THE LETTSOMIAN LECTURES ON THE COMBINATIONS OF MORBID CONDITIONS OF THE CHEST.

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By FREDERICK T. ROBERTS, M.D.,

Professor of Materia Medica and Therapeutics at University College;
Physician and Professor of Clinical Medicine at University College
Hospital; Consulting Physician to the Brompton Hospital
for Consumption and Diseases of the Chest.

LECTURE I.

DR. ROBERTS, in his introductory remarks, observed that, though it was well known that the majority of chest cases did present combinations of morbid states and were not cut and dried examples of individual diseases, such as they were described in textbooks, yet his observation had forced him to the conclusion that the fact was by no means so generally recognised and appreciated as it ought to be, and, further, that certain conditions of real consequence were often entirely ignored. A not uncommon practice was to entertain an incomplete conception of the contents of the chest, and he enumerated the following structures as those which had to be borne in mind:

1. The chest walls, including the superficial and muscular tissues, as well as the bony and cartilaginous framework.
2. The diaphragm, a structure as a rule entirely forgotten and ignored.
3. The lungs and pleuræ, with the trachea and its primary bronchial divisions.
4. The heart and pericardium, with the great vessels, both arteries and veins.
5. The less prominent contents of the mediastinum, including the œsophagus, absorbent glands, thoracic duct, certain important nerves, not forgetting even the thymus gland, and the mediastinal cellular tissue.
6. The abdominal viscera contiguous to the diaphragm, which, though not actually contained in the thoracic cavity, come normally more or less within the area covered by the ribs, especially the liver, stomach, and spleen.

By morbid conditions he understood both functional disorders and organic changes. The organic changes might, he said, be grouped as follows:

1. Those which are not injurious in themselves, but are important on account of the physical effects which they produce, and this class of lesions are often the remains of some previous acute or active disease.
2. Permanent structural changes impairing the functions of organs.
3. More or less acute diseases or morbid conditions, which are temporary, inasmuch as, if they do not prove fatal from their extent or severity within a limited period, they, as a rule, clear up in the ordinary course of events, or are restored to the normal state when their determining causes are removed.
4. Changes which are grave in themselves, either from the immediate danger due to some serious lesion; from their essentially fatal tendency; from being of a destructive type, or of a septic and infectious nature; or because they become the occasion of, or predispose to, dangerous secondary lesions.
5. Morbid conditions, often obvious enough and persistent, but which in reality are of a curative or compensatory character. These may be quite harmless, or even in a way beneficial and helpful, but not uncommonly they become more or less injurious from a physical point of view, or they are accompanied with impairment of function, owing to the permanent damage done to the affected organ, of which they are the evidence and outcome.

GENERAL CLASSIFICATION.

Entering, then, upon the proper subject of the course of lectures, Dr. Roberts presented the following table, being a

general classification of the combinations of morbid conditions of the chest:

TABLE I.—*General Classification of Morbid Conditions of the Chest, and their Combinations.*

- I. Conditions of chest walls and diaphragm.
- II. Slight or indefinite intrathoracic changes.
- III. Combinations of changes belonging to Nos. I and II.
- IV. Secondary effects of certain intrathoracic physical conditions.
- V. Combinations of chronic chest diseases or their remains.
- VI. Combinations in acute cases.
- VII. Combinations due to accidental lesions or complications, usually sudden.
- VIII. Combinations associated with sudden or acute disorders of function, temporary or paroxysmal.
- IX. Combined conditions originating from the abdomen.

I.—CONDITIONS OF CHEST WALLS AND DIAPHRAGM.

These structures, the former especially, were always well worthy of consideration in dealing with thoracic cases. Information might be obtained sometimes from an examination of the skin of the chest. Marks of cupping or leeching would suggest that the patient had had an acute intrathoracic inflammatory attack at some time, or a scar might draw attention to a former operation for pleural effusion or empyema. Painful sensations were certainly in many cases of internal disease connected with the superficial structures, and there might be cutaneous hyperæsthesia, or spasm of the muscle. Pleurisy, the results of which might persist in the form of adhesions, might be associated with herpes zoster, with an extensive burn or scald of the chest wall, or with injury. On the other hand, certain states of the chest wall occasioned internal derangements, as in the case of a cleft sternum, or of a ruptured muscle allowing a hernia of the lung to take place.

TABLE II.—*Conditions of Chest Walls and Diaphragm.*

- I. Painful or other morbid sensations; cutaneous hyperæsthesia.
- II. Muscular disorders; excessive irritability, spasm, cramp, paralysis.
- III. Superficial conditions; cyanosis, enlarged veins, œdema, subcutaneous emphysema, eruptions, scars, excessive fat.
- IV. Wasting of soft structures, especially muscles; local muscular atrophy.
- V. Alterations in shape and size; small chest, overdistended chest, general deformities, unilateral and local changes.
- VI. Softness of the ribs; changes in rickets and osteomalacia.
- VII. Rigidity of the chest walls.
- VIII. Changes resulting from injury, or associated with particular diseases; empyema, peripleuritis, aneurysm, malignant or other growths diseases of bones or cartilages, sinuses or fistulæ, actinomycosis.
- IX. Congenital clefts or deficiencies; rupture or perforation of muscles.
- X. Conditions of diaphragm:
 - (1) Functional disorders; spasm, paralysis.
 - (2) Mechanical embarrassment or displacement.
 - (3) Acute inflammation; diaphragmatic pleurisy.
 - (4) Adhesion to neighbouring structures.
 - (5) Chronic structural changes; atrophy, fatty degeneration, fibroid changes.
 - (6) Rupture, perforation, or congenital deficiency.

Dr. Roberts then proceeded to discuss certain individual conditions of the chest wall associated with internal diseases, which were simple and of frequent occurrence, but were yet often overlooked and neglected in practice.

1. *Wasting of the superficial tissues and muscles*, to be observed most conspicuously, but not solely, in phthisis, did not perhaps in its minor degree contribute appreciably to the troubles of the patient, but, if neglected in physical examination, might lead to serious mistakes in diagnosis. It must not, moreover, be regarded merely as a part of the general emaciation, for when well marked it might add materially to the difficulties of the acts of breathing, coughing, and expectoration, and thus assume a special importance, or be an immediate source of danger.

2. *Softness of the ribs* must during early life be constantly borne in mind, since when it was present any obstruction to the passage of air, or even a slight bronchial catarrh, but still more serious bronchitis or pneumonia, became important. The importance of this factor in the aggravation of the severity of chest affections, was obviously greater in children suffering from rickets.

3. *Rigidity of the chest walls* should be looked for in adult life, and an attempt made to estimate its effects. The changes, Dr. Roberts said, which produce the rigidity are well known, consisting of undue calcification of the ribs and sternum, with incomplete ossification or calcification of the cartilages; while changes also take place in the joints, which

ultimately lead to their more or less complete ankylosis. Of course these changes develop naturally with advancing age, and there is at any rate no excuse for overlooking them in old people; but the more or less "rigid chest" is quite frequently met with in individuals who have not yet reached middle life, and in the ordinary run of practice it is astonishing how often it is revealed in the examination of even young subjects. Under these circumstances it is generally obviously traceable to the effects of hard physical work, excessive indulgence in athletic and allied exercises, injudicious training for the public services, and like causes, but by no means always. I wish to draw special attention to the fact that the changes which lead to rigidity of the chest walls may be but a part of the entire case, developing along with other morbid processes which are taking place within the thorax, or being in some instances probably the secondary result of these processes. Anyhow we have to deal with a combination of conditions in which this rigidity is anything but an insignificant factor. Occasionally one meets with a very fixed chest in young subjects, the explanation of which is not at all evident. In some of these cases, at any rate, I am inclined to think that congenital syphilis partly accounts for the change. The most obvious consequence of rigidity of the chest walls was interference with both the expiratory and inspiratory movements. If associated with internal thoracic disease its effects at once became apparent, especially if the thorax happened to be of small capacity. It added, for instance, to the severity of a slight bronchial catarrh, and became a real source of danger in acute inflammatory affections within the chest, especially those, such as pleuritic or pericardial effusion, which led to encroachment upon the thoracic cavity. The importance of this condition in chronic affections was, he thought, not generally recognised, and Dr. Roberts drew special attention to the dangerous position in which a person with rigid chest, in whom extensive vesicular pulmonary emphysema subsequently developed, was placed. Cases were met with in which rigid chest walls would not yield before a greatly enlarged heart, and in consequence that organ encroached upon the thoracic space, interfering with the other contents of the thorax and with the diaphragm, so that the symptoms were much more severe than they would otherwise have been.

4. *Abnormalities in shape and capacity and chest deformities* were important in themselves as well as in their connection with intrathoracic changes, and Dr. Roberts held that a contracted chest of small capacity, whether the outcome of natural delicacy, want of proper development, or of internal disease, ought to be considered a morbid condition. So also an over-distended chest was in itself actually morbid, and not merely an indication of internal disease, a fact of which athletes might well take note. Unilateral and local changes in the shape and size of the thorax should not be regarded merely as physical signs of various conditions, but rather as constituting a part of the entire group of morbid changes presented by the patient.

5. *Conditions affecting the diaphragm*, mentioned in the table, were in not a few instances important factors in connection with intrathoracic diseases, of which he would give some illustrations later on.

II.—INDEFINITE INTERNAL CONDITIONS.

This term was applied to certain changes taking place within the chest, because they gave rise to no evident symptoms. They were of common occurrence. Often they could only be detected by careful methodical physical examination, while in other cases their presence could be at most only reasonably suspected as a matter of inference rather than of actual demonstration. These were:

1. Localised pleuritic, or possibly pericardial adhesions.
2. Ill-defined changes in the pulmonary structures, such as senile atrophy, lesser degrees of over-distension of the lungs, or even of true vesicular emphysema, commencing degeneration impairing the pulmonary elasticity and expiratory force, and limited fibrotic changes, the remains of a cured phthisis or other past lesion.
3. The lesser degrees of atheromatous degeneration of the thoracic aorta and its main branches.
4. Atrophy or early degenerative changes affecting the heart walls, or infiltration of its muscular tissue with fat.

After a brief reference to cases of transposition of the viscera, Dr. Roberts observed that most of the changes mentioned came on gradually and imperceptibly, as the result of the wear and tear of life, or of the other causes mentioned as leading to changes in the chest walls. Others were the remains of some past illness, of which the patient might or might not retain a distinct remembrance. Intrathoracic adhesions to a considerable extent were often found *post mortem*, as to the origin of which nothing could be traced. Though their existence was often unrecognised during life, he believed that many such adhesions could be easily detected by proper examination.

III.—COMBINATIONS OF CHANGES BELONGING TO I AND II.

There is, he said, a distinct group of cases, of which he had seen numerous examples, and which are characterised by the presence of certain of these conditions in combination, affecting both the walls and the contents of the thorax, and therefore assuming a degree of importance which they would not otherwise possess. In these cases the superficial structures are more or less wasted, it may be considerably; the chest walls are obviously rigid; localised pleuritic adhesions can be made out, it may be in several spots; there are no gross lesions to be detected in the lungs, but these organs are evidently wanting in normal elasticity, and tending towards degeneration, perhaps also exhibiting limited areas of emphysema, or there is a suspicion of a fibrotic change here and there; sometimes there are indications of commencing atheroma of the aorta, or the heart is feeble in its action, and is probably of actually small size. Now I maintain that cases of this kind ought to be definitely recognised, though it is difficult or even impossible to apply to them any particular designation. They do not exactly belong to the chronic emphysematous or the phthisical group, and they can only be included under that somewhat vague category known as a "weak chest." The patients who suffer from this combination of changes are fully aware of their existence, for at any rate they affect their breathing powers considerably, while they render them extremely susceptible to the effects of even a slight cause likely to act injuriously upon the respiratory organs. Still, so long as they keep quiet, and consent and are able to remain in a comfortable house or room during the colder seasons of the year, or to reside in some more genial and suitable climate than ours, they get on very well. Let them, however, have even the slightest bronchial catarrh, or still more a pronounced acute bronchitis or a pneumonic attack, and their troubles increase at once in a marked degree, while the danger to life also becomes for obvious reasons very serious, quite out of proportion to the acute illness in itself, and I know of few more anxious combinations of conditions to deal with in practice.

IV.—SECONDARY EFFECTS OF CERTAIN INTRATHORACIC PHYSICAL CONDITIONS.

Although the point to which I wish to refer under this heading fairly comes within the scope of my subject, in order to render it complete, I do not propose to discuss it at any length, as the more definite combinations of conditions likely to be met with belonging to this group must be familiar to every well-informed medical practitioner. What I want to bring into prominence is the fact that, given a particular physical condition within the chest, others are likely, or in many instances certain, to be produced by it as secondary consequences, varying within well-known limits in their nature and degree according to circumstances. Hence it happens that the case presents itself as a more or less complex one, there being a combination of morbid conditions, which it is incumbent upon us to recognise, at the same time endeavouring to determine and estimate how far each contributes to the sum total of the clinical phenomena observed. It is too much the custom to look upon these secondary effects as mere "physical signs" of the primary condition, their real importance in themselves being overlooked, or at any rate not adequately appreciated. As illustrations of the more prominent conditions which originate this more or less complicated state of things, to some of which I shall have again to refer, I may mention a large fluid or gaseous accumulation in the pleural cavity, or a much thickened and extensively adherent pleura; pericardial effusion; marked general

emphysema; and an intrathoracic tumour of any description, whether aneurysmal, solid, or of other kinds. I may draw attention to one special point in this connection—namely, that when from any cause the action of either lung is extensively interfered with, the opposite one almost necessarily undergoes compensatory enlargement, and the combination may be easily misunderstood unless due care be exercised.

V.—COMBINATIONS OF CHRONIC DISEASES, OR THEIR REMAINS.

Combinations of definite chronic morbid conditions of the contents of the chest are to be met with in almost endless variety. In speaking of the remains of chronic disease Dr. Roberts intended to refer to morbid changes which had ceased to be active, and were often the manifestations of the arrest of destructive or other injurious processes, and of an attempt at repair. The chief conditions to be dealt with were enumerated in the following table:

TABLE III.—*Combinations of Morbid Conditions in Chronic Cases.*

I. Respiratory apparatus.

(1) Pleuritic.

(2) Pulmonary and air tubes	{	(a) Phthisical.
		(b) Emphysematous and bronchitic.
		(c) Chronic pneumonic.
		(d) Syphilitic.
		(e) Mixed.

(3) Pleuritic and pulmonary.

II. Pericardial, cardiac, and vascular.

III. Respiratory and circulatory.

IV. Special diseases: aneurysm, glandular enlargements and tumours, hydatids, actinomycosis, oesophageal pouching.

V. Independent diseases.

VI. Highly complicated conditions.

I.—RESPIRATORY APPARATUS.

1. *Pleuritic.*—There is, the lecturer continued, a definite class of chronic chest cases in which we have practically to deal with prominent morbid states of the pleura, and their immediate consequences. They have either started in a well-marked attack of pleurisy with effusion, or have followed an empyema which has opened into the lung, or been operated upon, or have sometimes developed slowly and imperceptibly. In exceptional cases they appear to have originated in a limited pneumothorax, which has probably been associated with phthisis, the progress of this disease having been checked by the pleural lesions. The large majority of chronic pleuritic cases are simple enough, but in some instances the conditions are decidedly complicated, and we may meet with various combinations of adhesion, great thickening, localised collections of fluid, or possibly even the remains of a pneumothorax or pyo-pneumothorax. Nor must I forget to note here that the pleura may be the special seat of an extensive tuberculous or malignant infiltration, which still further complicates matters. The important practical lesson for us is that, when brought into contact with what is obviously a chronic pleuritic case, we must not jump to the conclusion that we have to deal simply with an effusion, a conclusion to which a superficial and careless examination might easily lead; and we must always further remember the possibility of some of the conditions being of a very grave nature.

2. *Pulmonary and Air Tubes.*—Of course there is no definite line of demarcation between the bronchial ramifications and the other tissues which enter into the construction of the lungs, and it is a familiar fact that they are all more or less implicated in a large number of cases. Under this head, however, it will be convenient to allude to certain lesions affecting the main air passage or its primary bronchial divisions, which are liable to be met with in connection with some lung diseases. The sub-divisions given in the table indicate, I think, fairly clearly the aspects under which the large majority of chronic pulmonary cases come before us in practice, and I propose to say a few words about each.

(a) *Phthisical.*—Under this head Dr. Roberts observed that there was a tendency to concentrate attention too much on bacilli, and a want of due appreciation of the actual morbid changes which ordinarily characterised phthisical cases, especially as regards their extent and combination. The changes in the lungs, setting aside other thoracic structures, were definite, often pronounced, and in cases of some duration were usually found to be more or less combined,

culminating ultimately in a highly complicated state. As the evidence and results of the phthisical process in these organs, he continued, we have to deal with distinct areas or masses of consolidation, tuberculous, inflammatory, caseous, or mixed; miliary tubercles, diffused or in groups; softening of these structures, and breaking-down, leading to destruction of the pulmonary tissues; cavities in all varieties of size, shape, characters of walls and surroundings, and contents, more or less suppuration usually taking place in them; as well as with changes indicating a tendency to arrest of the disease in places, and to a reparative process, especially the formation of a fibroid tissue, which leads to induration and contraction of the affected portion of lung, with narrowing and, it may be, even ultimate closure of cavities. Then we have to recognise also in many cases an associated bronchitis, which contributes more or less to the expectoration; while in some instances there are definite tuberculous ulcers in the larger bronchi or the trachea. The more pronounced laryngeal complications of phthisis hardly come within the scope of my subject, as the larynx is outside the thoracic cavity, but I may point out that laryngeal symptoms are occasionally produced by the effect of phthisical changes upon intrathoracic nerves, and these must also not be overlooked. Again, in parts of the lungs not actually phthisical, compensatory distension, or so-called emphysema, is often met with; and, further, there are vascular changes, but the only one I need specially mention is the possible development of an aneurysm on a branch of the pulmonary artery within a cavity. In that special group of cases known as "mechanical phthisis" there is the additional element of the solid foreign particles infiltrating the lung tissues.

(b) *Emphysematous and Bronchitic.*—The term emphysema was often used, the lecturer said, in a very loose fashion, to signify any abnormal distension of the lung with air, whether general, unilateral, or local. He was concerned, however, with the real disease, in which not only were both lungs more or less enlarged, but their tissues had undergone certain structural changes, evidenced chiefly by impairment or loss of elasticity. Bronchitis was in many instances the primary disease, and, indeed, could not persist for any length of time without producing more or less emphysema, even in early life. Even in ordinary cases it was desirable to determine the degree of distension of the lungs, the amount and nature of the changes in their tissues, the degree to which elasticity was impaired, the kind of bronchitis with its amount and mode of distribution, and the state of the chest walls. The effects of emphysema upon the chest walls and diaphragm, as well as its association with chest deformities, deserved consideration, as they were often essential parts of the case. The degree of rigidity of the chest walls also deserved study; and it should be recognised that from time to time the distension of the lungs became greater, owing to the escape of air being obstructed by the conditions of the bronchi. These conditions might pass away, and then the lungs would diminish in bulk, and their movements improve in proportion. Not only must the different varieties of bronchitis be borne in mind in this connection, but also the fact, Dr. Roberts added, that the walls of these tubes are in time likely to undergo serious permanent changes, their mucous lining likewise becoming disorganised, and finally more or less extensive bronchial dilatation being often established. Bronchiectasis should more especially be remembered as a possible condition, because extensive emphysema will often completely obscure the physical signs which may be expected to reveal the presence of the dilated tubes. I may mention here that plastic bronchitis is a rare variety met with, which may be associated with a more or less emphysematous state of the lungs.

(c) *Chronic Pneumonic.*—There are the well-known cases of chronic interstitial pneumonia, which are described under the terms "cirrhotic or fibroid lung," "fibroid phthisis," etc. These become in time decidedly of a complex nature, in whatever way they may have originated. The fibroid change is limited in most cases mainly or entirely to one lung, or a portion of it, which is thus hardened and contracted, the involved structures being rendered quite useless. It is also often accompanied with the remains of phthisical cavities, and still more frequently with dilated bronchi; while unaffected areas of the same lung, as well as the oppo-

site one, become the seat of compensatory distension, which may ultimately terminate in true emphysema. Sometimes both lungs are involved in unequal degrees; or, if one is not fibrotic, it is frequently the seat of bronchitis. There is an exceptional class of chronic pneumonic cases which I must just mention, as they may prove very puzzling. In these one lung is either throughout, or over a large extent, absolutely solid, but, instead of being contracted, it is more or less enlarged. The opposite lung becomes greatly distended, and also in some instances the seat of dry bronchial catarrh; so that the general aspect of the patient, as well as the prominent symptoms, may resemble closely at first sight those of an extreme case of emphysema and bronchitis, with an asthmatic tendency.

(d) *Syphilitic*.—Time forbids my doing more than allude to these cases, which are somewhat indefinite from a clinical point of view, though they occasionally present distinct combinations of different morbid conditions, which it may be possible to recognise during life.

(e) *Mixed*.—I have already given illustrations of mixed conditions in the lungs in my discussion of the specially-named groups, but I have thought it desirable to designate by this term a particular class of cases, in order to emphasise the fact that any of the pulmonary lesions which I have been thus far considering may be met with together in almost every conceivable variety of combination. There are two points to which I more especially wish to draw your attention in this connection. I have heard it often stated, and it seems to be rather a prevalent idea, that emphysema and tuberculosis are antagonistic, and are rarely observed together. Now, as a matter of fact, phthisical changes are not at all uncommon even in markedly emphysematous lungs, while it is quite usual to find the two conditions associated together in different parts of the same organs. Under these circumstances the physical signs of the tuberculous lesions are very likely to be obscured, and we may have to rely very much on the symptoms in their diagnosis. The other point to which I must refer is the relation between phthisis and chronic bronchitis. There is a distinct class of cases in which chronic bronchitis having existed in a more or less pronounced form for a variable period, tuberculous changes ultimately supervene, which are easily explained on the bacillary theory, and the clinical phenomena reveal definitely enough a combination of the two diseases. The danger is lest the development of the tuberculous lesion under such circumstances be not recognised, and my observations have led me to the conclusion that not a few cases regarded as bronchitic are in reality phthisical, and that they are so recorded in death certificates, a most important matter, in my opinion, in relation to life insurance and to the question of the heredity of consumption. This oversight is especially liable to happen in the case of patients advanced in years, a statement in support of which I could mention many examples from personal knowledge.

3. *Pleuritic and Pulmonary*.—If I were to attempt to discuss in detail the different kinds of cases in which pulmonary and pleuritic conditions exist together, the subject would take up at least the whole of the time allotted for one of these lectures. I must, however, on the present occasion content myself with merely stating emphatically the fact that these combinations do frequently present themselves under different aspects in practice, and giving a few prominent illustrations in support of my assertion.

First, we have to deal with fairly simple cases, in which, as the result of a definite attack of pleurisy with effusion, or perhaps an empyema, the effects produced by these conditions on the lungs remain persistent, though there is no further active mischief in these organs. That is to say, the lung on the affected side continues in a more or less condensed or collapsed state, being bound down by pleural adhesions, probably becoming also, in course of time, somewhat fibroid; while the opposite one presents various degrees of distension or compensatory hypertrophy. This combination may remain quiescent for an indefinite period. Sometimes the effusion in the pleura is not cleared, or there may even be the association of chronic changes previously referred to.

Secondly, it must be constantly borne in mind that pleural adhesions, varying in extent and situation, but often well

marked, and frequently accompanied with more or less thickening, are most important factors in a large number of cases belonging to the pulmonary groups considered under the previous heading. I lay special stress on this point, because my experience has convinced me that by many these pleuritic conditions are never even thought of under such circumstances; while they are frequently overlooked when evidently producing very troublesome or serious effects. In chronic phthisis, for instance, it is quite common to find one lung universally adherent, the change often extending much beyond the limits of the actual pulmonary disease; while the opposite organ may be also partially fixed in a similar way. Of course, in some of these cases the phthisis is secondary to the pleuritic condition, but the lesions as they come before us are practically the same. It is at the present time a favourite doctrine that most cases of pleurisy are originally tuberculous; but without discussing this doctrine I must be permitted to say that I do not agree with it as a general statement, although I fully recognise the great importance of pleuritic conditions in relation to phthisis, and that the changes are often truly tuberculous. Then, with regard to emphysema and bronchitis, local adhesions are very frequent in association with these affections. There is a very definite class of cases of this kind, in which a more or less extensive and usually very firm adhesion binds down the upper part of one lung, this being sometimes associated with a chronic mediastinitis. A somewhat complicated class of cases occasionally present themselves, which without due care are very liable to be regarded as merely "emphysematous and bronchitic." Their history is that the patient has had a distinct attack of pleurisy, which has left one lung universally adherent, and probably somewhat compressed, while the opposite lung has undergone compensatory hypertrophy. In course of time, however, the enlarged organ becomes truly emphysematous, and ultimately greatly distended, while the compressed lung may also expand under certain circumstances, and subsequently become emphysematous. Dry bronchial catarrh or chronic bronchitis is frequently added to these conditions, and should phthisis supervene as well, as may actually happen, the case comes to present a highly complicated aspect. I have had the opportunity of watching some cases of this kind in their progress and development, and I must say that occasionally they ultimately become decidedly puzzling. In connection with the fibroid lung the pleura is usually very much thickened and the adhesions very dense, while the lobes of the organ are also firmly matted together. Some of these cases have undoubtedly originated in pleuritic changes, but into any discussion of this subject I cannot now enter.

Thirdly, there are definite cases of a chronic phthisical nature in which pulmonary and pleuritic lesions exist together in a pronounced form, including perhaps the remains of a pneumothorax, and the combination may be very perplexing. Occasionally one meets with phthisis at one apex and an effusion on the opposite side, which returns again and again after removal by paracentesis, being evidently of a tuberculous nature. Exceptional instances occur in which the combination of conditions affecting the lungs and pleura is extremely complex. Extensive thick adhesions and tuberculous infiltration, with perhaps the remains of effusion or a pneumothorax; marked emphysema in parts; phthisical lesions of all kinds, with fibroid changes and dilated bronchi; and bronchitis—all are jumbled up together in inextricable confusion.

Lastly, an important class of cases, where the pleura and lung are involved together, are those in which an empyema has burst into the lung, and the discharge of pus in this direction has persisted as a chronic state, the matter being usually coughed up at intervals. In short, we have then to deal with a pyo-pneumothorax, which is periodically emptied, partially or entirely, by way of the air passages. The state of the lungs under these circumstances varies much in different cases, and may be very difficult to determine with any approach to accuracy.

II.—PERICARDIAL, CARDIAC, AND VASCULAR.

Under this heading it was pointed out that in dealing with the pericardium, heart, and great vessels clinically, it was helpful to have a systematic and comprehensive knowledge

of the changes to which they were liable. Certain of them were not infrequently forgotten in dealing with individual cases. They were summarised in the following table:

TABLE IV.—*Chronic Pericardial, Cardiac, and Vascular Conditions.*

- I. Pericardial adhesion or agglutination, calcification, chronic effusion or pyo-pericardium (rare).
- II. Cardiac:
 - (1) Affections of orifices, valves or their appendages, and endocardium.
 - (2) Enlargements of heart:

(a) Hypertrophy	{ Varying in degree, distribution, and relative combination.
(b) Dilatation	
 - (3) Atrophy, diminution in size.
 - (4) Fatty infiltration.
 - (5) Myocardial changes; fatty degeneration, connective tissue hypertrophy, fibroid myocarditis, brown atrophy and other peculiar degenerations.
 - (6) Rare conditions, cardiac aneurysm, growths, hydatids.
 - (7) Congenital malformations; traumatic rupture of septa.
- III. Vascular:
 - (1) Atheroma or calcification of aorta and large branches; dilatation.
 - (2) Aneurysm of various kinds.
 - (3) Degeneration and narrowing of coronary arteries.
 - (4) Dilated large veins; incompetency of valves.
 - (5) Changes in pulmonary artery.

Without attempting to discuss the several ways in which the morbid conditions mentioned in the table might be associated, Dr. Roberts submitted the following propositions:

1. That cases of cardiac diseases are, in relation to the structures immediately concerned, in a large proportion of cases by no means so simple as they are often thought to be, and that most of them must inevitably at some period or other of their history present various combinations of morbid changes. They cannot, and ought not to be summarily dismissed as presenting this or that "murmur," even when a grand name is attached to it; or under the comprehensive and sometimes meaningless expression "enlarged heart."

2. That pericardial adhesion or agglutination is a most important element in not a few chronic heart cases, and should therefore always be borne in remembrance, especially as it can frequently be easily recognised.

3. That in every individual case it is essential to think of all the conditions associated with the heart itself referred to in the table, and to study them intelligently, being guided by an adequate general knowledge of the probable combinations which may be anticipated under particular circumstances. I may allude here to the fact that it is quite common to find two or more orifices and their valves affected in the same case, and the well known consequences of these lesions will be modified accordingly. Congenital malformations, and other peculiar classes of cases, must of course be regarded from their own special aspects.

4. That functional disorder of the action of the heart does often modify, from time to time, or even persistently, in a remarkable way and degree, the phenomena associated with organic cardiac affections, both symptoms and physical signs, and it should therefore be made a rule to study systematically in every case the mode in which the heart is performing its functions, in relation to the organic changes that happen to be present. In short, we have frequently to deal with a combination of organic diseases and functional derangement of this organ, which it is most important to recognise and understand.

5. That it is also of the highest importance always to attend to the great vessels within the chest and those of the neck, as these are commonly affected in various ways along with the heart, or may reveal conditions of this organ which cannot otherwise be definitely determined. The frequency of extensive atheroma or calcification of the aorta and its large branches in cases of cardiac disease ought never to be forgotten, or there may even be dilatation or an aneurysm. In this connection attention may also be specially drawn to similar changes affecting the coronary arteries, although it may be very difficult positively to determine their presence. Certain conditions of the veins, which are really morbid, are likewise of great significance and consequence, especially in relation to abnormal states of the right heart.

III.—RESPIRATORY AND CIRCULATORY.

Under this head Dr. Roberts referred to the effects of mitral

disease of the lungs on the one hand, and on the other of prolonged emphysema or bronchitis, or certain other conditions obstructing the pulmonary circulation of the right heart. He referred also to the covering of the heart by emphysematous lung, or its exposure by the contraction associated with chronic phthisis. He mentioned also that contractile changes might embarrass the action of the heart or displace it; and that a very large heart compressed the left lung, so that it might even become completely collapsed and airless. In another class of cases both lungs and heart might be affected by the same morbid process, as, for instance, by acute inflammation: further, certain of the causes which produced over-distension of the lungs and rigidity of the chest walls acted at the same time upon the great arteries, or even upon the aortic valves, producing a very serious combination of conditions. Certain chronic changes, especially those of a tuberculous nature, commencing in the one set of organs, might spread to the other.

IV.—SPECIAL DISEASES.

Cases belonging to this class were enumerated under this head as given in Table III, but Dr. Roberts confined his remarks to aneurysm and glandular enlargements, or other kinds of intrathoracic tumour, as to which he said: It is necessary to be constantly on the look out for these kinds of cases, and especially aneurysm, for, although they are of comparatively infrequent occurrence, we never know when they may come under our notice. I say this advisedly and emphatically, because I have met with some striking instances in which an aneurysm has been entirely overlooked when the conditions present, which had been produced by the aneurysm, clearly pointed to this disease as the primary source of the chest troubles. Enlarged bronchial or other glands within the chest is another condition to be remembered, especially in children. In relation to a thoracic aneurysm or solid tumour, we have not only to think of these conditions in themselves, but also of their effects upon adjoining structures. These must be well known to every properly educated and intelligent practitioner, and as a rule it ought not to be difficult to understand the phenomena resulting therefrom in individual cases. The changes may be of a pronounced and definite physical nature within the chest, such as collapse or compression of a lung, consolidation or destruction of a portion of this organ, chronic pleurisy and its results, hydrothorax, cardiac displacement, etc.; but it is in these classes of cases more particularly that we have to bear in mind the several minor structures in the mediastinum, interference with which is indicated merely by certain thoracic symptoms, by special superficial phenomena, by remote symptoms, or by signs which are only revealed by particular methods of examination. I must draw special attention to the fact that an aneurysm of the aorta may come before us under the guise of what appears to be a mere case of "emphysema and bronchitis," the result of pressure on the trachea, the aneurysm itself being entirely obscured by the distended lungs, and out of reach.

V.—INDEPENDENT DISEASES.

Under this head I only wish to say that there are cases of chronic chest disease in which morbid conditions are associated together, having no direct connection with each other, and being in reality quite independent. For instance, I have met with not a few cases of phthisis and cardiac disease which would come under this category, as well as exceptional instances of aneurysm and phthisis. Another illustration is the association of right pleurisy with cardiac disease; and, if time permitted, I could give from my own experience numerous other examples.

VI.—HIGHLY-COMPLICATED CONDITIONS.

I have already given examples of combined chest conditions of a complicated nature, and I merely remark, further, that exceptionally they present such a degree of complexity that it becomes practically impossible to unravel them, apparently every structure connected with the thorax, both internally and externally, being more or less implicated in the morbid changes, and ultimately becoming either agglutinated and matted together into one mass, or involved in a common

ruin. Some highly-complicated cases, however, can be fairly understood, even when several structures are affected.

GENERAL CONCLUSIONS.

Permit me, before bringing this lecture to a close, to submit the following general conclusions to which the discussion has, I think, fairly led, namely:

1. That chronic diseases of the chest, even of individual structures or organs, to which we apply particular names, are in reality usually made up of different morbid conditions in various combinations.
2. That two or more directly related structures are frequently implicated, and present well-recognised associated lesions in cases which are thus designated.
3. That definite and well-understood pathological relations exist between the important organs occupying the thoracic cavity, which explain many of the combinations of morbid conditions met with in medical practice; but also that these and the structures associated with them may be implicated together, apart from the effects of any such obvious relations.
4. That certain classes of cases must be dealt with specially and individually, as regards the morbid combinations which they are likely to produce.
5. That we must be prepared for cases in which separate and independent diseases exist together, as well as for those in which the changes are of a highly complicated nature, and which may tax our knowledge and skill to the utmost in our attempts to unravel them.
6. That in all cases of chronic thoracic disease due attention and consideration must be given to the chest walls; and that, in not a few instances at any rate, the diaphragm ought not to be forgotten or overlooked.

SOME THOUGHTS ON THE METHODS OF EMPTYING AN OBSTRUCTED BOWEL.¹

By W. THORNLEY STOKER, M.D.R.U.I., F.R.C.S.I.,

President of the Royal College of Surgeons in Ireland, President of the Section, and Surgeon to the Richmond Hospital.

It is the privilege of the President of this Section to address the members at its opening meeting on some matter of surgical interest, and it is an occasion when one may fairly be excused if he selects a topic to which he can apply his experience, rather than one of the novel and obscure subjects in which the theorist delights to revel, and which capture the intellect rather than deal with every-day incidents of our surgical life.

I do not intend to go far afield for material, because it seems to me that the importance of facts is to be measured by their commonness, and that just as the dignity of labour overshadows the greatness of kings, so the most frequent incidents of our surgical life throw the curiosities and rarities of our science into the shade. Common surgery means universal surgery, and implies that which may be cultivated to the greatest good of the greatest number. What Tennyson has called "the falsehood of extremes" is one that creeps very insidiously into the daily life of the enterprising surgeon. There is a tendency to argue from extreme or rare and individual cases, and to lose sight of broad and collective issues. How often we see elaborate and able papers written with a view to deduce a theory or a practice from a particular and eccentric instance, and the paucity of material concealed by an overshadowing cloud of science condensed from the literature of half a dozen modern languages. This "paper-making" or encyclopædic style is destructive to a fine cultivation of our science, but is a less evil than that which it conceals—the undue craving after originality. Every second surgeon wants his name connected with an operation or an instrument, and in this age of hot and unwholesome competition the hunger is disastrous to the quiet and perfect digestion of abundant material which waits on normal appetite.

¹ Read before the Section of Surgery, Royal Academy of Medicine in Ireland.

As far as my sight reaches I can see no direction in which the craving for novelty and originality has caused men to overstep themselves more than in the operations undertaken so often and with such a light heart for the relief of some forms of obstruction of the bowel. The hateful expression that "there is practically no danger in opening the peritoneum" is ever before the reader in these days, and as regards a class of cases I wish to speak of, a more false or poisonous teaching was never promulgated.

It is more than five years since I read before this Section of the Academy a paper "On the Treatment of Acute Intestinal Obstruction due to Collections within the Lumen of the Bowel," and I am here to-night to repeat with every force I can, and with what added weight time, experience, and the position I now hold may give to my words, the doctrines I then enunciated.

Do not let anyone misunderstand me, although I hold that we live in a time when there is too free a resort to operation in general, and although we may look for a subsidence of the waves and a return to a normal level, yet I have no cry to raise against the general advance of the operative treatment of the bowel—that would be foolish as well as futile. I have no word to say now against laparotomy in any class of cases save one, and even in that class I make no wholesale condemnation, but only urge that it shall be adopted after grave consideration and in selected instances. My remarks do not apply to obstruction due to neoplasms growing in the substance of the bowel or to pressure on it by peritoneal or intraperitoneal material; but to those very common cases in which, owing either to an atonic intestine failing in its peristalsis, or a normally strong one becoming overloaded by its contents, the balance between the propulsive power of the bowel and the load it has to move is destroyed. The result is the decreasing power of the gut, its extreme distension, and the production of the condition named "ileus paralyticus." We seldom see these cases until they have arrived at an advanced stage, until great abdominal distension has taken place, and until the issue is very evidently one of much gravity.

I have seen a great number of such cases in my own practice and in that of others, and I wish to reiterate the opinion I have already expressed that laparotomy is in them an extremely fatal operation, and should only be undertaken when other legitimate means have been exhausted, or where they are evidently improper owing to the advanced stage or general condition of the case. To formulate rules as to when or in what conditions such an operation might be undertaken is not possible except to the book-surgeon. The man who has practical experience knows that abdominal surgery cannot be reduced to a formula, and it is long experience and the tact which may be cultivated, but cannot be conferred, that teach us when we must and may open the abdomen in ileus paralyticus. To be sure, even the most skilled may fall into the error of delay, and there is no case so surrounded by doubtful problems as that of which I am speaking.

As regards antecedent treatment I have not much to add to, and nothing to subtract from, what I have already urged in the paper I have quoted.

Of the ordinary local measures such as the application of heat and rubefacients I have a growing dread. I have never seen them doing substantial service, and I have repeatedly witnessed their production of such superficial redness and inflammation as served to obscure diagnosis and increase the dangers of operation. If poultices or massage be employed they should be used in such a degree as to soothe or stimulate, but not to produce irritation.

Of the value of belladonna, if used freely and early in the case, I still hold a favourable opinion and I am convinced that its best therapeutic effect is obtained by administering it if possible uncombined with opium. I have nothing to take from, or add to, the ideas I have already expressed about this drug. Its action is understood, and its administration logical. It relieves pain, while it does its work. It finds its chief use in those cases of peristaltic paralysis due to tympanites or faecal accumulation, and as these are most often seen in obese persons, and are attended by great meteorism—both conditions which render operation extremely dangerous—this drug is often