, is most frequently met with in those of the ascending part of the arch, and most in frequency those of the descending Aorta below the arch and those of the transverse part of the arch. It is usually the result of a large majority of instances the rupture or leakage of an aneurysm into the trachea, either broken, or into the lung itself. Sometimes the haemorrhage is so copious that it rapidly leads to the patient's death. At other times, after one full haemorrhage, haemoptysis may occur, in a modified form, with expectoration, for a considerable time. Again instead of the air rupturing in its usual way, it may open into or communicate with the air passage by a series of capillary openings in the mucous membrane, through which are discharged quantities of blood so small that it may be said, stick to come off, and to tough or stain the expectoration, but only slightly. It is remarkable how long life may be preserved, after the bursting of an aneurysm, and the occurrence of a considerable haemorrhage, as for instance, in the case of Mr. B——d, who after the occurrence of haemoptysis to the extent of every ounce, enjoyed an almost complete immunity from symptoms for a space of five months, losing in fact only occasionally, after September, though accompanied with vein coloured expectoration. He died in Oct. 1847, three months after the first gush of arterial blood, and without any new considerable haemorrhage. When aneurysms burst into cavernous cavities on the heart, death quickly
Kid Dr. Eardman's Clinical Observations in Medicine. Whose words I have in this passage, taking the liberty of using to a certain extent. Diffusion also distinguished from Americans by the history, age, and appearance of the patient, which in the two diseases are altogether different.
follows. Sometimes when haemoptysis does occur, its true nature is overlooked, more especially if it assume the character of putrid spu-
num, when it is attributed to pneumonia; but it is known from pneumonia spumum by its being more frothy that inclined to viscidity, or those called phlegm-juiced expectoration, when it is apt to be designated to pneumonia in its third stage or to certain forms of pulmonary haemorrhagic condensation. Lastly, when it is accompanied with phthisis, and distinguished from the last by the qualities and colours of the spumum, by the absence of signs of phthisis in either aspect. It is of considerable diagnostic value as a symptom, in certain forms of Aneurism, as for as where the abcess is small and springs from the posterior surface of the aort, and involving the right or left, as the case may be, the recurrent nerve, giving rise to laryngeal spasm and dyspnoea, and where there are absolutely no pleuritic signs of the disease, thus the occurrence of this symptom, while auscultation and percussion give negative results as regards the lungs and heart, is the slightest amount, almost amounts to a certain diagnosis, provided there be no thickening of the phlebitis, and the mucous membrane of the larynx is sound. Haemoptysis results from in the large majority of cases rupture of the larynx, in the minority from pulmonary congestion, the result of phthisis or the voice.
so much stress for the general symptoms of this disease, and had our remarks not been already too lengthened upon this division of our paper, we would have gone on to show that not only the individual symptoms, but the so-called correlation of the symptoms, should be examined into and carefully studied in all cases of these forms of the disease; so that not only the existence of the tumour, but its exact site and relations to surrounding parts may be determined and in some cases with tolerable precision.

Let us now proceed very briefly to consider:

2. The Physical Signs.

The physical signs of cancer are in well marked cases extremely numerous and important, but we have neither time, space, nor inclination even if we had the time, to enter at any length into this subject. Physical diagnosis, although we cannot assign to it a subordinate place among the means of discovery of an tumour, is in some cases incapable or unable to supply us with any valuable indications as to the nature of the disease, unless aided by the careful study of physiological or general symptoms. Valuable indications of information may be derived from: 1st. Inspection. By examining the chest with the eye, a local bulging may be discovered tending to the superficial, elastic or firm form, when the tumour is large and projecting at the surface. It varies in its situation according to the division of the area from which the tumour springs. Thus if the case arises from the
ascending part of the arch, the prominence usually appears at the right edge of the sternum, while, on the other hand, if it arise from the transverse part of the vessel, it may either precede at the sternotome or be left aside altogether of the sternum. But not only may a local swelling be discovered, but a movement, pulsable, and synchronous with the systole of the heart, may be seen in the bulging part of the chest, quick distinct from the apex beat. Lastly, the superficial veins may be seen dilated and engorged with blood, more especially the jugulars. Of course, if the bulging be great, and the impulse distinctly visible, and there exists a congested condition of the veins, then there can be no doubt of the nature of the disease which the patient is labouring.

29. Palpation furnishes us often with valuable indications. The hands, applied lightly to the surface, after appreciates very accurately, both in the case of small tumours, and systolic pulsations, resulting from the expansion of the sac, and synchronous without nearly, that the hands or fingers of the observer fails to observe any distinction between it and the apex beat of the heart in point of time. The part of the chest, probably, where pulsation is most frequently felt is in the hollows behind the sternal arch, and it indicates either dilatation, or Anomalous of the transverse part of the Arch or of the root of the innominate artery, because Pericardium of the Mediastinum is the only other disease which is capable of giving rise to the development of this symptom to any extent, is of very rare
and is usually accompanied by a train of symptoms so marked, that it is in many cases, hardly possible to mistake the one for the other. Another symptom of the disease, which palpitation of the pulse, but which in the whole does not appear of much practical importance, is the extension to the head of a peculiar thrill, the so-called tremissement cérébral of Cullen, which may be impressible even when distinct impulses cannot be detected, though this must be necessarily rare. Probably it may be said with almost certainty, as demonstrated by the tables of Dr. Clark, that these two physical signs are not met with in the majority of cases of Anemic

130. Percussion: is a sign of considerable importance when present in enabling us to arrive at a satisfactory diagnosis. The dullness elicited by percussion over an Anemic or tonsillar mass, varies according to circumstances, and to the situation of the tumour. Thus if the lung is consolidated around an Anemic or thickened, or should there be solid accumulation in the Mediastinum, that the real dullness of the case will be increased to a considerable extent, and thus lead to mal-diagnoses. If however, the tumour is in connection with the ascending portion of the arch, then the dullness will be easily and accurately defined. Some authorities aver that they can mark off the aorta with the most possible precision by percussion, and can tell from varying the force of the blow, where the vessel is dilated to the extent of a few lines,
or when a small tumour arises from the posterior part of
the arch for example, and not only so but can, they say, measure
the exact amount of dilatation in the first case, or the size of the tumour
in the second. But in the first place it is problematical whether
any percussor, however accomplished, can determine or make
out to speak, the ante in every case, may whether he can do so
with precision in any case at all. True it is, he may, as Mr.
Perry most undoubtedly, in some cases at all mode, does, guess
at the course and relative size of the bone, from his knowledge of
its anatomy, and it will by percussion to be accurately,
but this the question raises how else it purely from the results
of percussion, or has he merely guessed at the course, and in the
second place it is impossible to adjust your blow to bring out
the necessary amount of dulness, without giving an insufferable
amount of pain, as will convince any impartial mind of its
presence to any increased extent. But decide it is questionable
how much of this so called dulness naturally existing over the
anted may be owing to the presence of the bone or of the sternum.
Some authorities assert also that by varying the force of a hammer
the blow of a hammer, they are enabled to distinguish an Anemic
arising from the descending Anies, and to check dull percussion
on the front of the chest from a tumour situated at the back of the sternum
now unless the tumour was very large and pressing forwards, which
it seldom if ever does, at least in Anemic of the heart below the
arch, and along with these two conditions unless there be consolidation of the intervening lung, we believe it is impossible to elicit dullness from a tumour as situated, except in the left into posteriorly, where it is not unfrequently met with in this variety of the disease. Thus the tumours springs from the transverse arch, it extends into the lung, and continues into subternal dullness, or to dullness over the right or left clavicular sternal articulation. It is always important to ascertain if the dulness does not reach into the aortic angle of the infra-clavicular region, as its absence 4

From this relation would at once distinguish it from tumors.

With regard to circumstance of being able, as Dr. Walshe supposes, to distinguish between an aneurism filled or nearly so with blood, and one full of only fluid blood, we believe that, in the large majority of cases, it is simply impossible.

2nd. Palpation & Auscultation: It is of considerable importance in furnishing both negative and positive signs, whereby a correct diagnosis may be arrived at. For it is not sufficient to form a diagnosis from positive symptoms or signs alone; but in all cases we must be guided both by what symptoms are present in the given case under consideration, and what have not, and the value of their absence, through the stethoscope placed near the tumour may be heard, a single or a double sound, similar to those of the heart, and after feeling on longer, and 2nd. A single or a double, brummun, caprile and diastole and varying in quality and pitch.
The systolic murmur may be simply blowing, or it may be
graggling, rasping, or swish, and is generally of low pitch.
There is nothing pathognomonic in the occurrence of the murmur
itself, as it is met with in many non-aneurysmal diseases.
It is found associated with valvular disease of the heart, and with
certain states of the system in which the blood has undergone a great
change as in Anaemia etc. It appears that Anaemia of the Antis
occurs very frequently without the presence of an aneurysm, and even
when a systolic murmur does exist in tumours arising from
the ascending portion of the Aorta, and more especially if situated
just above the Sinuses of Valsalva, that it is doubtful whether
the bruit arises, or is generated in the tree, or is the result of the
mismatch of the arterial valves caused by their being stretched
and dilated. By the direct result, should the tree have pressed upon
or burst into the pulmonary artery, and so have given rise to
Varicose Anaemia, then the murmur has, according to Dr. Sherran,
'a superficial, harsh, and peculiarly intense roaring or blowing
character, accompanied by an equally marked purple tinge
heard over the varicose vessels, due to the current of the circulation
beyond it.' We have no time to discuss the various ingenious
hypotheses which have been advanced to explain the mechanism
of these murmurs. The simplest, but we are far from saying the most
correct, explanation given is: that the murmur, when two are present, is
due to the flow and reflux of the blood into and from the tree. It is not
in cases where congestion, condition of the lining membrane, and
orifice of the sac exists, where the sac itself is filled with fluid, contents
and is usually absent, where the sac is half or wholly filled with coagula
or where the surface of lining membrane and the orifice and neck is
smooth. It would appear then that the existence of one or even
two murmurs or the absence of both is a matter of small
diagnostic value in cases of Abdominal Aneurism, unless the
murmur is localized in one portion of the thoracic aorta, as such
a murmur cannot be supposed to proceed from the heart.

Mode of Termination of Aneurisms: Although in the large
majority of cases, may it may be said almost to all, Aneurism
more or less to a fatal termination, yet there can be little doubt
that in one or two cases, nature has performed a perfect cure.
The explanation of the cure in these cases, of the existence of which we
have no doubt, is essentially the same as that of other cases,
for example, of periplectic Aneurism, which have undergone
a spontaneous process of recovery. By the coagulation of the fibrin
within the sac, and the gradual filling and consequent repletion
of the said sac, thereby shutting up the orifice of communication
between the artery and the Aneurismal dilatation, and so preventing
the escape of blood. After this condition of repletion of the sac has
lasted for a time, it takes on a process of absorption, and one
become as diminished as safe as to give rise to absolutely
no inconvenience. But for the occurrence of the natural sequels of
phenomena there are required the following conditions: a that to
inoculate he small and of the true fasciculated variety; b that it communicates
with the trunk of the artery by a very small orific and arises: c
that the force of the heart action and the circulation lie, comparatively,
speaking, weak d that there lie in the case the conditions favourable to
and necessary to give rise to the coagulation of the fibres of the blood
within it, in whatever way that phenomenon takes place, whether it lie
from the escape of the Aneurysm of the blood through the thinnest coats of
the vessel as Richardson supposes, or, which is in the whole more probable
whether it lie from an alteration in the or interruption of that
mutual influence existing between the tissues on the one hand, and
the blood on the other, whereby the circulating medium is kept in a
state of fluidity, and the fibrin prevents for long being depoited as the German
Pathologists believe. For all practical purposes, however, a natural
mode of cure may be thrown out of consideration altogether.
An Aneurysm having been diagnosed, it is impossible to tell
accurately what will be the duration of life, what will be the exact
mode of death, or whether he will die from the disease directly, although
in the large majority of cases by paying attention to the signs of
pressure before neighbouring ruptile the delation and detection of
pressure of the Aneurysm, and may make a tolerably near guess as to
the particular mode of termination. The termination of Aneurysm upon
the whole has been found to be more frequently without rupture than
with it, although the difference between them is not great. The patient
May succeed.
from the effects of pressure upon surrounding parts, or death may take place from the gradual breaking out of the system under the effects of suffering, pain, sleeplessness and insidious fever. Or it may be essentially the same as in some forms of heart disease, observed, where there is a considerable extent has occurred, accompanied with angina and other symptoms of failure of the heart's action, and where death takes place from a slow or gradual hypostasis. At other times where pressure upon the membranes is present, the patient may die during one of the paroxysms of pain, aphasia, or other cases from obstruction of the arteries, there may result slow diseases of the brain usually so-called softening, giving rise to hemiplegia or paralytic, or even coma, which gradually deepens into death. Often compression of the veins, coma and in some cases convulsions are produced. Lastly, the patient may die of evaporation although that cause of death is scarcely if ever that death is a result of compression of the thoracic ducts as we have already treated to show, yet it may be the result of hypostasis. But death may also be the direct result of at some other disease. Lighted up by the pneumatics as for example, pleural effusion into the pleurae, or pleural adhesions, pneumonic gangrene of the lung, etc., under which complications the patient rapidly perishes. Death is not so frequently the result of rupture of the aorta, as was at one time supposed. But the records of medicine show that in some few cases, where rupture of the aorta had actually taken place, and a considerable gush of blood had rushed from the case, and not only so, but while hemorhoeas to a slight extent was actually occurring, death
could be traced to another cause altogether. There is no conceivable position into which blood has not found in different instances. Without, however, entering into the pathology of rupture of the aorta, as that would be impossible from the limited time at our disposal or even into a detailed description of the situations into which the blood has been extravasated at different times, and in different instances, we intend to notice only the most important.

Anachronism may terminate fatally by perforating into the heart itself, and the situation into which it may frequently occurs are the following. It occurs into the right auricle. When the aneurism is situated above the sinuses of Valsalva, or when they spring from the latter situations. It occasionally ruptures into the right ventricle and into the Conus Arteriosus immediately below the origin of the pulmonary artery. It rarely takes place into the left auricle right from the position of the auricle to the left ventricle also from the direction which the tumours usually takes in those situations or forwards to the right. When the blood is forced into any of these situations it may either produce immediate death, or the patient may live for a few days with all the symptoms of obstructed venous circulation in the right chamber of the heart, as cyanosis, depression, etc., rapidly developed. Where the aneurism arises from the convexity of the arch and inclines to the left side, it is apt to rupture into the pulmonary, and it may be either (rapidly fatal) or patient
may survive for a short time. In these cases besides having the symptoms usually found coexistent with rupture into the black arteries, the heart, here, more developed than in them, symptoms arising from, or dependent upon, the circulation of partially arterialised blood through the pulmonary capillaries, such as, for example, intense apparition, inflammation of the substania of the lung ducts. When the auricular contractions feed their portion of the blood injected with the cavity of the pericardium, it bursts in 1 to 2 per cent. (according to O' Haro's statistics) into the pericardium. In such cases death is not usually the direct result of the escape of blood, in form of syncope, but rather it takes place from the interference with the heart's action, as the pericardium, being a fibrous membrane, cannot dilate suddenly or be distended rapidly, and consequently being filled with blood the heart becomes paralysed. That this phenomenon does take place is apparent from the fact that in some cases of rupture the fibrous is found separated from the blood in a peculiar manner, the result of the so-called, shaking action of the heart. Pulsations into the vein cause ecchymosis sometimes through rarely takes place, and gives rise to the same results as that into the pulmonary artery, or more correctly, those into the cavities of the heart. Aneurysms may present at the surface of the chest, and often externally. It is a remarkable fact that where here, the first shock is not by any means fatal in all cases, may successive gushes of blood may
When the Anomie is situated in the Ascending Aorta it suffices usually into one or other of three situations: 1st into the Aerodrue, where it is not usually detected until the haemorrhage is so large as to cause death; because small bleeding discharged downwards into the Stomach and intestines, are almost sure to pass unnoticed. 2nd into the Lung right or left generally latter, seldom forms. 3rd into the left Pulmonal directly into right, and when this mode of opening takes place, rare to find death long delayed.
Thus we have shown that Anemia may terminate in either of the four modes of death laid down so accurately by Dr. Albinoni.

1st By asperse or sudden failure of the heart's action, as from rupture of the, or pressure upon the gaseous gastric nerves; partly producing arrestment of the action of the cerebral circulation.

2nd By asperse, by gradual, eating out of the system, as from pressure of the lungs upon surrounding organs, from suffocation from complications etc.,

3rd By apoplexy. As suffocation of the circulation in the brain, due to the prevention of the passage of air as from large vessel occlusion, mechanical and asphyxial asphyxia.

4th By compression to the cerebral circulation from compression of the carotid or the great veins superior, i.e., the veins coming from the heart. In the last form of death, however, they must always arise a certain amount of doubt, whether the fatal result was due to coma alone, or whether from the amount of depression which is always so nearly so intense in every case it was not as much the effect of asphyxia as of coma.

So much then for the general diagnosis of Anemias of the Arteries and innominate arteries, and their mode of termination, and now without entering at any length into the method of diagnosis of each particular species of Anemia, further than to illustrate the case under consideration, but we proceed as briefly and rapidly as possible to consider...
1. Anemiones of the Ascending Aorta:

Are characterised by their tendency to project forwards, present at the surface, usually to the right of the sternum between the first and the second ribs, in the form of a pulsating tumour, and attain a considerable size. They are accompanied usually by such symptoms of anginapectoris, as are attendent by the majority of instances. Those symptoms resulting from great and continued pressure upon neighbouring organs such as lung and esophagus, pericardial distension, inequality of pupils, difference in pulses, and palpable haematotyes, although any or combination of some of these symptoms may be produced by a change in the direction of the pressure of the tumour, or by an abnormal situation or origin of the Anemion, as for e.g. when the abnormal condition arises from the concavity of the arch, and projects backwards and to left compressing the pulmonary branches, or instead of springing from as it usually does, the anterior and superior part of the arch, and the concavity of the ascending Aorta. It is in this class of Anemiones that physical diagnostic comes most into play, for it is that percussion gives us most valuable indications, dulness extending sometimes over a considerably space. Here it is that a visible pulsation is most frequently seen in connection with this disease. And lastly here it is that pulsation often discovers two centres of pulsation. It is in that situation that these forms
forms of the disease so graphically described by for-Sumners occur in
Paroxysms. Anæmization, the result of the rupture of the valve into a
vein or pulmonary artery, and consists in the direct or indirect
communication between the artery and the vein. The symptoms
of such a condition, which usually takes place suddenly after some
exertion, are: rapidly extending Anæmized veins, distended, fuller
of the character of so-called "infilled arteries," dyspnoea, orthopnoea,
and finally anæmia and death. The physical signs are: superficial
hearth, grating sounds, accompanied by purring through their tone for
outside of communications.

The natural course of the Anæmies, under consideration is to burst
into the pericardium; or to compress a vein into the Anæmolös ventricles
pulmonary artery, or descending cause, causing so many cases
exceeding from the obstruction to the veins and sudden death;
so its rupture externally, when the Anæmia is situated outside the
pericardium, or partly into the right lung or pleura, leading to
fatal hemorrhages in the one case, and sudden death in the other.

Case 1. The following case selected to illustrate this variety of Anæmies
was one of Anæmia of the heart & compressing the trunk of
the Pulmonary Artery. Enlarged Heart.

Jane Bell, aged 30, accustomed to carry field and other things about
to the market, much exposed to all weather. Admitted in May 1853
into the Royal Infirmary, with some increase of an habitual cough
which with paroxysm of breathlessness with a little expectoration. She
has every sound diminished in power.

Patient has on the whole a good complexion, rather of anything
lucid; it is firm and flesh, though perhaps emaciated. His
mouth is widely open, the lips long, clean, no fever. Respiration rather
accelerated; the upper part of the chest moving but of all proportion
to the lateral respiration. Chest itself cylindrical, compressed laterally
without, however, much arching of sternum. Pulse small, rapid,
and pulsating, thin, high coloured, with high specific gr. and
containing only a trace of albumen. Abdomen flabby, lines depressed
on indrawing. The above appearances were keen to exist, but no
visible pulsation was apparent. Palpation detected an somewhat
obscure pulsation, having a distinct sensation from that of the heart
communicated to the hand. Percussion revealed dulness over the
Manubrium sterni extending almost as far to the right as the right
echo; Clavicular articulation, and a little to the left of that line
on a level with the second costal cartilage. The left side and
Manubrium dulness of the heart was increased. On auscultation
was heard over the dulness at the Manubrium, in its greatest thickness
a systolic Murmur, synchronous or nearly so with the first sound
of the heart, and also an accentuated conditions of the second sound.
Systolic sounds muffled, but as far as could be determined normal.
Apea heat diffused. Respiratory Murmur in the right being
feelable much the left. There is a distended condition of the
jugulars, and a certain extent of redness of the face, neck, limbs, chest.
and in short all over the body, there is tenderness. No dysphagia, pulse 140. June 1st. Since last report patient has had many attacks of difficulty of breathing, accompanied with intense pain at the region of the heart, and a sensation of impending suffocation, so short all the symptoms of Angina pectoris as before described. All the other symptoms have become increased. Dyspnoe. Becomes developed. This continued constantly for five days. Albuminuria. Discharge of all the cavities of the body. Anaemia to a great extent followed.

July 19th. All the above symptoms progressed uninterruptedly, and increased so much, that from the suffering, distress, and intermission of many important functions, the patient died by a process of pure asphyxia on the 19th July.

Autopsy: 19th July. On opening the chest an Aneurism of the Aorta was found to commence immediately above the Conilunar Valves, and affected that portion of the vessel within the Pericardium. It was of the size of a small change of a fruit, completely rounded. Some of the Pulmonary Arteries stretched along it, and the Calibre of the vessels decreased considerably, diminished. The round has a flattened form, the right branch of the Pulmonary artery was also compressed. The heart was enlarged weighing 180g. There was a good deal of Atheroma of descending Aorta. Its other valves (Valvulae Arque, etc.) from the characters of the Mucous and external coat, and their situation of lenticel intensity, also from the localized stenosis or narrowness, from the absence of all signs of concentric or eccentric stenosis, from the presence of Angina pectoris, from the recurrence of Anaemia, and Acropathy.
There could be no doubt, that the tumour sprung from the ascending part of the arch, and that no all probability, it was compressing the pulmonary artery. The patient was treated by diffuse stimulants, such as the following. To Aether chloric, add 20 grains of Chloride of Ammonium by a draught, three daily, and by diuretics such as potassium chloride.

Amurica is this affection is often confounded with two diseases, at least used formerly, also, although none ascertained, such as neuralgia, to be exceedingly rare now, and add, no. 92, hydropericardium and pericarditis, and which is then may be added, as Pericarditis Umbilicum. It is always distinguished from the first, by the following, and by hydropericardium, the fluid in accordance with the law of gravitation, accumulated, to the heart, at the lower part of the cavity of the pericardium, for obvious abdominal reasons, and hence the dulness has always a peculiar pyramidal form, with the apex of the cone at the base of the heart; while in Amurica, on the other hand, the dulness is more quadrilateral, and confined to the base of the heart, extending from thence either upwards and to the right or to the left. But besides in the former, the sounds of the heart are indistinct, and in the latter (supported--the heart being normal) they are quite distinct. Not to speak of the differences in their histories, progress, and symptoms, from the second like shewn from the circumstance, that while its absence enlarged heart we have only one centre of motion, in Amurica we have usually two, also from the difference in the symptoms, and signs of each. Pericarditis Umbilicum is known from Amurica by the absence of murmurs at the base of palpation, by the absence of thrill, by the sounds of the heart heart.
very feebly over the tumour, and increasing in intensity as the vessels approach the heart, by equality of the pulses, and by the absence of eccentric and concentric percussion figures.

II. Aneurism of the Transverse Arch and Renal Artery.

And those which, in some cases, are involved in the greatest obscurity, sometimes defying all the research within the physicians but to detect them is in Aneurism occupying this position. That we have most fully and completely developed the third form of Aneurism, previously described, know especially the first two of which the case which the detailed is a good example of one of them. It is here also, that we have most frequently developed those two important physiological symptoms: M. inequality of pupils and differences in the pulses, of which we have a good example in the case of Aneurism of the Renal artery, which I have narrated. It is here also that more dependence is placed upon physiological symptoms in arriving at a diagnosis with regard to the disease in question than upon any other method of investigation. Perhaps percussion and probably palpation are the only methods of physical diagnosis upon which much dependence can be placed in the elucidation of Aneurism situated in the portion of the aorta. It may be laid down as a general rule, that if bruits and symptoms coming from the aorta (which can be ascertained), and the accompanied by a difference in the pulses or an inequality of the pupils, then the probability will be very great that these symptoms are due to an Aneurism arising from either the aortic or arterial artery for the upper and back part of the arch. The case in either case projecting backwards, and involving the sympathetic
and pneumoniae nerves, and giving to the results or effects above mentioned
so that manners before complained.

According to Mr. Wilcox's statistics, in Anaenmies of the Truncus Arteriae, there
were present: depressions in 71 per cent of the cases examined; orthopnea in 37 per
cough in 57.7 per cent; hemoptysia in 19 per cent; noises or cough paroxysms or
rehearing of inspiratory stridor in 57.5 per cent; dyspnœa in 31 per cent; palpitation at one wrist than at another in 26 per cent; the left being most
frequently affected; Murmur hearts in 15 per cent. Illness was frequent in the hollow behind the Manubrium sterni in 44 per cent of all the cases;
and chest pains were complained of in 26 per cent, in that in 27 per cent upper
extremity in 8 per cent right arm in 15 per cent.

Without entering at further length into the mode of diagnosing Anaenmies
of this part of the Artery, that case illustrating of heart with the given
Case II. Anaenmies of the Truncus Arteriae part of the Arteria Compressing the
Trachea.

David M. Renslo, age 36. Admitted into the
Royal Infirmary 20 October 1862, complaining of breathlessness,
and shortness of voice. Since the weakness of the patient, and his
apparently extreme distress, no satisfactory previous history could be
obtained. It appeared, however, that for a year or two, he was unable
to walk himself to any extent, or ascend any height, without being
out of breath. This condition of breathlessness on exercise, about three
months ago became more and more marked, he noticed his voice
begin to change its tone, become hoarser, and more husky, and
he found that he could not without some difficulty pronounce the
resonant portions,
* An abnormal fullness could be felt, and an obscure pulsation distinguished when the fingers were introduced deeply into the infra-ternal notch.
without increasing his breathlessness, which had now become habitual.
the scenes had a different aspect, and it was short of the nature of paroxysmal spasmodic dyspnoea. The admission of respiration was observed to be... and accompanied with froth so incessant as to reach as far considerable distance from the head. Patient cannot assume the recumbent posture, but only supine being supported by pillows. Pulse 80 weak and regular, smaller in the right than the left arm. Tongue tolerably clean. Skin reddening to be cold.
Phlegm normal. Sputum of bronchitic character, and in tota small quantity. and stomach, and attacked with cold. Neither palpation nor percussion can detect any thing abnormal. Percussion reveals slight comparative dulness over the Manubrium sterni, principally towards the upper and right part of the bone. No murmur can be heard now sounds of any kind over the chest.
A slight amount of dysphagia was complained of, but this symptom was not constant, as it was not felt at all of these, generally.
Prophylaxis: These symptoms gradually and progressively increased in severity.
Patient was treated by ambroegarium, expectorant, and stimulant.
Auditory: Observing the exact and rendering the closure, and Anas and
paris attacked at the same time, there was an abnormal about the
king of a small range, springing from the posterior part of the Arch, and
compressing directly the trachea. The anterior wall of which was considerably
flattened, but not involving the recurrences of the sympathetic.
Heart and other organs healthy.
The diagnosis of abnormal was come to in this ease on the following grounds:
the gradual development of the breathlessness.
character of the affection, & the absence of chronic disease of the lungs or at all. edema, the symptoms of that affection: if the character of the patient, and the presence of oesophageal dysphagia; & lastly, the dullness of percussion over the Manubrium Sternum. The diminished respiratory motion allows both lungs, the absence of signs of disease of the heart, and the non-existence of the so-called carcinomatous cachexia.

That, however, the physician must always be on his guard against placing too much confidence in, or attaching too much importance to, the occurrence of stertorous respiration, however marked, even although it is accompanied with a slight amount of dullness of percussion over the Manubrium Sternum, and though harm is found in the diagnosis alone upon these phenomena without having carefully examined with other symptoms, and above all obtained a previous history of the patient, will be abundantly plain from the records of the following interesting in more ways than one, case of epithelioid cancer of the tongue.

Case III. Epithelioma of the Tongue. Enlarged Lingual Ulcers.


Complaining principally of dysphagia, and a choking sensation in his throat. The following is the history which the patient gave of his complaint, and its mode of invasion: On a day nearly five weeks ago, when walking up King Street, he, with a bag of fruit upon his back, suddenly his breath went from him, he felt fall, losing his balance, and stood for some time in a semi-conscious state, believing himself to be in the most extreme danger. Gradually the paroxysms wore off, he regained full consciousness, and...
19t. Day—These symptoms gradually and rapidly and progressively increased in
seriously. The pneumonia became more frequent and severe, and as there was no satisfactory case, but rather a case of anemia of the lungs, passing through the trachea directly, and involving the phrenic, it was thought not advisable to perform tracheotomy. The patient died during one of the pneumonia attacks on the 19th Oct.

Autopsy: On removing the whole of the larynx, together with the larynx, the heart, the lungs, and great vessels, no anemia could be detected, nor could any lesion of the heart or lungs be observed sufficient to explain the symptoms above mentioned. In fact, the heart was perfectly normal, and the lungs, with the exception of a dark consolidation at the left lower lobe, were healthy. On laying open the trachea and larynx, there was found the following condition of affairs: There was a large irregular ulcer with an indurated, nodulated base, the upper border of which was on a level with the upper edge of the epiglottis. The upper margin ran from the superior corn of the thyroidea cartilage, the lower margin ran down parallel, regularly to the upper anterior corn of the right superior vocal cord. The anterior epiglottideal fold on this side was completely destroyed. The base seemed at all, and the arytenoid cartilages were thickened and covered with a cancerous mass as large as a gliblet. The posterior corn of the right vocal cord was involved, in the cancerous ulcer, the inferior was thickened, but otherwise healthy. On the same side the cartilages of the larynx were occupied by a grayish, soft, fungating mass. The thyrocricoidea was softened and bulged, no other lesion.

Remarks: The case now related is one of great importance both practically
and pathologically, but this will not permit us as we had formerly indicated there, now to dwell upon it at any length. The diagnosis arrived at during life was that it was an Anemia of the Arteria in its branch and portion, and involving the heart and cranial nerves in all probability, and compressing the trachea, and upon these grounds was it formed that the suddenness of the commencement of the attack is the occurrence of paroxysm of a laryngeal dyspnea, and the extreme insidiousness, characteristic of the larynx, a combination of comparative dullness over the mandibular sternum, and a slightly distended condition of the veins of the neck. It came out, however, during the examination of the body after death, that Mr. S. had operated on him two years previously for Chronic Duodenal Cancer. This fact alone, along with the sallow color of the body, was sufficient to throw doubt on the accuracy of the diagnosis and the facts. Not the slightest doubt, that this circumstance had done work before his death, and an examination made of the larynx by the finger or laryngoscope, the physician would have been struck with the modification of having his diagnosis shown black before the final operation. The results of the operation showed clearly and palpably the cause of the paroxysmal attack of dyspnea, the suddenness of the invasion of the disease, and the trachea. All concluded from and could be explained by the peculiar condition in which the phlegm in the mucus gland was found, the enlarged thymus gland, and the side of the larynx was found. The enlarged thymus gland, explained sufficiently the dullness on percussion extending all through it. On carefully examining the whole case, however, we are induced to believe that a conclusion of an absolute certainty of the non-existence of Anemia, might have been entertained, even without the fact of his having been previously attended...
...of epipheliones of the dermis being known, from a consideration and right appreciation of the following data: his peculiar colorless malarial appearances; his fact of his nose being funnel-shaped, and his nose equal; no dulness or percussion unaccompanied with dulness or undue pulsation in the temporal or on a difference in the pulse at the wrist, a unlikely thing to happen in Anaemia; the presence of complete aphonia which is rare in its latter degree; and lastly the absence of dysphagia.

This case clearly points out the accuracy with which we should bring every fact, however insignificant, before the investigation of the disease, and the caution with which we ought to proceed to form a diagnosis.

The discrimination between Anaemia springing from the portion of the Arteria, and Chronic Gastritis or ulceration of the stomach. has been so clearly shown by Dr. Smith, that we need do nothing more than to refer to his book.

Symptoms of the Anaemia has sometimes been taken on another mistake for Anaemia, but the conditions in favour of the former and against the latter are the greatest is under 15 years of age; there be great dulness and absence of a steady hearing motion, and if there be want of accordance between the dulness and pulsation; whiles the conditions against the former and in favour of the latter are: dulness of the tumour in the course of the arch, the absence of vibrations, the absence of fixation of the arm and face, if the presence of dysphagia and great pain.

Case IV. Anaemia of the Innominate Artery, compressing the trachea and involving the Sympathetic and Recurrent Nerves.

Mr. Parrott, aged 24, a sailor. Admitted into the Royal Infirmary 13th July 1862.

Was always a healthy man until five years ago when he suffered shipwreck. The patient himself dates his illness from the shipwreck, and his symptoms have...
been since that time. 1st A cough which has continued, more or less, and laterly accompanied, with an expectoration with streaks of blood. 2nd Methaphysitis which has all along been felt whenever any emotion was made. 3rd Rickets, what he calls, Rheumatic pain, the patient has always had pain in the region of the Manubrium Sterni, and the back at about the 4th cervical vertebra.

Patient is a remarkably healthy looking man, rather small and thick set, possibly somewhat ameliorated, but not believing himself hence lost much flesh or blood, yet not to any appreciable extent lived. Pulse goes decidedly smaller in the right wrist, soft and preceding any other peculiarities of character. The only thing remarkable in the face is the condition of the temples, the right being observed to be too smaller of the two. Patient has had an attack of Rheumatism, and complain of pain of the shoulder and upper part of the chest. Extending down the arms as far as the humerus middle. The voice is rather husky, somewhat of a broken character at times, but without any distinct hoarseness, and sounds complete, interrupted Cough is paroxysmal; there is complete closure of the glottis, but still a slight peculiar, of two. No appearance of Carinized condition. Examination passed to a slight extent as above stated. Dysphagia is present at times, and always to a slight extent. There is a distinct, and rather considerable, dullness at the top of the chest in front, occupying the whole Manubrium Sterni, and some distance to left of it. (Note top) The lower part of chest, under fullness jugular fossa, has distinct trachial, and Sternum clavicular articulations prominent. The trachea is rather nearer the Sternum than usual, and displaced a little to the left. Cardiac dullness low, above left normal in situation. Hepatic dullness normal on small (absent) Murmur accompanying and following the first sound of the heart, loud, over the dull part, and pretty near its center, communicable loudly along the arteries much more along the right than left, and at the lower accompanied by distinct inspiratory rush. Murmur communicated black between shoulders. Communicated also-
but with less intensity and distinctness than the usual aortic murmur, down the sternum, and in the direction of the aortic arch. Pulmonary percussion good generally, and auscultation nothing remarkable. The patient is being treated by Brandt, and improvement as chronic atheroma and scleroma of carotid and subclavian arteries and in doses of the Electro-magnetic Agates. Robert.

Sept. 27. Improved as regards breathlessness, coughs, etc., and expectoration much; appeared, in fact, much better, and is altogether improved. Being very desirous of getting back to England, he was discharged accordingly.

Although, unfortunately, we have not in this case the results of a post-mortem to confirm the diagnosis, we think it is nevertheless sufficient evidence for the following reasons: 2. the right pulse being smaller than the left; 2. the right pupil being more contracted than its fellow; 4. the coexistence of languid symptoms; 6. the presence of haemorrhages and dysphagia; 7. the situation, extent, and direction of the tumours; and its prominence, extending almost to the nucha, and 8. the hardness in the jugular fossa, and the displacement of the trachea to the left; and lastly from the origin and mode of propagation of the tumour. We are aware of no other (or other form of) atheroma, unless it be that enormous one, which caused such a combination of symptoms, but the one under consideration, of which we have thus far given us one of the rarest examples.

III. Aneurysm of the Ascending Aorta: have a tendency to break upon the vertebræ, causing absorption, and give rise to a dull, boring, lingering pain, and also to radiating pains in the interscapular spaces. The tumour compresses the larynx and trachea, and gives rise to dysphagia, in 33 cases (according to Wilson's statistics). It compresses usually the left artery, the right lung, producing scarcely, cough in 21 cases; dysphagia in about 33. and of these, in 10. It may become large and some cases twenty-five, 26. It comes to accuse externally, between shoulders and upper border of the clavicles. It ruptures, when it goes in the way, into the left lung in 13. and left pleure in 16; right lung in 1 and right pleure 13.
Our time having expired, we are compelled to pass on without saying more on this variety or in fact on any variety of Arsenic, rapidly to say a few words on...

III Treatment. Our efforts, which at least, may only be considered as palliative, should be directed to retard the onward progress of the disease and diminish suffering. Salivation and alchymic mode of treating Arsenic was formerly believed to accomplish these two desirable results by diminishing the force of the circulation, and so leading to the coagulation as they thought of the febrile intoxication fix. But by weakening the action by repeated bleedings, and by the employment of a low diet, it has been found that the patient is rendered less able to resist the onward progress of the disease, and also that repeated bleedings are exceedingly apt to irritate the heart, and give rise to derisions. But besides, it has been shown followings by that mixture which the severity of the treatments warrants, and is consequently now abandoned, as insidious and injurious. Although the depleting plan of treatment is worth given up, the liberation of a few ounces of blood, either by venesection or by local blood letting which is the preferable mode of doing it, is oftentimes followed by the happiest results. The patient should avoid everything liable to slow or accelerate the circulation; he must have perfect repose of body and mind. Diet should be nutritious but non-stimulant. All the natural functions of the body should be kept in due regulation. The distressing symptoms may be met and palliated in various ways; thus it seems to one of the chief complaints it may be relieved by the application of hot poultices to the chest, or by the internal use of Acanthus and so of the others. Apocynum is justifiably a derision agent, where the depression is owing to cause of the 

Robert Richardson