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ON THE

MYOIDEMA OF PHTHISIS.

BY

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BIRMINGHAM, 12*th January*, 1872.

MY DEAR DR. STOKES,

You have kindly allowed me to dedicate this paper to you, and I take advantage of the permission to pay a well-merited—though slight—tribute to you, and to the memory of your late colleague, DR. GRAVES.

As it would be presumptuous in me to eulogize the services rendered to our Profession by two such distinguished members of it, I can only express a hope that I have done something to elucidate a discovery with which your name and that of DR. GRAVES must always be intimately associated.

I remain,

Yours ever,

LAWSON TAIT.

ON THE

MYOIDEMA OF PHTHISIS.

EVERY one engaged in out-patient hospital work has an experience only too sadly abundant of the various forms and stages of phthisis. From its very common occurrence, consumption is frequently regarded as a rather uninteresting disease, and the busy hospital officer usually sets down "only a case of phthisis," as something to be dismissed with cod oil and some cough mixture. For my own part I know of no disease of more intense clinical interest, and I know of very few for which so much can be done with success. So much interested have I felt in this disease that, removed directly though it is from the province of that branch of the profession to which my work inclines, I have devoted much time to the cases which have fallen under my care in hospital practice, and deem some of the results I have arrived at of sufficient importance to deserve a record in print. Whether others will agree with me in estimating the value I place upon them, further experience will show. The rough notes I here place before my *confreres* are not such as would be the work of a specialist, and therefore need an apology. The records of the cases are not such as I would recommend as models for the clinical student, but I trust that they will serve to interest some worker more diligent than I am to re-investigate the condition to be referred to.

When a student in the wards of the Royal Infirmary of Edinburgh, my attention was directed on many occasions by one of the most accomplished physicians of our day, Dr. Warburton Begbie, to a symptom found in cases of phthisis which went amongst us by the name of "muscular irritability." For this I have substituted the more exact name of *Myoidema*—a term which will explain itself, and indicates with more exactitude than any other the nature of the phenomenon. The symptom was first noticed by Drs. Graves and Stokes, of Dublin, and cannot be better described

than in their own words:[a]—" There is another highly interesting circumstance connected with percussion, which we do not think has as yet been described. Some time ago, on percussing a patient who had laboured under a pectoral affection, with several symptoms indicative of tubercular development, we were surprised to observe that after each stroke of the ends of the fingers a number of little tumours appeared, answering exactly to the number and situation of the points of the fingers, when they had struck the integuments of the chest. These having continued visible for a few moments, subsided, but could be again made to appear on repeating the percussion. In this case percussion excited a good deal of pain: the situation in which these little tumours were most apparent was in the sub-clavicular region, and over the great pectoral muscle. Since this observation we have seen the same phenomenon in a number of cases.

" How far this phenomenon may be connected with or depending on internal disease is yet to be ascertained. It is seldom met with unless in cases where the patients are emaciated to a certain degree. In these individuals we often find on percussion quickly and with some force, that after each blow a degree of pallor is observed in the parts struck, exactly answering to the points of the fingers; this is instantly succeeded by the return of redness and the erection of a little tumour, which has often a slightly quivering motion, and which subsides in the course of one or two seconds.

" We have observed this to occur most frequently in the superior and anterior portions of the chest, but have also met with it in other situations, such as the arms, back, &c. In some cases the patients complained much of pain on percussion, while in others they did not appear to suffer more than usual.

" This appearance seems to be owing to the contraction of muscular fibres, in consequence of the irritation of the blow."

Dr. Stokes adds further, in his book on *Diseases of the Chest*, note, p. 398:—" There is nothing in this muscular irritability peculiar to phthisis, but that it is commonly connected with irritation of the lung or pleura, there can be no doubt; and in this way, like the other signs of irritation, it becomes available in the diagnosis of phthisis. It is always more evident in the earlier periods; thus in incipient phthisis it occurs over the primary seat of irritation, while in the confirmed and chronic cases we may often find it absent over the lung first diseased, and strikingly marked on the side last and least engaged."

[a] Dublin Hospital Reports, Vol. v., p. 70.

After meeting with this phenomenon very many times I became satisfied that it possessed a real value, and to determine this I made a very extensive series of observations, and the general result is that I can confirm the opinions of Dr. Stokes save in a few particulars; while on many points I am enabled to advance explanations and give further indications of the value of this sign, such as I am certain will prove trustworthy.

In a large out-patient practice I had ample opportunities of discovering when and where this symptom was to be met with, and for more than three years I seldom missed a day without making observations regarding it. During that time I had many cases of consumption under my care, all of which, I must regret, are not recorded, circumstances rendering it impossible for me to note them. Those that are, amounting to a hundred and seventeen, were taken indiscriminately, and the results of the examinations recorded week by week, without regard to any foregone conclusions. These cases are placed for convenience at the end of this paper, and when making any deduction the numbers of the cases on which it depends will be given for ready reference.

First of all, I ought to explain the nomenclature I have adopted. The sign itself I call "myoidema," because that word expresses what actually occurs when a local stimulus, such as a tap with the fore-finger, to a muscle, as shown in Marey's well-known experiments. The condition which enables the phenomenon to be visible I term, roughly and not very discriminately, muscular irritability. It ought to be termed idio-muscular[a] hyperæsthesia. Carpenter thinks "it is doubtful whether both of these appearances (the nodule and the wave) are not due simply to a prolonged contraction of the muscle, resulting from exhaustion of its contractility at the excited spot."[b] This is sufficiently indefinite to convey no distinct meaning, and is an explanation the terms of which are somewhat contradictory. From clinical observation I am satisfied that it is really due to the normal contraction of a muscular fasciculus, freed in some degree from the inhibitory influence of nervous control. Muscles which show the phenomenon answer readily to the direct stimulus of the interrupted current, but not so to a current passed through the course of their nerves.[c] Micro-

[a] *Idio-muscular* irritability is Schiff's term.

[b] Human Physiology, seventh edition, p. 775.

[c] This observation is one requiring further confirmation, as the experiments on which it is based are only three in number.

scopical examination of the muscular tissue, which in life has produced an intense nodule, shows nothing abnormal. Muscular tissue under the influence of paralysis, either recent or of long standing, does not necessarily give the myoidema, though in one most interesting case of phthisis, where there existed old standing paralysis of all the muscles of one shoulder, the result of injury, the atrophied remnants readily gave a marked nodule. That it is due to an altered nervous influence is also shown by the fact noticed by Stokes, and with extreme frequency by myself, that the production of a well-marked wave or nodule was accompanied by an amount of pain not commensurate with the severity of the stroke; and in many cases I found that a stroke which was intolerable during that period of the case when the nodule was readily produced was easily borne when recovery had so far advanced that the nodule could be produced only faintly or not at all.

Finally, when the idio-muscular contractility was exhausted by repeated stimulating taps on the same fasciculus, very soon it became impossible to produce the nodule until a period of rest had elapsed; and the readiness with which the exhaustion of the fasciculus was accomplished, and the length of the period of rest required, bore no appreciable relation to the intensity of the nodule, as we might have expected it would have done had Dr. Carpenter's explanation been correct.

What influence the state of the blood may have on this phenomenon, I have had no means of determining. Its clinical conditions will be afterwards alluded to.

The most common variety of the sign is the formation of an instantaneous sulcus at the point struck; and though this may be frequently met with in those apparently in perfect health, yet so strongly am I impressed with its clinical value, that I should look narrowly into the circumstances of any case for life insurance in which it was observed. This sulcus is due to the instantaneous travelling of a wave of contraction from the point struck to either end of the fasciculus to which the test is applied. The more marked the sign is the slower and more persistent does the wave become; rarely, however, is it so slow as to be observable by the eye until it is so intense as to form a secondary wave.

The second variety is where the nodule or intumescence of Stokes is formed. I have completely satisfied myself that this

nodule is produced when the waves of contraction, similarly to reflected waves in liquid, start from what ought to be their vanishing points, the ends of the fasciculus, and, passing in reversed directions, meet at or near their original starting-point, and become heaved up into a tumultuous or quivering nodule. The apparent struggle for mastery may sometimes be even seen under the skin, and the larger the waves and deeper the sulcus, the larger and more tumultuous the nodule. The nodule may be formed a little to one or other side of the point struck, and may even roll back and forward under the skin for a second or two, as if uncertain where to settle. Lastly, the disturbance may be so intense that a secondary wave may start from the nodule, and travel slowly (at least comparatively so) along in the direction of the primary wave in the shape of two small nodules. Auerbach tells us that he has noticed this, and that the rate of travelling of the divisions of the primary nodule was about eighteen inches per second. This phenomenon must be extremely rare, for I have only seen it twice, and then the rate did not seem to me to be more than four inches per second. The whole of the phenomena may be very easily imitated in a long, narrow trough of water. When therefore I speak of the irritability being merely *fascicular*, I refer to its most common and least serious form; when I say *nodular* I mean that the reflected wave produced a nodule, and this variety again I speak of being in some cases "intense." These terms are not exact, but they are convenient.

By far the most common seat for the ready production of a myoidema is the clavicular portion of the pectoralis major muscle; next, is the remainder of that muscle; next, the deltoids and the scapular muscles; and after that, though rarely, the muscles of the back. In one case (xxxvi.) it could at one time be readily produced in any of the muscles of the trunk, and even on the gluteus maximus. This was the only case where I ever saw a nodule on any muscle but the great pectoral; on the latter muscle it lasted twelve seconds. Usually the nodule disappeared in one or two seconds; but in several cases it will be found that it lasted longer (xix., xxiii., xxxvi., lxxx.). Stokes noticed the nodule last four seconds. In one case (liv.) I found fascicular irritability present on the deltoids, but entirely absent on the pectorals.

I have said that the fascicular irritability is often to be found in those apparently in sound health. Not so, however, with the nodule. I have not yet seen it in any one in whom there did not

exist serious disease. It is pre-eminently a sign of tubercular disease; and though I have made some hundreds of examinations to determine its presence or absence in cases not tubercular, I have failed to discover it in any but one other condition, typhoid fever. Even then it is met with usually only at one stage, and that is during the rapid emaciation which occurs immediately after convalescence has begun, precisely at the time when the risks of a not unfrequent sequela of typhoid fever, consumption, are pre-eminent. The sign has on several occasions been of use to me in diagnosing the early stage of typhoid fever from the early stage of a case of acute phthisis (xxxix., lxvii., cxi.), two diseases that I have known confounded by most eminent physicians; and also in distinguishing softening tubercle from chronic bronchitis (lxxxiii.).

Further experience may show that I am over-estimating the value of the sign when I say that it is one of the most certain signs of phthisis; but I am perfectly convinced that every observation will confirm me in saying that it is an absolutely certain indication of softening deposit, and that in exact proportion to its intensity is the amount or rapidity of lung destruction, and the consequent gravity of the case. I regard tubercle in the lungs as of very little consequence unless it be in very excessive quantity or threatening to soften. There are two infallible indications of the latter—loss of weight and intensity of muscular irritability, and they invariably run together. Mere deposit of tuberculous matter does not necessarily involve loss of weight, or the ready production of the myoidema.

Dr. Stokes says that the irritability is more evident in the earlier periods, and that in incipient phthisis it occurs over the seat of irritation. The latter of these propositions is most certainly true, for with very few exceptions (xviii., xl., lvi., cv.) it has in my experience been always most marked on the side where the disease was most serious—that is, where the softening was most actively in progress at the time of examination (i., vii., x., xi., xiv., xvi., xxx., xlviii., &c.); and in many other instances (ii., iv., xxv., &c.) it has been absolutely confined to the side singly affected.

My experience, however, does not support Dr. Stokes' other proposition, that it is more evident in the earlier stages, for it becomes more intense along with the softening (vi., xi., xv., lxxi., xcix., &c.); and although it is often one of the very earliest physical indications of disease we get (xci., xciv.), it is only so when a very limited deposit is immediately followed by softening. I have seen cases of

enormous deposit in which no softening has occurred, and where no myoidema could be produced.

I have now under my care a lady who suffers from the deposit of fibroid phthisis to a degree quite as intense as did Martha H. (l.), but whose deposit has as yet undergone no softening. In her case I have never, in frequent examinations, been able to obtain even a sulcus; and yet there can, I think, be no doubt about the nature of the case, for I have watched it throughout its progress, and I sent her to Dr. Hughlings Jackson, without note or comment, and he has quite confirmed my opinion.

I have found the sign present, even in its most intense form (iii.), in cases where no physical signs of phthisis could be discovered (viii., ix., xiii., xx., xxxiii., xxxv.); but in all these the facts lead me to believe that they certainly were cases of consumption, and in one (iii.) it was proved to be so. The sign always appeared after marked loss of weight and the occurrence of the general symptoms of phthisis, and it disappeared as weight was gained and the symptoms abated. Every student of practical pathology knows how constantly we find softening tubercle in lungs which in life did not indicate its presence when examined. It is only at the apex of a lung that the presence of a small amount of tubercle can be absolutely determined. Thus I regard myoidema as a most valuable sign, for, taken along with marked loss of weight, it may explain things to us otherwise inexplicable.

I fear that few practitioners are aware what a really fearfully common thing tubercular disease of the lungs is, and how many cases there are that we miss for one that we discover. One comfort I may add to this, that the majority of practitioners have no very accurate notion of how many cases of consumption there are which recover—get well as absolutely as do cases of measles. My former master, Dr. Hughes Bennett, was looked on and scouted as a visionary when he talked of cases of tubercular disease of the lungs getting cured, and his preparations, showing the fact conclusively, were looked at with smiles of derision. Of my hundred and seventeen cases only twenty-six died, and many of these only after repeated recoveries. Of the ninety-one remaining I know that there are at least sixty still alive, and in good health. Of the remainder some few proved to be not phthisical, and some others certainly must have died; but the majority are probably still alive. I never saw conditions in any case that appeared more utterly hopeless than did at one time those of John M. (xliii.), yet

he is now in robust health. And here I cannot refrain from paying a tribute to Dr. Bennett for the boon he has conferred on us in bringing about rational views of the pathology and treatment of consumption. To him we are mainly indebted for the introduction of cod liver oil. In some of the cases it will be seen that cod oil could not be taken. In these I found the oil of the *arachis hypogæa* a useful substitute. In a few the pancreatic emulsion was used with signal advantage.

In the investigation of the cases given I weighed every patient at each visit, a proceeding I would recommend to every out-patient hospital officer, if only from the fact that it saves so much time. I very soon found that on the dial plate of the weighing machine there was a far more ready index of the state of my patients than any descriptions of their own could afford me. I found that the increase of softening, the increase of muscular irritability, and the loss of weight always went together, save in the singular exception of Tom Braithwaite (c.), to be explained, I think, by his increase in weight from increase in height.

One other point observed by Dr. Stokes has been often confirmed in my experience, that "while in the confirmed and chronic cases we may often find it absent over the lung first diseased, and strikingly marked on the side last and least engaged." This is from the fact that there is a curious alternation of the sides on which softening occurs. Save in the last stage or in very acute cases, I have never seen softening going on at both sides at the same time; on the contrary, I have repeatedly seen a cavity in process of cure on the one side, while one was in process of formation on the other. In such a case the irritability will be found closely to accompany the softening. I have frequently (xlix., lxxiv., civ., &c.) predicted the occurrence of softening from the appearance of the nodule on the unaffected side. I have also been enabled to predict cessation of the mischief (lxxx.) from the disappearance of the nodule, even before there was any alteration of the physical signs or increase in weight. Deposit alone does not influence the weight or condition of the myoidema (xliii.). In one case (xii.) there certainly was no indication of phthisis; but the state is one in which I think it may be reasonably urged that there may have been some few patches of softening tubercle.

It may be urged that there is a want of explanation why softening tubercle should affect the muscles of the side alone to which it may be confined. I confess it is a mystery, but none greater than

that involved in the fact that if the inside of one thigh of a male infant be tickled, the testicle of that side alone is raised; and in connexion with this peculiarity of the myoidema of phthisis, I may draw attention to the curious unilateral perspiration of Ellen R. (xvi.). In several of the cases reference will be found to the filbert-shaped nails and drum-stick fingers. The former is usually found in connexion with tubercular disease of the lungs, and is usually more marked, in chronic cases, on the side which is the more affected by disease (xxx.). The drum-stick fingers, again, seem peculiarly the property of chronic empyæma. I have seen them, and, if my memory serves me rightly, so has Dr. Begbie, appear in the course of an empyæma on the affected side alone, and disappear after a cure had been effected.

I wish I had had the time and opportunity to write on many other points concerning the clinical history and pathology of this most interesting disease. I have already, however, transgressed all moderate limits, and must only point to the case of Mary Daly (xcii.) as one amongst many which has led me to believe that there is a closer correlation of morbid actions than most of us believe; and to the case of Elizabeth Richardson (civ.) as one of several which have compelled me to believe that pulmonary consumption is contagious.

In order further to extend my experience of the value of the myoidema, and to avoid any possible source of error, I examined a number of the inmates of the West Riding Lunatic Asylum, having been permitted to do so by the courtesy of my friend, Dr. Crichton Browne. A table of these observations I append, and it will be seen they fully bear out my former conclusions. Amongst the insane phthisis is well known to be extremely prevalent, so that it is not surprising to find fascicular irritability in a large percentage of the insane, and the nodule in many of those who, at the time of examination, were losing weight.

At the head of that table will be found an observation that vocal resonance is more marked on the right side, unless otherwise stated. I believe that vocal resonance is normally more marked on the right side than on the left, and that this is due to the anatomical differences of the two sides. Of the cases where I could determine the side on which the disease began, I find that there is an almost equal number for the right and for the left. The statistics of some authors show that the right side is more frequently the seat of the origin of phthisis, while the statistics of others obtain the credit for the left.

No.	Age	Weight		Remarks [In all cases vocal resonance more intense on right side, unless otherwise stated]
		lbs.	—	
1	49	—	—	Well nourished ; no irritability ; physical signs normal
2	60	152	losing	Well nourished ; muscular irritability faintly fascicular ; physical signs normal
3	30	146	steady	Well nourished ; muscular irritability faintly fascicular ; physical signs normal
4	30	158	gaining	Well nourished ; no muscular irritability ; physical signs normal
5	63	146	losing	Thin ; faintly nodular ; physical signs normal
6	30	136	losing	Well nourished ; muscular irritability faintly fascicular ; physical signs normal
7	60	126	losing	Thin ; muscular irritability very nodular ; physical signs normal
8	67	176	losing ?	Well nourished ; faint irritability ; physical signs normal
9	29	119	losing	Thin ; faintly nodular ; vocal resonance suspected left, but not decided
10	47	138	steady	Thin ; no muscular irritation ; normal
11	57	160	steady	Well nourished ; no muscular irritability ; normal
12	23	137	?	Well nourished ; no muscular irritability ; normal
13	21	127	steady	Well nourished ; no muscular irritability ; normal
14	78	159	steady	Thin ; no muscular irritability ; normal
15	56	133	steady	Thin ; muscular irritability more intense on left, where there are some suspicious signs (a case of acute mania)
16	46	157	steady	Fat ; no muscular irritability ; normal
17	29	175	slightly losing	Fat ; no muscular irritability ; normal
18	53	183	gaining	Fat ; no muscular irritability ; normal
19	45	158	?	Fairly nourished ; faintly fascicular ; suspicious (new case)
20	55	151	gaining	Fairly nourished ; no irritability ; normal
21	36	181	losing	Very fat ; no irritability ; normal
22	62	134	losing	Fairly nourished ; no irritability ; normal
23	65	174	losing	Fairly nourished ; faintly nodular ; normal
24	31	148	steady	Fairly nourished ; no irritability ; normal
25	36	140	gaining	Well nourished ; no irritability ; normal
26	36	143	losing	Thin ; muscular irritability nodular ; slight softening at both apices
27	40	136	gaining	Very thin ; muscular irritability intense on left pectoral, absent on right ; advanced disease at left apex, probably in process of cure ; voice intensified on left side.
28	43	148	losing	Fat ; no irritability ; normal
29	47	157	losing	Fairly nourished ; muscular irritability very nodular on right ; faint on left ; slight disease at right
30	35	110	gaining	Fairly nourished ; no muscular irritability ; slight bronchitis
31	34	136	?	Fairly nourished ; no irritability ; normal
32	45	154	losing	Thin ; muscular irritability nodular ; suspicious at both apices
33	21	148	steady	Fat ; no irritability ; normal
34	30	152	steady	Fat ; no irritability ; normal
35	38	148	gaining	Fairly nourished ; no irritability ; normal
36	24	126	steadily losing	Fat ; no irritability ; normal
37	48	134	losing	Fairly nourished ; slightly nodular on left pectoral slight softening at left apex
38	31	140	losing	Fairly nourished ; no muscular irritability ; normal
39	10	76	steady	Fairly nourished ; no muscular irritability ; normal
40	25	153	gaining	Thin ; no muscular irritability ; normal
41	17	—	—	Thin ; deposit on right side, and muscular irritability nodular on right pectoral

No.	Age	Weight		Remarks [In all cases vocal resonance more intense on right side, unless otherwise stated]
		lbs.	—	
42	23	151	losing	Thin ; irritability of muscles nodular ; suspicious at both
43	37	134	losing	Fairly nourished ; faintly nodular ; normal
44	33	148	gaining	Well nourished ; faint ; normal
45	51	165	gaining	Well nourished ; no irritability ; normal
46	52	128	losing	Thin ; intensely nodular ; advanced disease at both apices
47	54	123	gaining	Fairly nourished ; no irritability ; normal
48	51	142	steady	Fat ; no irritability ; normal
49	34	145	gaining	Fat ; no irritability ; normal
50	46	140	losing slightly	Fairly nourished ; no irritability ; normal
51	58	159	losing	Fairly nourished ; no irritability ; normal
52	49	153	steady	Fat ; no irritability ; normal
53	35	147	gaining	Fairly nourished ; no irritability ; normal
54	25	127	slightly losing	Fairly nourished ; no irritability ; normal
55	43	171	steady	Fat ; no irritability ; normal
56	31	141	gaining	Fairly nourished ; muscular irritability intensely nodular on right pectoral ; dulness, immobility, and deficient breath-sounds under right clavicle
57	31	155	steady	No irritability ; normal
58	30	138	steady	No irritability ; normal
59	27	161	losing	Irritability nodular ; voice-sound more marked on left
60	58	148	steady	No irritability ; normal
61	45	149	steady	Irritability nodular
62	20	136	gaining	No irritability ; normal
63	15	140	gaining	No irritability ; normal
64	38	129	losing	Irritability nodular ; vocal resonance more intense on left
65	42	171	gaining	No irritability ; normal
66	44	157	steady	No irritability ; normal
67	46	180	gaining	No irritability ; normal
68	28	165	gaining	Fat ; no irritability ; normal
69	28	165	gaining	Fat ; no irritability ; normal
70	50	142	steady	Fat ; irritability nodular ; normal ; chronic dimentia
71	39	150	gaining	Fat ; no irritability ; normal
72	29	193	steady	Fairly nourished ; no irritability ; normal
73	47	159	gaining	Fat ; no irritability ; normal
74	44	136	gaining	Fairly nourished ; no irritability ; normal
75	69	136	steady	Fairly nourished ; no irritability ; normal
76	53	126	steady	Fairly nourished ; no irritability ; normal
77	74	132	losing	Fat ; no irritability ; normal
78	72	151	losing	Muscular irritability nodular on both sides ; cavity on right side
79	45	154	gaining	Fat ; irritability nodular ; normal
80	57	153	steady	Thin ; normal ; nodular irritability ; dimentia
81	60	131	gaining	Fat ; irritability nodular ; normal
82	65	152	gaining	Thin ; irritability nodular ; faint crackle on left
83	42	174	gaining	Fat ; no irritability ; normal
84	67	129	gaining	Fat ; no irritability ; normal
85	16	114	steady	Fat ; no irritability ; normal
86	15	100	gaining	Fairly nourished ; no irritability ; normal
87	49	159	steady	Fairly nourished ; no irritability ; has had suspicions of tubercle
88	81	128	losing	Thin ; irritability nodular ; no signs
89	20	117	gaining	Fairly nourished ; irritability nodular, equal on both sides ; slight disease on left
90	43	130	gaining	Fairly nourished ; irritability nodular

Case I.—M. B., aged forty-six, sempstress, has had chronic phthisis for eleven years; decided dulness under the right clavicle, with deficient breath sound and increased vocal resonance ; muscular irritability nodular on the right pectoral, very slight on the left; marked on the scapular muscles of both sides.

Case II.—Barbara W., aged fourteen, has double spinal curvature and phthisis; marked dulness for some distance below the left clavicle, with deficient breath sound; right lung free from disease, and probably voluminous from altered relation of chest walls; muscular irritability very nodular on the left pectoral, but not present at all on the right.

Case III.—Thos. B., aged ten, has no special physical sign; he has a look of abdominal disease, but no symptom of it; there is intense muscular irritability of the right pectorals, and to some extent of all the muscles of the trunk and limbs, and always most marked on the right side. This patient was seen only once, but I have since learned that he died, very soon after I saw him, of acute softening of the lungs.

Case IV.—Mary Ann O., aged twenty-four, married, has had irregular and painful menstruation since the birth of her last child, which occurred about four years ago, but has not menstruated at all for four months past; there is slight dulness under the right clavicle, together with slightly nodular irritability; no sign on the left side. This patient was under observation six weeks, and gained two pounds in weight without any alteration of the signs.

Case V.—Isabella W., aged fifty-six, has had symptoms of chronic phthisis for sixteen years; she had a considerable deposit in the supra-spinous region of the right side, and nodular irritability of the right pectoral; she gained 1 lb. in two months, while taking arsenic, without any alteration of the signs.

Case VI.—Elizabeth T., married, weighed, on Nov. 26, 96 lbs.; she had then extensive consolidation of the right apex. On Dec. 3 she had gained a pound under the use of cod liver oil, when an attack of softening came on, and on Jan. 28 she was reduced to 91 lbs. During this time I remember that there was a considerable degree of muscular irritability, but unfortunately I have made no note of it. On Feb. 4 she had gained ground, and

weighed 94½ lbs., but another attack of softening came on, which proved fatal on April 1st. For a fortnight before her death the muscular irritability was so excessive that the slightest tap on any muscle produced instantaneously a nodule, which lasted several seconds.

Case VII.—Esther H., aged twenty-seven, a factory worker, has been ill two years; there is slight dulness and diminished respiration under the left clavicle; there is intense muscular irritability of the left pectoral, the slightest tap raising a large nodule, while it is with some difficulty that the nodule can be produced on the right side.

Case VIII.—Walter C., aged seventeen, has been growing very rapidly for about six months; he has lost his appetite; has a cough, and sweats very much during the night; he feels certain that he has lost weight considerably; he weighs (on the 1st of February) 101 lbs.; there are no physical signs of disease, but the muscular nodule is raised with great readiness on all the muscles of the right side of the trunk; on the left side it is much fainter. By the use of cod liver oil and a tonic he had gained by the end of the month 5 lbs., and then the irritability almost entirely disappeared.

Case IX.—Ann O., aged twenty-six, has been losing weight; has a cough and night sweats; she is an ill-fed hand-loom weaver; there are no physical signs of disease, save faintly nodular irritability of the pectorals; on Feb. 4 she weighed 111 lbs.; under the use of cod liver oil she rapidly improved, and was dismissed at her own request on the 18th, having gained 3½ lbs.

Case X.—Harry R., aged nine, a shade of dulness under the left clavicle, together with deficient breath sounds and increased vocal resonance; muscular irritability most on the left pectoral; he cannot take cod oil, so is put on the ground nut oil (*arachis hypogœa*); in a month he gained 2 lbs., and was dismissed cured.

Case XI.—Timothy T., aged sixty-two, has been a hewer, weighed on the 17th Feb., 134½ lbs.; under the left clavicle there is some flattening and great dulness; the vocal resonance is much increased and breath sound almost absent; the nodule is easily raised on the left pectoral, but can scarcely be got on the right; on

March 24th he weighed 130½ lbs.; on April 7th, 126 lbs., and then the nodule could be raised easily everywhere; softening of the upper part of the left lung advanced rapidly, and he died on April 25th.

Case XII.—Benjamin H., a clerk, aged nineteen, has been losing health and strength for twelve months; he has very large bunches of enlarged lymphatic glands in each axilla and in each groin. On microscopical examination the blood is found to be normal; muscular irritability is very general, and the nodule is easily raised under both clavicles. Feb. 17th, he weighs 98½ lbs., and is ordered cod oil; 25th, the oil has quite destroyed his appetite, and he weighs now only 96 lbs.; ordered ground nut oil. March 10, cannot take the nut oil; weighs 94 lbs.; ordered pancreatic emulsion. March 24, weighs 100½ lbs.; glands much less; muscular irritability much diminished; general health much improved. April 7, weighs 104 lbs.; muscular irritability quite gone. April 14, weighs 106 lbs.; dismissed cured.

Case XIII.—Elizabeth T., aged thirteen, weighs (Feb. 24) 84 lbs.; has the general symptoms, but no physical signs of phthisis; seems to be a good specimen of what has been described as the "pre-tubercular" condition; the nodule can be easily produced on both pectorals; ordered cod oil. March 17, weighs 84 lbs. Not seen again.

Case XIV.—Mary G., aged fourteen, a well marked case of acute phthisis; she has been ill only six weeks, and now presents the appearance of being far advanced in the disease; she weighs (Feb. 24) 74½ lbs.; there is flattening, dulness, and advanced softening at both apices, but decidedly the greater amount of disease is on the right side; the muscular irritability is very considerable everywhere, but more nodular on the right pectoral than on the left; ordered small doses of opium. March 30th, the attack of softening has gone off; she weighs 80 lbs., and thinks she is well enough for her work; the irritability still remains, but is equal on both pectorals.

Case XV.—John P., aged sixteen, a worker amongst greasy wool, has been unwell for six months. Dec. 10, he weighs 127 lbs.; on the left side there is flatness under the clavicle, together with dulness reaching down to the cardiac area, the apex

bruit being rather higher than usual; he has frequent hæmoptysis; the vocal resonance is distinctly intensified; the breath sound is deficient and has very markedly the character of the *respiration saccadé*, and the muscular irritability is well marked on both sides. Feb. 4, he weighs 132 lbs.; all the signs have diminished in intensity, more especially the dulness on percussion, which has cleared wonderfully; the muscular irritability is much diminished; the upper half of the left lung expands much more freely, and, most remarkable of all, the apex bruit is now in its normal position; general symptoms much improved, appetite good, and instead of spitting blood every week, as he used to do, he has not done so for six weeks. March 3rd, he weighs 137 lbs.; the muscular irritability is quite gone, and all that remains of his former condition is slight cogwheel breathing at the left apex. Discharged in perfect health and weighing 136 lbs. on April 14. He has used cod oil and a tonic all through the attack. Seen again on Sept. 28, 1868, weighs 125½ lbs.; there is deposit at both apices, with softening at the left; intense muscular irritability on both pectorals; cannot take oil; ordered emulsion. This attack is due to carelessness, and its evidently serious character to the fact that he has been ill some weeks, and has been taking herbs. Saw him last on Dec. 7th, when he weighed 126 lbs.; softening was advancing rapidly at both apices, and the muscular irritability was intense. He died some time in February.

Case XVI.—Ellen R., has been ill for seven weeks; the catamenia ceased three months ago; there is a considerable deposit at both apices, which on the left side is undergoing softening; there is more marked irritability of the left deltoid and pectoral than of the right. Dec. 31, weighs 97½ lbs.; ordered cod oil. Jan. 7, cannot take the oil; given nut oil instead; weighs 96½ lbs. Feb. 11, cannot take the oil; ordered pancreatic emulsion; weighs 95 lbs. March 3rd, weighs 92 lbs.; muscular irritability very great on every muscle of the trunk, the nodule lasting for many seconds on the pectorals of both sides. She states that she sweats very much, but only on the right side of the body, the right side of the face being frequently very wet, while the left is quite dry. On April 7th she weighed 90 lbs., and she died on the 20th.

Case XVII.—Elizabeth A., aged twenty-five, has not menstruated for ten weeks; under the right clavicle there is slight

dulness, increased voice sound, harsh breathing almost tubular, and a slight crackle on a very deep inspiration; there is no muscular irritability. She gained 3½ lbs. in two months under the use of chalybeates and cod liver oil.

Case XVIII.—Ann L., aged twenty-one and a half, has been ill eight months; great flattening and immobility of the left clavicular and mammary regions, and distinct evidence of a large cavity; faint muscular irritability, which is more intense on the right side than on the left.

Case XIX.—Joseph T., aged sixteen, evidence of deposit at both apices, more intense on the right; muscular irritability very intense, the nodule lasting eight seconds on the right side and five on the left. This case was only seen once, but I have since learned that he died in a few days of acute softening.

Case XX.—Dorothy P., aged thirteen, Nov. 19, weighs 71 lbs. Against her name there is nothing written save the word "phthisis," and a record of the fact that the muscular irritability was nodular everywhere. On Feb. 4 she weighed 77 lbs., and it is recorded that there were no physical signs and the irritability gone. Discharged on the 24th.

Case XXI.—Brian M'D., labourer, aged twenty, has been losing health for two years. Jan. 4th, weighs 132 lbs.; has cough and night sweats; there is marked dulness extending downwards four inches from the left clavicle, together with immobility and flattening of that part of the chest, and a good deal of crackling can be heard; the muscular nodule is very easily raised on both pectorals and deltoids. Feb. 25, weighs 136½ lbs.; muscular irritability much diminished; physical signs not altered. July 24, the heart's apex now beats above and considerably to the inside of the nipple, and a fresh deposit occupies nearly the whole of the left lung, small districts in the axilla and at the lateral and posterior base alone giving a clear note, and even over these crackling is heard; muscular irritability much more intense on the left side than on the right; weighs 123 lbs. This deposit slowly softened, and he died on Feb. 20.

Case XXII.—George W., aged thirty-two, pitman, weighs on Feb. 11th, 140 lbs.; advanced disease at both apices, and intense

muscular irritability of all the muscles of the trunk. He lost weight steadily until April 21, when, as he lived at a distance, we lost sight of him. He probably died soon after.

Case XXIII.—Hannah P., aged twenty-four, married, of a dark complexion and with very bad teeth and general scrofulous appearance, suffers from enlargement of the concatenate glands of the neck. Feb. 11, weighs 129 lbs.; muscular irritability faint on all the chest muscles; no signs of chest disease. March 31, in spite of cod oil she has lost 10 lbs., and now the muscular nodule is easily raised on the left pectoral and with slight difficulty on the right; the former lasting four seconds, the latter disappearing nstantly; there is dulness to some extent under both clavicles, least on the right side; and at the left apex there is softening going on. She has missed her menstrual period for the first time. April 21, weighs 118 lbs.; muscular irritability almost equal on both sides; there is now markedly interrupted breathing and moist sounds at both apices. Lost sight of her after that date, but have since learned that she died.

Case XXIV.—John S., aged eighteen, a painter, has been rapidly losing flesh for some weeks; has profuse night sweats; he eats well. During the physical examination of his chest, the *phthisical odour* was so intense as to be very offensive; there were no signs of pulmonary disease, but the muscular nodule was raised with extreme readiness on the pectorals—more so on the right than the left. May 6th, he weighed 104 lbs.; urine contains sugar in appreciable quantity. June 2, weighs 113 lbs. June 16, weighs 110 lbs. On examination it is found that since the 2nd there has been a deposit formed under the right clavicle, and that it is now softening; the muscular irritability is nodular on both sides, but is markedly more lasting on the right. June 23rd, the condition of the right apex is much improved, and the irritability is less. Under treatment. He ultimately recovered completely.

Case XXV.—Jane N., aged seven, has slight dulness under the left clavicle; muscular irritability nodular on the left pectoral, not visible on the right. Recovered after an attack of softening.

Case XXVI.—Grace S., aged thirty-eight, hand-loom weaver, has been ill for six months; she has not menstruated for six

months. May 20, weighs 101 lbs.; phthisical odour most offensive; dulness to an intense degree extends from the left clavicle into the cardiac area, and over this area no breath sound can be heard either at back or front, the only sound being a faint crackle on very deep inspiration. The vocal fremitus can scarcely be distinguished over the upper half of this lung, while the voice sound is much exaggerated. On the right side the breathing is slightly jerky; the muscular nodule is easily produced on both sides, but more easily on the left pectoral muscle, and there it continues longer. June 2, weighs 97½ lbs.; the crackling is abundant all over the area of dulness. June 9, the area of dulness has contracted slightly, and the apex beat is higher than normal; weighs 96 lbs. June 23, weighs 97½ lbs.; not menstruated yet. July 7, weighs 100 lbs.; 21st, weighs 99 lbs.; not menstruated; muscular irritability very intense on both pectorals; considerable consolidation at the right apex and much crackling. Aug. 4, well marked crack pot above and below left clavicle, and considerable consolidation at the right apex; muscular irritability intensely nodular on both sides; 99 lbs.; Sept. 1, 98 lbs. Not seen again, but I have heard that she died.

Case XXVII.—Emma L., aged seventeen, has menstruated very irregularly for twelve months; *respiration saccadé* under the left clavicle, and the voice sound intensified there; muscular irritability not nodular, but decidedly more on the left pectoral than on the right. March 17th, weighs 104 lbs. April 14, weighs 109 lbs.; muscular irritability very faint on both pectorals, but still more apparent on the left; it has diminished very much since last examination; the physical signs have improved. May 26, weighs 106 lbs., and is in much the same condition as in the last note, except that the voice sound is now louder on the right side than on the left.

Case XXVIII.—Anne B., aged seventeen, sempstress, has only menstruated twice in five months; no distinct physical signs; filbert-shaped nails on both hands, but more so on the fingers of the right; muscular irritability present on both sides, but more particularly on the left. March 16, weighs 98 lbs.; 24th, 102 lbs. April 21 (had menstruated on the 15th), 99 lbs. May 5th, weighs 101 lbs.; muscular irritability gone. July 7, weighs 96½ lbs.; considerable dulness behind and above the right clavicle and deficient

breath sounds. Aug. 4, 95 lbs.; state of signs as last described; muscular irritability nodular on both pectorals. Sept. 15, 98 lbs.; physical signs much improved, air entering the right apex tolerably freely; no muscular irritability.

Case XXIX.—Alice D., aged twenty-nine, May 25, 122 lbs., has been ill for three months; general symptoms do not indicate phthisis, as her appetite is good and she has no night sweats; the wall of the upper front of the left side is quite fixed and very flat, and here there is a large cavity which gives the most intense *bruit de pot felé* that I have ever heard; muscular irritability very faint. May 25th, weighs 122 lbs. June 23, weighs 125½ lbs.; the cavity has very much contracted, the crack-pot sound instead of being most intense at the level of the third rib can now only be got immediately under the inner third of the clavicle; and the cavity is much drier than it was formerly. Aug. 18, 128 lbs.; cavity contracting; muscular irritability entirely absent. Sept. 22, 131½ lbs.; apex beat of heart much elevated; pulmonary abnormal sounds almost gone; no *bruit de pot felé;* no muscular irritability. Nov. 24, 137 lbs.; no signs of fresh disease. I have frequently seen this patient since, and she is quite well.

Case XXX.—Dorothy D., aged eighteen, a mill hand, working amongst greasy wool, was weighed in October last, and remembers that she was 147 lbs. June 14th, weighs 113 lbs.; she has filbert-shaped nails on the left hand, but not on the right; she suffers from cough, night sweats, and a bad appetite; immediately behind and above the right clavicle there is considerable dulness, while the supra-scapular region partakes of it slightly; here the breathing is cavernous, and there is well marked pectoriloquy, but no moist sounds save after a cough; this side is much contracted and quite immobile; the clavicle is much lower than the left, and the hollow above it much deeper than that on the other side; on the left side there is jerky respiration and tubular breathing, with some dulness; the muscular irritability is distinctly greater on the left side than on the right. Last Christmas she suffered from an attack similar to this, and indicates the right supra-clavicular region as then having been the seat of pain; now she suffers at the same spot on the other side. The condition is evidently that there is a cavity in process of cure on the right side, and one in process of formation on the left. This

patient ultimately recovered thoroughly, but unfortunately the notes of her progress have gone astray.

Case XXXI.—Sabina H., aged eighteen, mill girl, March 3, weighs 113 lbs.; slightly jerk respiration at left apex; faint muscular irritability of the scapular muscles. May 26, has been taking pancreatic emulsion; weighs 108 lbs.; some friction sounds and slight dulness at the left upper scapular region and a faint crackling; muscular irritability faintly visible everywhere; can't take oil; ordered pancreatic emulsion. June 16, 109½ lbs. July 21, 112 lbs.; slight leather creak at right apex; no muscular irritability. Oct. 20, 117 lbs.; signs quite normal.

Case XXXII.—Hamer T., aged thirty, soap worker, May 8, weighs 127 lbs.; muscular nodule on both pectorals; slight cogwheel breathing under both clavicles; he has occasional hæmoptysis. June 9, weighs 125 lbs.; muscular irritability more nodular than before, and now most on left side. June 23, weighs 124 lbs.; a faint crackle to be heard at the right posterior apex; streaky expectoration. July 21, 126 lbs.; a faint crackle at right post apex; muscular irritability nodular on both pectorals. Aug. 4, 122 lbs.; crackle at right post apex increased; muscular irritability faint on right pectoral; in *statu quo* on left. Oct. 27, 120 lbs.; the deposit at the right post apex must be increasing, for the breathing there now is very rough and almost tubular; muscular irritability increased on right side and scarcely visible on left. Dec. 29, has been much in the state last described until now; weighs 119 lbs., and cannot take the oil; ordered the ætherized oil. Jan. 12, softening has taken place at the right post apex; muscular irritability intensely nodular everywhere; he can take the ætherized oil well. Feb. 9, 115 lbs.; muscular irritability very nodular on left, faint on right; 23rd, 120 lbs.; softening passed off; muscular irritability faintly nodular everywhere.

Case XXXIII.—Tom B., aged fourteen, has been losing flesh for three months; has a cough and occasional night sweats; no physical signs of disease; muscular irritability nodular on left side, faint on right. July 6, weighs 112 lbs.

Case XXXIV.—John S., aged thirty-five, plasterer, has been ill for six months; there is dulness, deficient breath sound, and

prolonged expiration under the right clavicle; muscular irritability equally nodular on both sides; some crackling at right posterior apex; occasional hæmoptysis. July 7, weighs 111 lbs.

Case XXXV.—William J., aged nine, has been losing flesh for five months; muscular irritability very nodular on both sides; no physical signs of disease. May 1, weighs 47 lbs. July 13, weighs 49 lbs.; muscular irritability almost gone. Aug. 8, 51 lbs.; muscular irritability gone. Oct. 27, 53 lbs.

Case XXXVI.—William S , aged sixteen, a cooper, has been ill for four months. March 9, weighs 105 lbs.; there is intense dulness for nearly four inches below the right clavicle, and the chest walls here are quite fixed; marked pectoriloquy and tubular breathing. On the left side there is evidently deposit, but to no great extent, there being only some slight interruption to the breathing, and perhaps a shade of dulness. He has been losing flesh very rapidly for a fortnight; his father and a brother and sister have died of phthisis. There is the most intense amount of muscular irritability I have yet seen; on the slightest tap an enormous nodule rises on the pectorals, lasting twelve seconds on the right side and six on the left; nodules can be easily raised on the deltoids (this is the only instance where I have seen them on this muscle), scapular muscles, latissimus dorsi, and even on the gluteus maximus. April 7, weighs 109½ lbs.; muscular irritability nodular on both pectorals, but its duration much diminished. April 21, to-day a most interesting series of changes is noticed; the muscular irritability is much diminished on both sides, but is still more apparent on the right than on the left; on the left side the breathing is almost normal; while on the right the chest is much more morbid than formerly, and the intense dulness now ends abruptly at two inches from the clavicle, but over this region the breathing is markedly tubular, and there is a good deal of crackling. This must be the disease under process of cure, because though his cough is worse he has gained 2 lbs. within the last week. April 28, to-day the dulness extends only one inch from the right clavicle, the crackling has entirely gone, the breathing cavernous, and there is the most intense pectoriloquy. We have now a cavity undergoing contraction. May 5, weighs 113 lbs.; pectoriloquy less marked. May 26, weighs 113½ lbs.; dulness still diminishing, breathing slightly tubular; muscular irritability almost gone.

July 14, physical conditions and weight the same; muscular irritability quite gone. Not seen until June 25, weighs 107½ lbs.; a large cavity under the right clavicle and some mischief going on under the left. The slightest tap raises a very large nodule, which lasts for eight seconds on the right pectoral. There is a nodule on the left, but scarcely so big or persistent. He died during the attack.

Case XXXVII.—John R., aged five and a half, muscular irritability decidedly more marked on the left side than on the right. The whole of the left lung emits a peculiar sound, which is probably bronchial, complicated by friction from patches of tubercle; the whole side duller than the opposite. Only seen once. I heard afterwards that he died.

Case XXXVIII.—John L., aged forty-three and a half, deficient movement, with dulness and crackling under the left clavicle; vocal resonance much increased; muscular nodule easily raised everywhere. This was a poor drunken destitute wretch, who soon sunk under the softening.

Case XXXIX.—Joseph D., aged sixteen and a half, has been losing flesh rapidly; has night sweats and severe cough; bad appetite; no physical signs of chest disease; muscular irritability intense everywhere; temperature 102 Fahr. In this case it was difficult to decide, as it often is, whether we had to do with a case of acute tubercle in its very early stage or with one of typhoid fever. The weighing proved it was the latter, because on June 4th he weighed only 93 lbs., while on the 19th he weighed 99 lbs.—a rate of increase at his age, together with a diminution of temperature to 98·2, totally at variance with the idea of a tubercular condition.

Case XL.—George S., aged forty-four, has suffered for years from cirrhosis of the liver; there is dulness, deficient breath sounds, and slight crackling under the left clavicle; muscular irritability much more apparent on the right side than on the left. June 11, weighs 132 lbs. Subsequent history not known.

Case XLI.—Sarah W., aged twenty-four and a half, *respiration saccadé*, with slight dulness under left clavicle; muscular irritability nodular on left pectoral, faintly so on right.

Case XLII.—James M., aged twenty-six, says that he weighed

147 lbs. a few weeks ago; he weighs now (June 16) only 130 lbs.; deficient motion, slight dulness, and faint crackling above the left clavicle; muscular irritability intense everywhere. July 3, muscular irritability much diminished; physical signs much improved; weighs 134 lbs.

Case XLIII.—John M., aged sixteen, weighs (Feb. 20) 100½ lbs.; *respiration saccadé* at both apices; muscular irritability intense on all the chest muscles. March 20, weighs 109 lbs.; muscular irritability almost disappeared, but still nodular on the right side, where the altered breath sound still remains; breathing normal on the left. April 3, weighs 112 lbs.; condition of the signs much improved. The boy unfortunately discontinued the treatment and went to work, and re-appeared on the 22nd of June, weighing 103 lbs.; marked cogwheel breathing and crackling at both apices; muscular irritability intense everywhere; complains of being very weak; temperature 100° Fahr. July 27, 98½ lbs.; considerable fresh deposit has occurred at the right posterior apex; muscular irritability intensely nodular; temperature 102·2°. Aug. 7, 105 lbs.; right apex much improved, although the air is not entering freely; faint crackling is to be heard at left post apex; muscular irritability equally nodular on both pectorals. Sept. 25, 112 lbs.; the amount of deposit in the right lung is slowly increasing, but no softening has taken place; muscular irritability more on right than left. Jan. 1, the deposit seems also to have spread in the left lung, and an attack of softening is occurring there; muscular irritability intensely nodular on left, scarcely visible on right. Jan. 8, 110¼ lbs. The softening is passing off; the respiration being almost puerile, with but faint crackling; muscular irritability very faint on right and much less on left. He recovered completely.

Case XLIV.—Joseph C., aged sixteen, has disease of the mesenteric glands, probably tubercular; flattening of the chest wall and wavy respiration at the left apex; muscular irritability well marked on left pectoral; faint on the right.

Case XLV.—James M., aged twenty, weighs on Jan. 2, 112 lbs.; has completely lost his appetite; has severe cough and night sweats; intensely nodular irritability of both pectorals; faintly wavy respiration on the left side. Jan. 31, weighs 129½ lbs.; muscular irritability much diminished; general symptoms much improved. Dismissed cured on February 14, weighing 135 lbs.

Case XLVI.—Alfred F., aged thirty-seven and a half, has been ill for six months; there is advanced disease at both apices, especially on the left, where the upper lobe of the lung is quite solid; muscular irritability intense everywhere; weighs 127 lbs., May 22. On May 29 he had lost 3 lbs., and I learned that he died on June 22.

Case XLVII.—Thomas W., aged forty, February 7, weighs 168 lbs.; there is considerable flattening with distinct dulness, deficient breath sound, and faint crackle under the left clavicle; muscular irritability nodular on left side, both back and front, while it is indicated on the right side only by a faint sulcus on the pectorals. May 1, weighs 170 lbs.; physical signs slightly improved, general symptoms very much so; muscular irritability still nodular on left side, but it cannot be induced on the right side at all.

Case XLVIII.—James M., aged sixteen, Dec. 27, weighs 123 lbs., and is 5 feet 8 inches in height; has lost a brother lately from phthisis; harsh and slightly interrupted breathing at the right apex; muscular irritability well marked on the right side, but faintly so on the left, and on both sides it is more apparent on the deltoids than on the pectorals. Jan. 24, weighs 128 lbs.; muscular irritability decidedly increased on both sides, and now it is more apparent on the left pectoral, where a nodule may be raised; physical signs not altered. May 1, weighs 127 lbs.; condition not altered.

Case XLIX.—Philip F., aged thirty-four, on July 13, 1867, was found to have a large cavity at the apex of the left lung, with very fœtid expectoration; muscular nodule raised with great ease on the left side, but with great difficulty on the right. In February he weighed 133 lbs., and it was found that the cavity had contracted very much and was very dry; the muscular irritability was then marked on both sides, but especially on the left. On June 5 he weighed 123 lbs. Aug. 14, 123 lbs. The cavity at the left apex is contracting, and the disease on the right side, where there seems to have been an attack of softening lately, is, no doubt, in process of cure; muscular irritability nodular on right pectoral, not on left. Feb. 11, physical signs much as formerly, no muscular irritability.

Case L.—Martha H., aged sixteen, with silky hair and regular teeth; weighs on March 6, 110 lbs.; there is a large deposit of

tubercle at the base of the right lung, where there is some softening and probably a small cavity, indicated by localized tubular breathing on a level with the lower angle of the scapula, with considerable increase of vocal resonance; no muscular irritability anywhere; night sweats, diarrhœa, hæmoptysis; ordered cod oil and dilute sulphuric acid. March 13, has gained 1 lb. She unfortunately discontinued treatment until May 29, when it was found that she weighed only 109 lbs., and the physical signs were as follows:—At the posterior base of the right lung there was a space beginning at the lower angle of the scapula and extending into the hepatic dulness, extending also from the vertebral column round the great angle of the ribs for six inches, throughout which there was intense cavernous breathing and pectoriloquy, both increasing in intensity as the centre of the space was neared; round the edges of this space the dulness was very marked, but as the centre was approached it decreased rapidly in intensity until over a limited area, a tympanitic note was obtained, which partook largely of the *bruit de pot felé* character when the mouth was applied to the ear; muscular irritability faintly nodular everywhere; cannnot take oil, so pancreatic emulsion is ordered. June 5, weighs 108½ lbs.; finds that she can take fat much better since she took the emulsion. June 19, weighs 106 lbs. July 3, weighs 109½ lbs.; appetite much improved; the area of the signs above mentioned has contracted a good deal and their intensity is much diminished; *bruit de pot felé* scarcely audible; muscular irritability much fainter. Aug. 14, an attack of softening is going on round the cavity; muscular irritability intensely nodular; 28th, 109 lbs.; it has now passed off, and the muscular irritability is much fainter; the cavity is much larger in extent than formerly. Oct. 23, 104 lbs.; the cavity is no less, but is quite dry; no muscular irritability. Feb. 5, 98½ lbs. There is again softening going on round the cavity, and now muscular irritability is intensely nodular on both pectorals. She recovered from this attack, the cavity healed, and she is now quite well.

Case LI.—Hannah H., aged forty-three and a half, has been ill two years. April 6, weighs 108 lbs.; considerable deposit undergoing softening at both apices; muscular irritability nodular everywhere; night sweats, severe cough, bad appetite. Discharged almost well on June 6, weighing 112 lbs.

Case LII.—Mary Ann P., aged thirty-one, has slight deposit

and softening at right apex; muscular nodule raised with more ease on the right side than on the left.

CASE LIII.—Emma T., aged twenty-two, a brunette, with regular teeth, coarse hair, and painful, scanty menstruation, which has only occurred once in the last seven months; very extensive consolidation in the anterior apex, but no softening; no sweating, appetite good. She was under observation for two months, during which time she lost little ground, as she took the oil and tonic well, but, I believe, she died of acute softening not long after discontinuing treatment.

CASE LIV.—M. A. S., aged twenty, a brunette, with fine hair and very beautiful teeth; menstruation painful; has been losing flesh, and has cough and night sweats; marked *respiration saccadé* at the left apex; slight dulness and exaggerated voice sound at the right apex; muscular irritability slight on both deltoids; weighs, Jan. 10, 120 lbs. Feb. 14, weighs 118 lbs.; the jerky breathing now discernible on the right side; no alteration of the muscular irritability.

CASE LV.—Florence C., aged seventeen and a half, weighs on March 25th, 120 lbs.; menstruated regularly until last November, but since then her periods have been deficient and painful; not much cough; occasional night sweats; the supra-clavicular region of the right side is deficient in mobility, is slightly dull on percussion, and the vocal resonance is markedly exaggerated; left side normal; muscular irritability nodular on the right pectoral, altogether absent on the left; ordered *aloes and iron pills* to be taken during menstruation, and cod liver oil and small doses of iron to be taken between the periods. April 23, has menstruated freely and without pain; weighs 123 lbs. Discharged on May 8th quite well.

CASE LVI.—Sarah H., aged sixteen and a half, suffers from cough and night sweats; deficient motion and respiratory murmur at the left apex; muscular irritability more perceptible on the right side. This patient lost 4 lbs. in a week, and was not seen again.

CASE LVII.—Ellen S., aged fifteen, has marked dulness and crackling under the right clavicle; muscular irritability nodular on

right pectoral, altogether absent on left; present on the muscles of both scapulæ.

Case LVIII.—Julia Teal, aged twelve, suffers from cough, night sweats, and loss of appetite; there exist flattening, dulness, and much exaggerated vocal resonance under right clavicle, together with a faint crackle; muscular irritability nodular on right side, very faint on left.

Case LIX.—Sarah W., aged twenty and a half, suffers from the general symptoms, and a year ago had a severe attack of hæmoptysis; her grandfather died of phthisis; both apices considerably, and almost to the same extent, occupied by a softening deposit; muscular irritability faintly nodular on both pectorals, and to be seen faintly on the scapular muscles of both sides; weighs, May 1, 125 lbs. July 17, physical signs very much improved; only a faint crackle to be heard under the left clavicle; muscular irritability extremely faint. On Aug. 14 she re-appeared, weighing only 121 lbs.; an acute attack of softening has been going on under the right clavicle, but is now apparently under process of cure; muscular irritability faintly nodular; she is also suffering from a papular eruption on the intestinal mucous membranes, evinced very markedly on the tongue and by constant intestinal pain after food and vomiting; ordered cerii oxal. Sept. 6, 123½ lbs. Sept. 25, 127½ lbs.; slight crackling at right front apex; muscular irritability very faint. Nov. 6, 130 lbs., and has not been seen since Feb. 22, though I have heard that she is well.

Case LX.—Isabella J., aged thirty-one, has been ill eight months; there is a large cavity and a good deal of progressive softening under the left clavicle; the muscular nodule is easily produced on both sides, and lasts nearly eight seconds. This patient died.

Case LXI.—Anthony H., aged forty-six, weighs, Feb. 14, 127 lbs.; indications of commencing disease, and intense muscular irritability on the left pectoral; he took cod oil steadily until June 5th, when he weighed 138½ lbs., and all the signs had vanished. July 17, weighs 142½ lbs.

Case LXII.—Sarah H., aged twenty, has never menstruated; appearances of general struma; respiration saccadé under left

clavicle; deficient breath sound and slight dulness; muscular irritability faintly nodular on left pectoral. (A younger brother of this girl died under my care lately of tubercular meningitis.) She now weighs (July 10) 92½ lbs.; ordered cod oil and compound syrup of the phosphates. Aug. 7, 95½ lbs.; physical signs the same; muscular irritability very faint. Sept. 30, 100 lbs.; muscular irritability and signs entirely gone. Dec. 8, 101 lbs.; discharged cured.

Case LXIII.—Mary Ann S., aged twenty-seven, July 15, deficient movement and breath sound, and faint crackle at the right post apex; muscular irritability slightly more persistent on right pectoral than left.

Case LXIV.—Helen H., aged twenty, slight dulness and deficient breath sound under the left clavicle; slight muscular irritability on the left pectoral.

Case LXV.—James P., aged twenty-seven, May 15, weighs 115 lbs.; muscular irritability very nodular everywhere, and equal on both sides; advanced softening on both sides, most extensive on the left, where there is a large vomica giving the bruit de pot felé; ordered oil and ac. hydrocyan. June 5, weighs 120 lbs.; on the right side the breathing is almost normal, no softening, but the chest expands deficiently; on the left there is faint crackling under the left clavicle, and circumscribed but intense pectoriloquy and faint bruit de pot felé, showing that the cavity is contracting and the disease in process of cure; muscular irritability very faint. June 12, 123½ lbs.; muscular irritability quite gone. July 24, 121 lbs.; slight softening is going on round the vomica under the left clavicle; muscular irritability nodular on the left pectoral, very slight on the right. Sept. 11, 124 lbs. Recovered completely.

Case LXVI.—Mary H., aged thirty-four and a half, deficient movement, slight dulness, and absence of respiratory murmur under right clavicle; muscular irritability very faint on both pectorals.

Case LXVII.—John D., aged twenty-five, July 23, weighs 102 lbs., and says that he has lost 16 lbs. in a very short time; general symptoms point to the deposition of tubercle; muscular

irritability intensely nodular everywhere. Aug. 4, saw him at home, and attended him till the 13th, through an attack of softening in both lungs, the course of which very much resembled that of typhoid fever. Aug. 14, 101½ lbs.; muscular irritability much diminished. Not seen again, but I have learned since that he is alive and quite well.

Case LXVIII.—John P., aged twenty-nine, weighs 137 lbs.; wavy and deficient respiration at the left apex, with increased vocal resonance; four months ago had an attack of hæmoptysis; muscular irritability very faint on both sides. Feb. 16, weighs 139 lbs. Recovered.

Case LXIX.—Emma E., aged forty-six and a half, suspicious alteration of the breath sounds under the left clavicle; muscular irritability much more intense and lasting on left pectoral than on right; general symptoms vague.

Case LXX.—Mary A., aged seventeen and a half, rough and deficient breath sounds under the left clavicle, and deficient movement of that side; faint muscular irritability on both sides.

Case LXXI.—Elizabeth Wright, aged twenty-two and a half, Aug. 26, irregular menstruation; it has not appeared for ten weeks; some softening deposit under both clavicles, but most under right; muscular irritability faintly nodular on both sides; weighs 128 lbs.; ordered pancreatic emulsion, as she cannot take oil. Sept. 18, 124 lbs.; muscular irritability very nodular; 25th, 125 lbs.; muscular irritability much fainter. Oct. 2, 121 lbs.; muscular irritability nodular. Not seen again. I have since learned that she died in November.

Case LXXII.—John Shepherd, aged thirty-five, July 7, weighs 111 lbs.; dulness, deficient breathing, and prolonged expiratory murmur under the right clavicle; voice sounds normal; muscular irritability equally nodular on both sides; some crackling and considerable deposit at the right post apex; night sweats; occasional hæmoptysis; appetite good; ordered sulphuric acid and oil. July 24, 115½ lbs.; has had no hæmoptysis; appetite good; night sweats gone; dulness more intense at right post apex, and evidence of a limited cavity; muscular irritability slightly nodular everywhere; faint crackle at left post apex. Aug. 11, 117 lbs.;

muscular irritability very faint everywhere; physical signs much improved. Sept. 21, 119 lbs.; very well. Oct. 6, 116 lbs.; an attack of softening has supervened, which extends through the whole substance of the lung for about five inches from the right clavicle; there is but very faint muscular irritability. Nov. 3, 111 lbs.; softening still going on; muscular irritability faint on left, marked on right pectoral. He died some months after.

Case LXXIII.—George Reading, aged thirty-two, May 16th, prolonged expiratory murmur at left apex, slight dulness and cogwheel breathing; weighs 156 lbs.; muscular irritability faintly nodular on both pectorals; ordered quinine with a little opium and oil. Oct. 6, considerable deposit under both clavicles, with advanced softening, and a cavity behind the left clavicle; muscular irritability very nodular on both pectorals; weighs 142 lbs. He died in a few weeks.

Case LXXIV.—Emma Cooper, aged eighteen, March 10, weighs 106 lbs.; catamenia missed for the first time; muscular irritability slightly nodular on left pectorals; slight dulness under left clavicle, and some softening deposit. July 21, 102 lbs.; muscular irritability nodular on right pectoral, faint on left; abundant deposit and softening on left side, commencing mischief on the right side. She ultimately recovered completely.

Case LXXV.—Harriet France, aged twenty and a half, July 28, faintly wavy breathing and slight dulness under the right clavicle; muscular irritability faint everywhere.

Case LXXVI.—John Green, aged thirty-five, general symptoms suspicious; no physical signs except that under the left clavicle; the voice sound is intensely exaggerated; muscular irritability intensely nodular on left pectoral, and much less on right.

Case LXXVII.—Joshua Watson, aged twenty-two, faint, dry crackle at right post apex; muscular irritability intensely nodular on both pectorals. Died after removal to the sea-side.

Case LXXVIII.—Eliza Sledge, aged twenty-two, Aug. 4, 105 lbs.; suffers from severe dysmenorrhœa, the periods being six weeks and the discharge scanty; deficient breath sound at the right apex; very slight muscular irritability on right pectoral;

ordered oil and aloes and iron. Sept. 15, 113 lbs.; menstruates regularly and without pain; no physical signs.

Case LXXIX.—Richard Broughton, advanced disease at the left apex, especially at the post apex; muscular irritability intensely nodular everywhere. This man was found dead in bed the morning after this note was taken—death resulting, probably, from some cardiac cause.

Case LXXX.—Wm. Jackson, a very handsome lad, 5 ft. 11 in., aged eighteen, weighs 163 lbs.; at the right apex there is deposit and softening; left clear; muscular irritability very nodular on right pectoral, nodule lasting six seconds and only three on the left; ordered quinine, iron, and oil. Jan. 5, 161 lbs.; softening has passed off; rest quite clear, and muscular irritability almost disappeared. I predict that he will gain much weight in the next week. Jan. 12, 164 lbs.; muscular irritability quite gone. Jan. 26, 166 lbs.

Case LXXXI.—Isabella Vickers, aged thirteen and a half, advanced disease at the right apex, and some at the left; no muscular irritability.

Case LXXXII.—Joseph Chadwick, Aug. 3, 113 lbs.; muscular irritability nodular on both sides, but decidedly more intense on the right, at which apex there is a shade of dulness, diminished breath sound, increased vocal resonance, and respiration saccadé; respiration saccadé on left side. Aug. 10, 110 lbs.; condition almost the same. Sept. 1, 114 lbs.; abnormal signs quite gone; muscular irritability scarcely visible. Nov. 7, 116 lbs.; normal, muscular irritability very faint. Jan. 12, 120 lbs.

Case LXXXIII.—Mary Ann Holdroyd, aged nineteen. This patient has been repeatedly under care during the last three years for what was called chronic bronchitis; the physical signs were very doubtful; they were all over the chest. Dec. 7, weighs 128 lbs.; muscular irritability faint. Jan. 5, 131 lbs.; much improved; 19th, 132½ lbs. Feb. 2, the same sounds are present again, but as the muscular irritability is quite nodular on the pectorals, and she weighs 128½ lbs., I pronounce it to be a case of phthisis. Such it ultimately proved on *post-mortem* examination.

Case LXXXIV.—Elizabeth Parker, aged thirty-two, Dec. 7,

121 lbs.; has lost father, a brother, and two sisters from phthisis; the upper third of the right lung is occupied by tubercle, and there is a considerable cavity in the front and towards the manubrium; wavy respiration at the left apex; muscular irritability very slightly nodular on right pectoral and absent on left. Dec. 22, 116½ lbs.; a good deal of softening going on at the right apex and slight at the post left; muscular irritability nodular on right pectoral, faint on left.

Case LXXXV.—James Robertshaw, aged thirty-two, Nov. 2, rough, wavy respiration at both apices, slightly tubular at the right post apex; muscular irritability intensely nodular on pectorals. Nov. 4, this patient was attacked by tubercular meningitis, and died on Nov. 10. *Post-mortem* examination revealed very slight disease at the right apex.

Case LXXXVI.—Bridget Smith, aged forty-three, general symptoms of phthisis. Nov. 23, 125 lbs.; suspicions of deposit at the left apex, where there is immobility and a shade of dulness; muscular irritability absent. Jan. 19, 125 lbs., and as the patient has not altered the least in weight, and there is no muscular irritability, I am inclined to believe that it has not been a case of phthisis, and that the condition at the left apex is either a scar or an anatomical peculiarity.

Case LXXXVII.—George Oberhouse, a native of Strasbourg, Oct. 17, 114 lbs., 5 ft. 4½ in.; there is an extensive condensation at the upper part of the right lung; at the extreme apex there is a small cavity; at present there is no softening; left apex quite clear; muscular irritability not very well marked, more so on right pectoral. Dec. 1, 128½ lbs.; not the least muscular irritability; 15th, cavernous breathing at both apices. Dec. 29, 136 lbs. Jan. 19, 141 lbs. Feb. 2, 137 lbs.; muscular irritability; 16th, 138½ lbs.; muscular irritability very faint. Ultimately died from fungous tumour of the dura mater.

Case LXXXVIII.—George Crowther, aged thirty, Aug. 4, 132 lbs.; deficient breath sound under right clavicle; faint muscular irritability on both sides. Oct. 13, 139½ lbs.; physical signs almost normal; only a faint dulness under the right clavicle; muscular irritability very faint. Nov. 8, 142 lbs.; physical signs

quite normal; muscular irritability extremely slight. Dec. 22, 144½ lbs.; all the conditions normal.

Case LXXXIX.—John Milling, aged forty-four, Nov. 10, 126 lbs.; advanced disease at both apices, recent softening at the left; muscular irritability intensely nodular on both sides, the nodule lasting longer on the left. Dec. 1, 131 lbs.; muscular irritability much less marked; breath sounds much clearer. Feb. 2, 135 lbs.; muscular irritability very faint, air entering fairly.

Case XC.—Ada Reed, aged thirteen, brought to me for an opinion; she is in the last stage of consumption, and the muscular irritability is intense, the very slightest tap raising a nodule.

Case XCI.—Walter Smith, aged seven, Feb. 27, 1869, weighs 49½ lbs.; general symptoms suspicious, but no indications of chest disease from physical signs; muscular irritability intensely nodular on both sides. March 16, 51 lbs.; muscular irritability nearly gone; April 20, 53½ lbs.; muscular irritability quite gone.

Case XCII.—Mary Dayly, aged twenty and a half, Oct. 27, 114 lbs. This girl was under my care many months ago for a very severe and obstinate attack of sciatica of the right nerve. Three months after she passed through an attack of acute rheumatism (not under my care), from which there results a murmur of mitral regurgitation. There is now considerable deposit and softening at the right apex; general symptoms not urgent; no muscular irritability. Nov. 24th, 119½ lbs.; breath sounds very much improved at the right apex; no muscular irritability. Jan. 12, 122 lbs.; quite well. Feb. 23, spinous process of the seventh dorsal vertebra is abnormally prominent, and she complains of pain when it is manipulated. Ultimately recovered well.

Case XCIII.—James Sykes, aged twenty-three, Feb. 16, advanced disease on both sides; muscular irritability intensely nodular, and undulations spreading rapidly from the nodule in each direction along the fasciculus. The skin immediately after the stroke becomes the peculiar pink I have sometimes noticed (is it similar to the tache cerebrale of Trousseau?); weighs 114 lbs.

Case XCIV.—George Wraith, aged twelve, Jan. 26, 73 lbs.; suspicions of tubercle, although neither the signs nor symptoms

are definite; muscular irritability intensely nodular. Feb. 16, muscular irritability much less nodular. Recovered completely without further symptoms.

Case XCV.—Annie Boyer, aged nineteen, Jan. 24, 106 lbs.; traces of old disease at both apices, and probably a small cavity at the inner third of the right clavicle; no muscular irritability.

Case XCVI.—Jane White, aged twenty-nine, Jan. 21, 115½ lbs.; sent to me with the statement that she has phthisis, but I can find no signs nor symptoms to warrant the belief, and there is no muscular irritability. Feb. 23, no signs nor muscular irritability, and weight continues the same; a case of hysteria.

Case XCVII.—Mary Hurst, aged thirty-four and a half, deficient movement, dulness, and absence of respiratory murmur under right clavicle; muscular irritability faint.

Case XCVIII.—John Wildsmith, aged fourteen, Feb. 1, 71½ lbs.; from the history given it would seem that he has been suffering from an attack of softening; the apices of both lungs are clear, but at the right posterior apex there is a faint crackle, and at the right posterior base there is abundant evidence of softening; muscular irritability is intensely nodular on both pectorals. Feb. 9, general symptoms much improved; weighs 73 lbs.; muscular irritability much more faint than at last visit, and is scarcely perceptible on the right side. Feb. 23, 75 lbs.; muscular irritability very faint; no abnormal sound anywhere.

Case XCIX.—Ellen Walsh, aged eighteen, July 14, 93½ lbs.; evidence of deposit and commencing softening at both apices; muscular irritability nodular on both pectorals; 28th, 91 lbs.; the softening has advanced considerably; muscular irritability intense. Sept. 22, 97½ lbs.; no moist sounds; fixidity and slight dulness of the right apex; no muscular irritability. Nov. 24, 98 lbs.; cannot retain oil; ordered pancreatic emulsion. Dec. 29, 100 lbs.

Case C.—Tom Braithwaite, aged nineteen, July 6, the general symptoms are very suspicious, and he has been losing flesh very much of late; there are no physical signs, but the muscular irritability is nodular on left side and faintly so on right; 112 lbs.; 21st, 114 lbs.; no physical signs; muscular irritability fainter on

left and nearly equal. Aug. 4, 118 lbs.; muscular nodule faint on right, persistent on left, and under the left clavicle the breathing is slightly wavy. Sept. 1, 120½ lbs.; muscular irritability much increased, and some suspicious sounds at right posterior apex. Sept. 5, 121 lbs.; very harsh breathing at the left apex, and some moist crackling at the right; muscular irritability nodular, and most on right pectoral. Oct. 20, 124 lbs.; breathing on both sides normal; muscular irritability not nodular, but most marked on right side. Jan. 12, 125½ lbs.; slight crackling at the left apex; muscular irritability very nodular on both sides; 26th, 127 lbs.; the softening has passed off; muscular irritability very faint.

Case CI.—R. Keethley, aged seventy-two, Feb. 1, 103 lbs.; an old cavity at the right apex of large size, and some softening at the left; muscular irritability intensely nodular. Died soon afterwards.

Case CII.—Amos Harberton, aged nineteen, Jan. 4, 85 lbs.; has a limited effusion of fluid at the base of the left lung; I see no reason for believing that it is tubercular save that there is intense muscular irritability of both pectorals; general symptoms not suspicious. Feb. 26, 86 lbs.; there is now a similar effusion at the base of the right lung, and muscular irritability is intensely nodular. I have since learned that this patient died of well-pronounced phthisis.

Case CIII.—Wm. Brook, aged nineteen, Jan. 22, 137 lbs.; general symptoms of phthisis; signs at the apices normal, but softening going on at left post base; muscular irritability very faint on both pectorals. Feb. 26, 137 lbs.; signs as before. Subsequent history unknown.

Case CIV.—Elizabeth Richardson, aged fourteen, Sept. 10, 85 lbs.; none of this girl's family have been known to have phthisis, but she has slept for some time with a girl affected with phthisis; there is deposit and softening at both apices, but principally at the right, where it is most at the back, and where the voice sound almost amounts to pectoriloquy; muscular irritability very nodular everywhere, and slightly more lasting on the left pectoral. Oct. 9, 84 lbs.; there is now a large cavity at the right apex, giving well marked crack-pot sound; muscular irritability is much more marked on right pectoral than on left. Nov. 6,

89 lbs.; muscular irritability much less than when last noted, and physical signs improved. Dec. 4, 85 lbs.; some softening has been going on round the cavity, and also at left apex; muscular irritability intensely nodular. Jan. 15, 89 lbs.; softening still going on; muscular irritability intensely nodular. Feb. 5, 91 lbs.; softening passed off; muscular irritability very faint. She died some months afterwards.

Case CV.—Mary Wray, aged twenty-six, Jan. 26, 112 lbs.; general symptoms present, softening at the right apex; muscular irritability slightly nodular, more on left than right. Feb. 26, 116 lbs.; physical signs much improved; no muscular irritability.

Case CVI.—John Walker, aged twelve, Feb. 5, 62½ lbs.; this boy has been losing flesh lately to a considerable extent; moist sounds are scattered over the chest, of which it is difficult to say whether they are tubercular or bronchial; the general symptoms are in favour of the tubercular view, but there is no dulness anywhere, and the voice sound is intense at the right apex as usual; the muscular irritability is very faint, much more so than it would be if all the softening were going on which would be indicated by the character and extent of the moist sounds. The subsequent progress of the case showed it to be one of subacute bronchitis.

Case CVII.—Thomas Womack, butcher, aged nineteen, Feb. 2, 113 lbs.; advanced softening at both apices, most at the left, where muscular irritability is intensely nodular, much more so than on the right; voice sound louder at the right; 26th, 117 lbs.; muscular irritability faintly nodular on both pectorals; condition much improved at the apices.

Case CVIII.—Emma Wright, aged forty-four, July 17, 94 lbs., extensive deposit at right apex, which underwent partial softening in December, 1867; muscular irritability is intensely nodular everywhere. September 25, 93½ lbs., in *statu quo.* January 15, 102 lbs.; muscular irritability has almost disappeared, and the breath is entering the right apex very freely. February 26, 101 lbs., very faint, muscular irritability, breath sounds almost normal. (The softening in this case, if it actually occurred, must have been so slow and gentle as to escape notice.)

Case CIX.—James Frith, aged twenty-four, February 18, 121 lbs., muscular irritability intensely nodular at both apices; an old cavity at the left, and much deposit at the right, and possibly a small cavity. He is still alive and comparatively well.

Case CX.—Joseph Corkson, aged thirty-one, February 26, 153 lbs., softening at both apices, but most at left; muscular irritability faintly nodular at both apices, but more so at left; voice sound most marked at left apex.

Case CXI.—George Morely, aged forty-four, January 2, 126 lbs. This patient was sent to me as a case of bronchitis, and it might have passed as such but for the intensely nodular muscular irritability on both sides. The apices are quite clear, but the basis are both occupied by tubercle, the right beginning to soften; ordered oil and milk. February 5, 133 lbs., sounds almost gone, and muscular irritability very much fainter. This enormous increase of weight, in little more than a month, makes it certain that it is a case of phthisis.

In connexion with the above case, I may mention another which I saw on February 2, in consultation with Dr. Sykes, of Heckmondwicke. It had been seen by several careful observers, and had been set down to a variety of diseases. The first sign I tried was muscular irritability, and it was so peculiar that I at once expressed the opinion that there was tubercle somewhere. We found it at the base; but the apices, where it had been looked for before, were quite clear. He was shortly afterwards seen by my friend, Dr. Allbut, of Leeds, who pronounced a perfectly independent opinion that it was a case of acute phthisis, and death proved it so.

Case CXII.—Ann Rickerdyke, aged twelve and a half, January 7, 59 lbs., softening at the right apex, left clear; muscular irritability faintly nodular at both sides; 15th, 62 lbs., moist sounds gone, and muscular irritability quite disappeared.

Case CXIII.—Albert Laird, aged twenty, December 3, 120 lbs., condensation at both apices (but no softening), principally at the right; muscular irritability most intense on right pectoral; 18th, 115 lbs., muscular irritability more intense. January 8, cannot take ordinary oil, ordered the ætherized; 114 lbs.; muscular irritability intensely nodular, the slightest tap raising a large

nodule, from which a wave passes slowly along the fasciculi to each insertion; 15th, condensation increasing, but no softening; muscular irritability so great that the arm is jerked violently inwards and forwards when the pectoral is struck. February 5, 114 lbs., muscular irritability only faintly nodular. He afterwards gained weight rapidly and recovered perfectly.

Case CXIV.—Thomas Vizard, aged twenty-four, December 18, 131 lbs., deposit and softening at both apices; intense nodular irritability on both apices. Died.

Case CXV.—Hannah Robinson, aged thirty-two and a half, October 8, 113 lbs., deposit and slight softening under the left clavicle, the apex being less mobile, duller, and the supra-clavicular fossa more marked than the other; the disease is principally at the first apex. The voice sounds are markedly more intense on the right side, especially in front.

Case CXVI.—Thomas Dews, aged sixty-two, May 7, 140 lbs., dulness, deficient breath sounds on right side; muscular irritability nodular on both sides. June 26, 143 lbs., much improved; muscular irritability almost gone. July 23, 143½ lbs., faint crackling above the right clavicle; muscular irritability nodular on right side. October 16, 142 lbs., softening of deposit has been going on; muscular irritability very intense on right side, faint on left. 30th, breath sound at right apex normal; muscular irritability very faint on both sides. Discharged cured.

Case CXVII.—Mary Dolan, aged twenty-eight, June 9, 104 lbs.; advanced disease on both sides, rather more on left; intense muscular irritability rather more on left; catamenia had not appeared for six months until last week, and had been irregular for two years. July 24, not menstruated again; physical signs in *statu quo;* muscular irritability equal on both sides.