

**Goulstonian lectures on the natural history of pulmonary consumption / by
A.B. Shepherd.**

Contributors

Shepherd, A. B. 1839-1885.

Publication/Creation

London : Smith, Elder, 1877.

Persistent URL

<https://wellcomecollection.org/works/ndfjyyxf>

License and attribution

This work has been identified as being free of known restrictions under copyright law, including all related and neighbouring rights and is being made available under the Creative Commons, Public Domain Mark.

You can copy, modify, distribute and perform the work, even for commercial purposes, without asking permission.



Wellcome Collection
183 Euston Road
London NW1 2BE UK
T +44 (0)20 7611 8722
E library@wellcomecollection.org
<https://wellcomecollection.org>

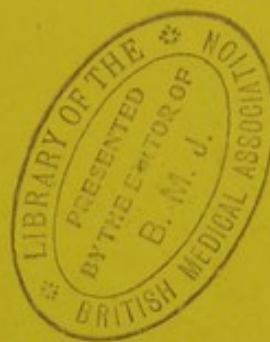
89/11

M18317

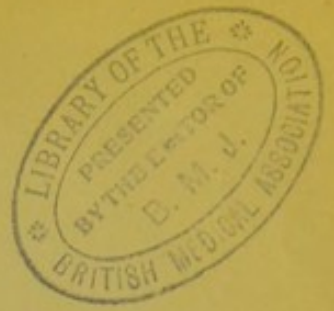
148 D



22101741040

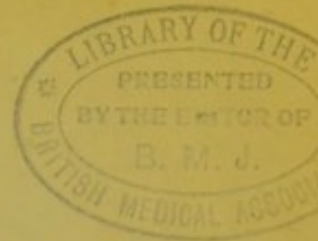






PULMONARY CONSUMPTION

LONDON : PRINTED BY
SCOTTISWOODE AND CO., NEW-STREET SQUARE
AND PARLIAMENT STREET



GOULSTONIAN LECTURES

ON THE

NATURAL HISTORY

OF

PULMONARY CONSUMPTION

BY

A. B. SHEPHERD, M.A., M.D., F.R.C.P.

'DIFFICILE EST PROPRIE COMMUNIA DICERE'

WITH ILLUSTRATIONS

LONDON

SMITH, ELDER, & CO., 15 WATERLOO PLACE

1877

[All rights reserved]

M18317

WELLCOME INSTITUTE LIBRARY	
Coll.	weIMOmec
Call	
No.	WF200
	1877
	S54 g



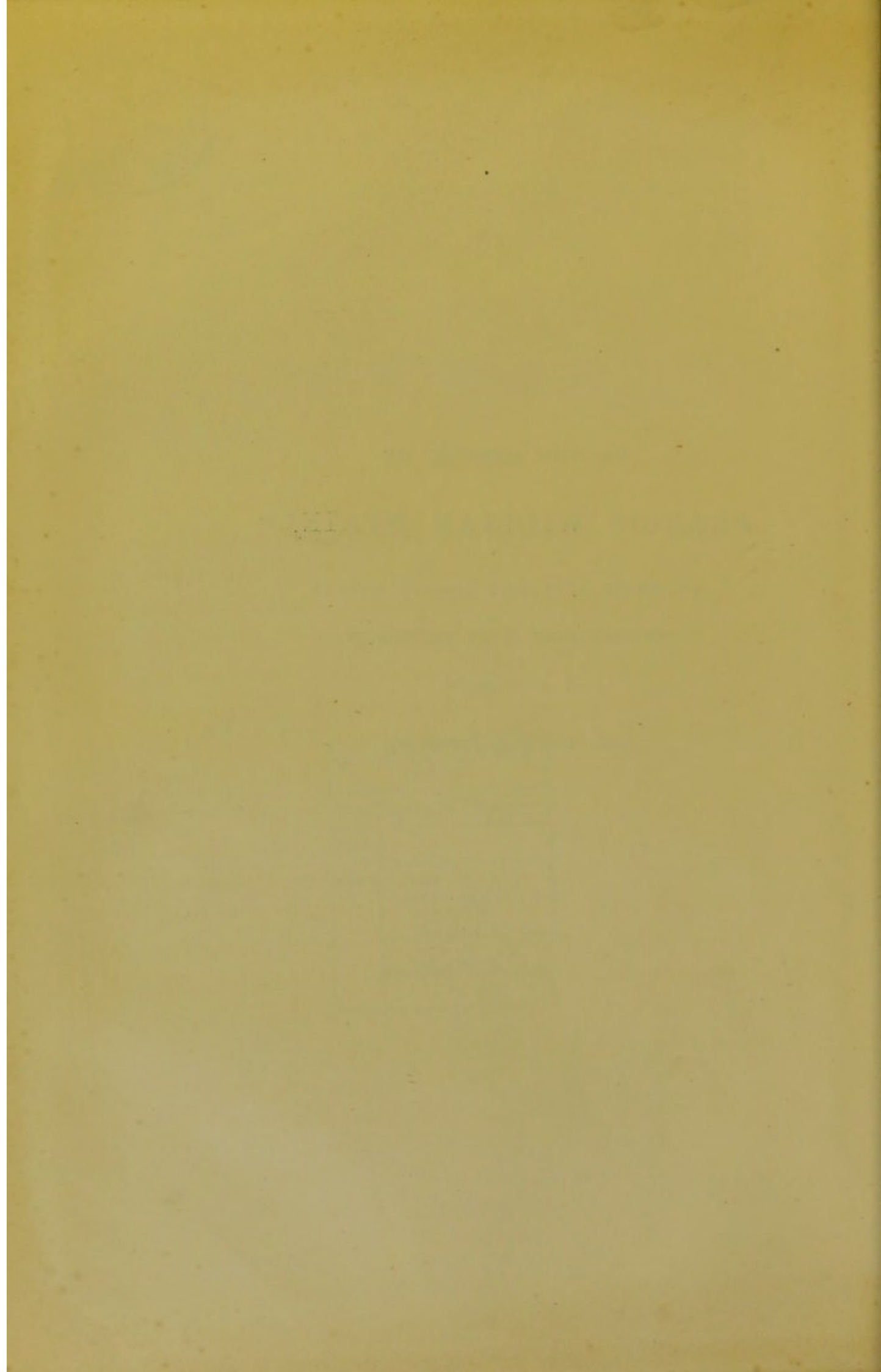
TO THE MEMORY OF
FRANCIS WILLIAM STAINES

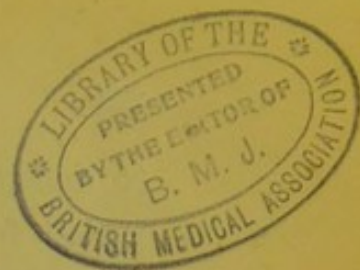
TO WHOSE AFFECTION TOWARD MYSELF

AND INTEREST IN MY PROFESSION

I OWE MUCH

THIS WORK IS INSCRIBED





PREFACE.

THE TASK of giving these Lectures came upon me unexpectedly, and I made use of such materials as I had at hand or could easily lay hold of. In overlooking them for publication, though I have not found anything to withdraw, I have found much to support the views stated. But in publishing them in this form it has been furthest from my aim to make anything like a book. The preparation of lectures and the writing of a book seem to me to be matters almost antagonistic.

And for this reason I would lay but little stress on the text, which is almost altogether, from its very nature, the mere result of a search into facts already observed. But for the plates I would claim consideration as being honest and, so far as I have been able to procure them, accurate pictures of appearances which it is in the power of any worker to verify. The responsibility of choosing the particular portions of lung drawn rests entirely with myself; whatever credit the plates have belongs to Mr. E. NOBLE SMITH, of St. Mary's Hospital, who has spared no pains in their production.

My thanks are due to those friends who have aided me in various ways as acknowledged in the text; in addition I have

to recognise the great assistance I received at an earlier period from Dr. PARK, of the Children's Infirmary, Waterloo Bridge Road, in working out the pathology of general tuberculosis in children.

My best thanks belong to my friend Dr. PYE-SMITH, who has not only corrected these sheets as they passed through the press, but has most kindly given me hints of which I have freely availed myself.

My apology for dwelling in these pages on isolated cases of phthisis is my belief that any rational treatment of the affection must be based on a careful study of individual cases, not on a study of pulmonary consumption as a typical disease with certain symptoms and a certain course. As an anonymous writer happily puts it in a late number of the 'Medical and Chirurgical Review':¹ 'There is no treatment of phthisis; there is a great variety of treatment, as there is a great variety of temperament, for those that suffer from phthisis.' It would be idle to do more than suggest the limits of prognosis in any individual case. Unhappily, those limits are often narrowed by the carelessness of the patient who is blinded to his danger, or by the obstinacy of friends who are unwilling to believe the truth. And in this particular perhaps alone some of us may liken ourselves to that illustrious physician who is described by Tacitus² as 'non quidem regere valetudines Principis solitus, consilii tamen copiam præbere.'

¹ January, 1877, p. 19.

² *Annal.* lib. vi. c. 50.

CONTENTS.

LECTURE I.

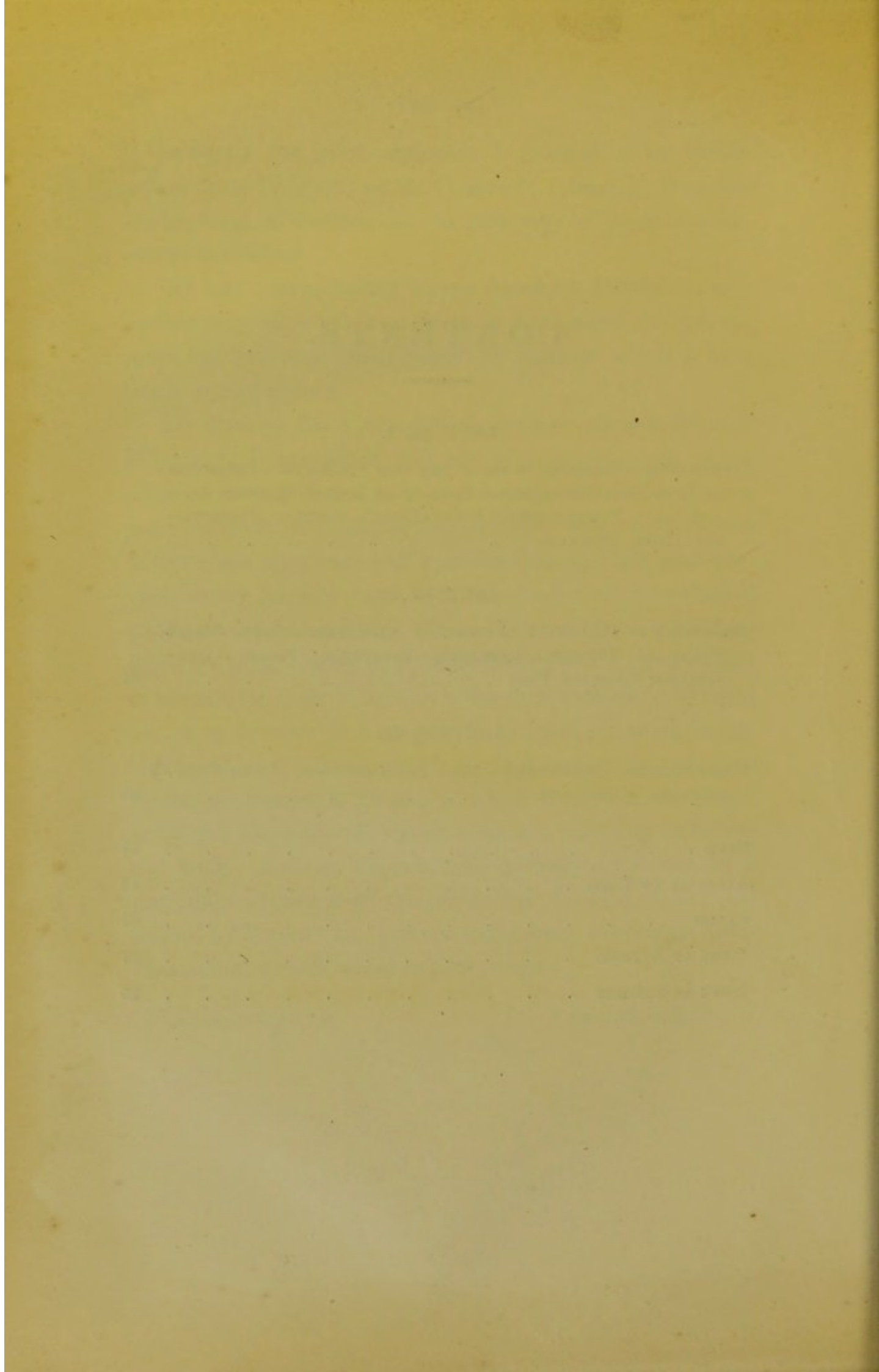
	PAGE
INTRODUCTION.—CONFUSION IN USE OF THE WORD 'TUBERCLE.'—DEFINITION OF PULMONARY CONSUMPTION.—THEORIES OF MORTON, LAENNEC, &C.—ARTIFICIAL TUBERCULOSIS.—'GIANT-CELLS.'—GENERAL TUBERCULOSIS.—CASES.—SUMMARY.	1

LECTURE II.

COMPARISON OF PULMONARY CONSUMPTION WITH TUBERCULOSIS.—THREE FORMS OF PHTHISIS.—PNEUMONIC.—BRONCHITIC.—FIBROID.—QUESTIONABLE SYPHILITIC FORM	21
--	----

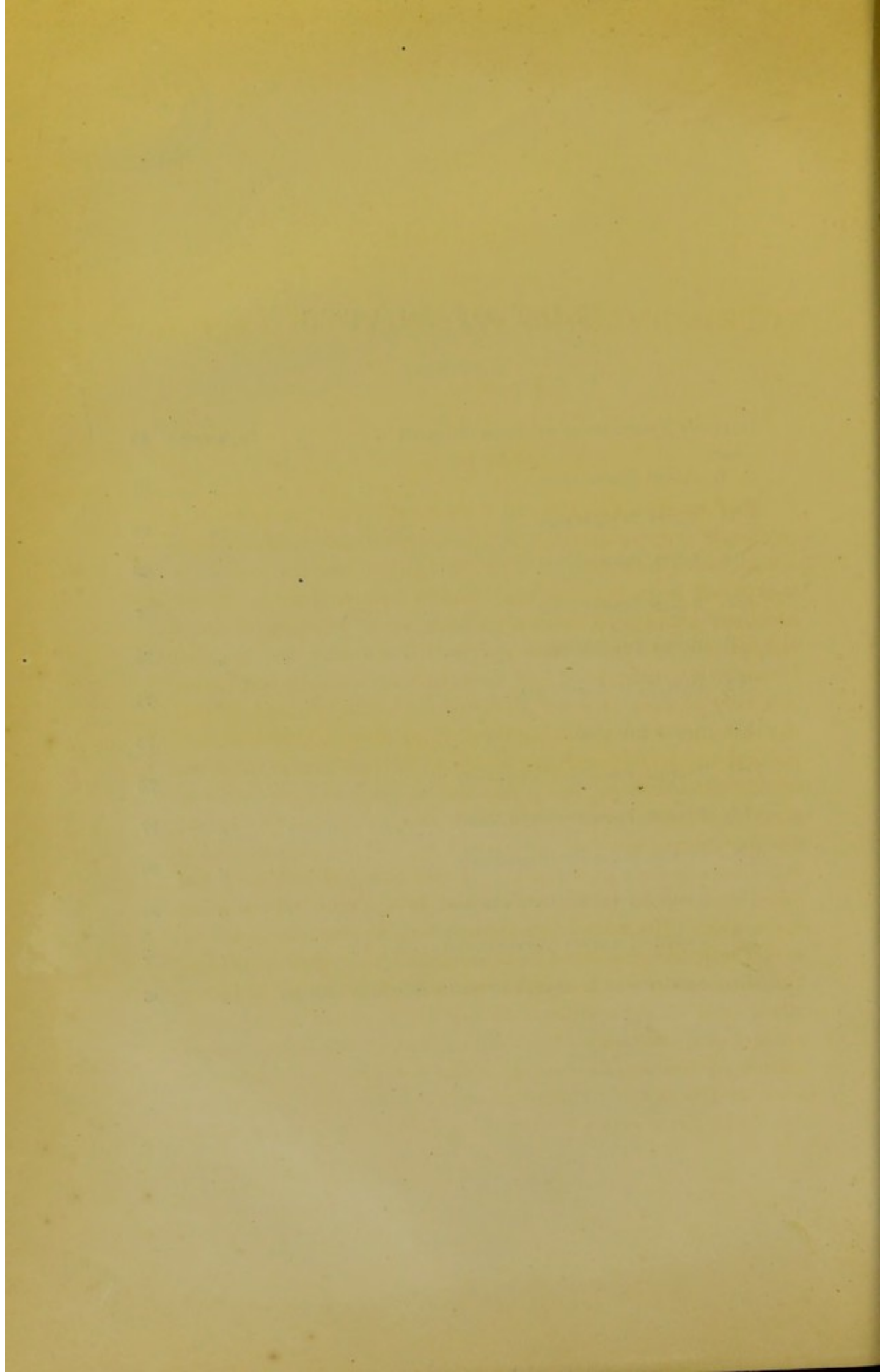
LECTURE III.

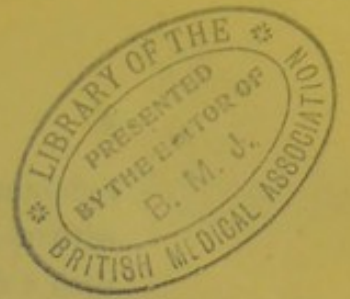
HEREDITARINESS.—HÆMOPTYSIS.—AGE.—PROGNOSIS.—COD LIVER OIL.—SUMMARY.—CONCLUSION	40
NOTES	51
APPENDIX OF CASES	55
PLATES	61
INDEX OF AUTHORS	87
INDEX OF SUBJECTS	89



LIST OF PLATES.

CHART OF TEMPERATURE IN ACUTE PHTHISIS	<i>To face page</i>	55
PLATE		
I. ACUTE TUBERCULOSIS	”	61
II. ACUTE TUBERCULOSIS	”	63
III. ACUTE TUBERCULOSIS	”	65
IV. ACUTE TUBERCULOSIS	”	67
V. ACUTE TUBERCULOSIS	”	69
VI. CATARRHAL PNEUMONIA	”	71
VII. ACUTE PHTHISIS	”	73
VIII. FIBROID PHTHISIS (SYPHILITIC)	”	75
IX. FIBROID PHTHISIS (SYPHILITIC)	”	77
X. FIBROID PHTHISIS (SYPHILITIC)	”	79
XI. FIBROID PHTHISIS (ANTHRACOSIS)	”	81
XII. FIBROID PHTHISIS (ANTHRACOSIS)	”	83
XIII. ANEURISM OF A BRANCH OF THE PULMONARY ARTERY	”	85





LECTURES

ON THE

NATURAL HISTORY OF PULMONARY CONSUMPTION.

LECTURE I.

MR PRESIDENT, FELLOWS, AND GENTLEMEN,—There are moments, I suppose, in every young man's life when an idea—to himself seemingly a fresh one—stamps itself upon his mind as true, and therefore to be worked out to its full meaning. Such a time occurred to myself, when, one afternoon, I accompanied into one of his wards at Guy's Hospital the late Dr. Barlow, sometime Goulstonian Lecturer and Censor of this College. I had been working clinically and microscopically at cases of so-called—more commonly, perhaps, in that day than this—'tubercular phthisis.' I remember asking him, with the audacity of a student, not always to be reprehended, what was the difference between this 'tubercular phthisis' and fatal cases of acute pneumonia, except in the much slower march of the former, and the absence, to a very large extent, in it of the pungent heat of skin always present in the latter. I told him that in both I had found what seemed to me very often to be the same microscopical appearances. His answer—the answer of one who had been a fellow-worker with Addison—was that he recognised their great similarity. The thermometer was then unknown; and neither of us had in our minds cases of acute miliary tuberculosis, but cases only of acute primary lung-affection on the one side, and, on the other, cases of chronic primary lung-disease. It needed but little later reading to learn the existence of a discussion—at that time even by no means new, by no means even yet satisfied—the discussion as to the rôle of

inflammation in phthisis. In the course of events, I became connected with a hospital where, more than before, I was brought face to face with a disease which already had for me great interest; and also with one which gave me large opportunities to observe and watch to its end the occurrence of general tuberculosis in children; side by side have I worked at these cases of 'tubercle' in the child, of what I believe to be the same so-called 'tubercle' in the adult, and those much more common cases of so-called 'tubercular infiltration' in the latter; and these, sir, are the sole grounds of excuse for bringing this well-worn subject once more before the College.

Since that day of my first wakening to its importance, attention has been paid tenfold to a subject the literature of which in England had slumbered almost since the time of Morton, till the works of the brilliant writers of France stirred the pens of Carswell and Addison; in France itself had intertwined round their central point of labour the names of Bayle, Portal, Laennec, Louis, Broussais, and Andral; and in Germany had passed on from these, through the hands of Rokitansky and others, the steady flame of increasing light. And every one of the last ten years has added more and more to that literature, in every tongue, till the united voices of all medicine, to use the words of the Latin poet,¹ 'tractim susurrant' of 'phthisis' and 'tubercle.' And yet, withal, it has seemed to me for some time that this question of the minute anatomy of pulmonary consumption—this ever-recurring disputation as to the origin and signification of tubercle and its degenerations, which has been, and still is, looked upon in many quarters not only as the most frequent, but the sole cause of that pulmonary consumption—has overshadowed almost entirely the clinical history and the clinical symptoms. Tubercle has been worshipped, and the patient has been forgotten. And however much it may have seemed so to my mind before, the discussion on 'tubercle' at one of our learned societies² not long ago, would, I think, have opened the eyes of most of us to the utter vagueness and confusion in which the subject is encouraged to lie; to the absence of definition and precision in the use of simple words;

¹ Virgil, *Georg.* iv. 260.

² Transactions of the Pathological Society, 1873, xxiv. 284.



to the professedly larger knowledge which has not advanced so very much beyond that of the great Frenchmen I have already mentioned—aye, and of Morton himself.

The word 'tubercle' has come to be so loose in its usance, both clinically and pathologically, that the most ordinary thinker is bewildered by the variety of its meaning. To quote a late instance—not that it is by any means an uncommon one—Volkmann,¹ in a paper written last year on the relation of lupus and tuberculosis, looks upon the former as a 'granulation-tumour,' and so far to be classed with the latter. From the clinical point of view, he thinks it is not very exceptional to find lupus combined with cheesiness of the lymph-glands, etc., in its neighbourhood; and he is of opinion that 'tuberculosis of the lungs'—I leave the term, as he does, undefined, though I have a very strong theory as to what he does mean—is no infrequent occurrence in the members of families afflicted with lupus. It is yet, as Rokitsky² put it years ago: 'The question of old—What is tubercle?—must at this day be changed into, What is this particular tubercle?' To some of us who are teachers the matter is brought yet closer: the student, perplexed by the uncertain use of the selfsame word, cries in vain for some definition of 'tubercle' and 'tubercular'; begs in vain to see this 'tubercle,' amid the contrariety of opinion, in its supposed development and degenerations; and in time departs from us with only that glib vagueness for which we, his teachers, are most to blame. Yet, once more, the friends of patients affected with early signs of pulmonary consumption ask us 'Is it tubercle?' and, with a readier judgment than some of us may have intended, place at once the seal of fatality on a disease which is not by any means absolutely hopeless.

My desire in these lectures would be to make an attempt—however feeble—to bridge over the chasm which at present seems to exist between the pure microscopist and the clinical worker; to weld together, if that were possible, and as is much to be desired, the knowledge of the histologist and that of the bedside worker—the real *τῆλος*, as I take it, of the true physician. And in any attempt of

¹ 'Lupus und Tuberculose': Berliner Klinische Wochenschrift, 1875, No. 30.

² Path. Anat.: Syd. Soc. Translation, i. 294.

this kind—ambitious and difficult as the task be—it is surely of the highest importance to follow out, as far as possible, the dictum of Morgagni, quoted by Andral as the motto of his incomparable work: ‘Nulla autem est alia pro certo noscendi via, nisi quam plurimas et morborum, et dissectionum historias, tum aliorum, tum proprias collectas habere, et inter se comparare.’¹ After this fashion, however imperfectly, I intend to lay before the College the results, not of much original work on my part, but of the comparison of other men’s experience and observations, weighed with such justice as my own small knowledge of bedside work and after-death dissections enables me to have. And as I shall try to be precise in my use of language throughout these lectures, I shall not shrink from defining the exact meaning which attaches itself to certain terms in my own mind. Morton, in the very first chapter of his ‘Phthisiologia,’² has accurately laid down what he intended by the name, the English rendering of which, rather than any Latin equivalent, I have purposely placed in the title of these lectures. ‘Phthisis Pulmonaris est consumptio partium universalis a morbo affectu seu infarctione, tumore, inflammatione et exulceratione Pulmonum primum orta, indeque tussi, dyspnœâ, aliisque ejusmodi symptomatis thoracicis ab ipso initio stipata, et cum febre primum lentâ et hecticâ, dein inflammatoriâ, et tandem putridâ intermittente conjuncta.’³ On those words, ‘primum orta,’ ‘ab ipso initio stipata,’ hang more of the natural history of this disease than may be at first suspected. That definition I accept with but small reservation. Had its terms, thus accurately laid down, been followed by later writers, we could never have had the confusion, which even still exists in some minds, between cases of undoubted phthisis and cases of as undoubted miliary tuberculosis. I shall show presently, from the histories and examinations given by various writers of a more distant as well as of the present day, that the two clauses of Morton’s definition on which I have laid stress

¹ De Sedibus et Causis Morb., lib. iv. Proem.: ed. sec.: Patavii, 1765: i. 220.

² Phthisiologia seu Exercitationes de Phthisi Tribus Libris comprehensæ. Authore Ricardo Morton, Med. D.—Londini: MDCLXXXIX.

³ Op. cit., p. 3.

cannot in any way fairly be applied to cases which are classed by these authors under pulmonary phthisis.

And thus I am led up to a statement—which it is necessary to make to clear my way—of what I believe pulmonary phthisis never to be. And the points to which I shall address myself at once are these: Firstly, that the primary ‘tubercle’ to which pulmonary consumption was considered to be due was, according to older writers, and is still, according to some writers of the present day, an interstitial growth: Secondly, that this interstitial, extra-alveolar, growth is not the commencement of ordinary consumption. In my other lectures, I shall hope to show that, with certain exceptions to which I shall draw attention, these particular interstitial growths play but a slight, and that a secondary, part in phthisis; and I shall hold, with authorities equal at least in reputation, if not in number, to those who support the contrary, that the pulmonary consumption of this country consists primarily in intra-alveolar changes.

It is impossible not to be struck, in reading works published since the time of Laennec, with the manner in which men’s minds, prejudiced already by what seemed an easy, and certainly a very enticing, explanation of the origin of pulmonary consumption, argued, not from fact to fact, but from theories as to facts to further theory. The *φύματα ἄπειπτα* of Hippocrates and Galen had been recognised as the pathological results of phthisis since the early dawn of medical observation; and the general theory of their development and course in the lungs, down to the very moment almost of Laennec’s statement, may, I think, be summed up in the words of one whom I have already quoted, and shall frequently quote again. The writer of the ‘Phthisiologia’ lays down:¹ ‘Gradus hujus morbi sunt quæ sequuntur, sc. 1°. Infarctio Pulmonum a sero sanguinis inibi copiosè secreto. 2°. Tumor renitens, præsertim vero in partibus Pulmonum glandulosis, ab eodem sero partes istas nimis distendente, et difficilem exitum habente. Qui tumor videtur mihi esse Tuberculum crudum a Galeno memoratum: Quæ tubercula sive crudos, et glandulosos tumores, sæpe in Phthisicorum cadaveribus deprehendi, cum ceteræ pulmonum partes Apostematibus et exulcerationibus essent

¹ Op. cit., p. 73.

obsitæ.' In his address to his reader he had already said: 'Quin et tubercula per pulmonum parenchyma hic inde dispersa, quæ serius, vel citius inflammata, atque exulcerata funestam phthisim tandem inducunt, nihil aliud sunt quam glandulosæ tunicæ vesicularum pulmonarium quædam intumescentiæ a sero copiose nimis inibi secreto, ibidemque coagulato efformatæ.'¹ Here, at any rate in word, though not in fact, was already a foreshadowing of the lymphoid and perivascular theories of Broussais and of to-day; there can, however, I think, be no doubt that these 'tubercula cruda' were the old φύματα ἄπειπα—the later crude, yellow, infiltrated tubercles of Laennec. And probably to Laennec's theory as to the genetic connection between these infiltrations and the grey miliary nodules, which he described as 'nascent tubercle,' is due the largest part of the uncertainty of thought, and therefore of language, of to-day.

It is, I think, worth while to consider what Laennec's position really was—a position which very largely explains, as I take it, his strong opposition to the views of Broussais in reference to inflammation. To Laennec, the 'peculiar form of accidental product'—to quote his own words²—'to which modern anatomists have especially applied the name of *tubercle*, which aforetime was given indiscriminately to every kind of abnormal tumour or protuberance,' was essentially extra-alveolar, extra-bronchial. M. Thaon³ credits Laennec with what he considers to be a praiseworthy silence as to the original seat of 'tubercle.' But his idea of its seat is to be gathered, not, so far as I can remember, from any direct statement, but from the general description which his work contains. For instance, Laennec distinctly lays down what he conceives to be the difference between excavations in the lung due to ulcers, and those due to tubercles. He asserts⁴ that a cavity due to ulceration spreads by corroding the tissue in which it is formed; while tubercular cavities, the result of

¹ Op. cit., third page of preface.

² 'Une espèce particulière de production accidentelle à laquelle les anatomistes modernes ont appliqué spécialement le nom de *Tubercule*, donné autrefois en général à toute espèce de tumeur ou de protubérance contre nature.' Auscultation Médiate, Paris: 1st ed. 1819, i. 20: 2nd ed. 1826, i. 532.

³ Recherches sur l'Anatomie de la Tuberculose, Paris, 1873, p. 6.

⁴ Op. cit., i. 20.

the spontaneous destruction of an accidental product which has discarded and pushed aside, and not destroyed, the pulmonary tissue, have no tendency to grow at the expense of the latter. The original words of the first edition are strong¹: 'Qui a écarté et refoulé, et non détruit le tissu pulmonaire.' He proceeds to show how the tubercles, at first miliary, develop into crude tubercles; how, about this period, the lung-tissue, which had been untouched up to that moment, becomes dense, greyish, and semi-transparent, from an infiltration of tubercular matter in its substance; till, on its complete softening, this tubercular matter makes its way out into one of the bronchi.² Again, he holds³ that the bronchi are scarcely ever to be distinguished in the tubercular masses, though the direction in which they open into cavities, however small, shows that they must originally have traversed the tubercular matter; not, like the vessels, pushed aside by it, but enveloped by it, and destroyed by compression. These views had been, also, the views of Bayle, in his comparison of tubercular with ulcerous phthisis: he held that, in the former, the lung-tissue was simply compressed, not destroyed by the tubercles. In addition to these tubercles, and a form of infiltrated tubercles,⁴ Laennec had noted tuberculous masses, not round, like ordinary crude tubercles, but irregular and angular, paler, duller, and less distinctly marked off from the lung-tissue⁵ than the ordinary ones; these masses he calls tubercular infiltration, and allows that he has found them by themselves in lungs affected with pneumonia. So far this third kind was evidently due to lobular pneumonias—a fact borne out by the pathology of our day.

But Laennec, misled even with his eyes open—for he confesses his surprise⁶ at finding only crude yellow tubercles in cases which he states had presented, during life, all the signs of phthisis—misled, further, by the apparition, side by side in some cases, of certain pathological results which he himself⁷ had distinguished, only less

¹ And cf. *ib.*, p. 30, line 11 from top; 1826, i. 544, line 6 from top; the verbal changes in the later edition make no change in his meaning.

² *ib.* 21–23; 1826, i. 545.

³ *ib.* 25; 1826, i. 547.

⁴ Cf. *esp. op. cit.*, ii. 13.

⁵ i. 30: ed. 1826, i. 543.

⁶ *Op. cit.*, 2nd ed., 1826, tome i. 530. A copy of this edition was presented by the author to the College of Physicians.

⁷ *Op. cit.*, 2nd ed., i. 553.

accurately than some of us to-day are able to distinguish them, as extra-alveolar and intra-alveolar; and misled, also, as I believe, by confounding the 'miliary granulations' of Bayle with the former, the extra-alveolar product, came to that conclusion, which after him took fast hold upon the minds of men; and, seeing in the yellow infiltration only the degeneration of the primary nodule, laid the foundation for that mass of generalities which the words 'tubercle' and 'tubercular' call up. This argument of causation founded on coincidence of place led at once to the result of imperfect observation. Bayle¹ had noticed, in what he called his 'tubercular miliary granulations,' a small opaque point in the centre black or white. Laennec,² in remarking on this in a foot-note, claims it at once as evidently the sign of their commencing softening. Andral,³ commenting on Laennec, holds that this central point is the lumen of a bronchus; and here, at last, we come upon an experimental proof which, thirty years afterwards, Virchow, in his '*Krankhaften Geschwülste*,' following in the wake of Carswell, who had pictured it in 1838,⁴ and Addison, who had drawn it even more accurately in 1845,⁵ is among the latest to recognise.

Well, indeed, may Dr. Wilson Fox⁶ say, referring to two distinct views as to this so-called 'tubercle,' 'if tubercle be only the grey granulation, its demonstrable part in the destruction of the lung-tissue is small; if tubercle be a diffused growth passing into or causing caseous change, its part in the production of phthisis is large.' And this very alternative impressed me at the time I mentioned my difficulty to my teacher, Dr. Barlow, with the importance of distinguishing between extra-alveolar and intra-alveolar products—a distinction like that made by Buhl into 'superficial' and 'parenchymatous.' For some time I have held and taught that there is no developmental connection between these grey miliary extra-alveolar nodules and the intra-alveolar and intra-bronchial changes which are

¹ *Recherches sur la Phthisie Pulmonaire*, Paris, 1810, p. 138.

² *Op. cit.*, 1st ed., i. 36; 2nd ed., i. 538.

³ *Clinique Médicale*, Paris, 1840, tome iv. p. 3.

⁴ *Pathological Anatomy: Tubercle*: Pl. I. esp. 1 and 3.

⁵ *Guy's Hospital Reports*, series 2: iii. 34, Pl. III. &c.

⁶ *Pathological Society's Transactions*, xxiv. 296.

the commonest results found in the pulmonary phthisis of this country, in the sense that the former are a first stage of the latter: that the two changes are dependent, the one on the other, I do not deny; to that point I shall return presently; I have held and taught that these grey miliary extra-alveolar nodules never undergo the cheesy change; that the most ordinary form of consumption in this country, as Addison years ago pointed out, consists in slow degenerative changes, which commence in the epithelial lining of the bronchi and alveoli. I should not, perhaps, have been so bold in stating these views, which, though already accepted, at least in part, by some, will naturally meet with opposition, had it not been for the publication of the second part of Professor Klein's book on the 'Lymphatic System,' which, to some extent, supports me in holding them. As the results of his work must carry more authority than my humble efforts in the same direction, I make no apology for quoting from his book the points in which we both agree. I must refer, for the moment, to his statement of the results found by himself in the lungs of guinea-pigs in cases of artificial tuberculosis, in elucidating the pathology of which affection writers in this country have borne a very large part. Dr. Klein says¹: 'The granulations of a lung, which is so far advanced in the process of artificial tuberculosis that the bronchial glands have undergone already necrotic changes, may be distinguished into three kinds: (a) nodules of a more or less well-defined outline, being in connection with the wall of a bronchiole; (b) cord-like structures; and (c) nodular structures of a conical or irregular shape.' He shows, further on, that the cord-like structures are due to perivascular cords in connection with the minor branches of the pulmonary artery, or of the pulmonary vein, most probably of the former²; and that the third form of granulations, the nodular structures, owe their origin, as Dr. Burdon Sanderson had already stated, to catarrhal pneumonia. And he asserts³ that 'all these three kinds of granulations are of the peculiarly semi-transparent aspect; only the third kind undergoes a cheesy transformation, marked as an opacity in the centre.' The argument drawn from these statements in confirmation of my own

¹ The Anatomy of the Lymphatic System, ii; the Lung, p. 53.

² Pp. 55 etc.

³ Op. cit., p. 53.

work was the more strengthened when I came to read, a little later on,¹ that not only are there 'cases of artificial tuberculosis in guinea-pigs. . . . whose lungs contained miliary granulations, due only and exclusively to perivascular cords of adenoid tissue;' but that the professor had 'seen a case of "natural" tuberculosis in a guinea-pig, where the spleen and the liver, and likewise the lungs, but not to such an extent as the former organs, were penetrated by numerous very minute miliary granulations. The mesenteric glands were distinctly, the liver, spleen, and bronchial glands² only slightly, enlarged. In the lung, the "miliary granulations" were found to be due entirely to the presence of perivascular adenoid cords'; that is to say—and I am no longer quoting Professor Klein—to the presence of structures of which probably Rokitsky³ said with his usual correctness: 'This tubercle is subject to no metamorphosis.' So far as post-mortem facts go to show it, Rokitsky's sentence apparently applies to other products, which, as it seems to me, are quite as secondary as these lymphatic, perivascular productions, but seem—if I may be allowed the term—to have had no time to undergo cheesy metamorphosis. I had hoped at one time to prove, at any rate to my own satisfaction, as others (Deichler, Colberg, Rindfleisch) had professed to demonstrate, that the miliary nodules found in acute tuberculosis, whether in children or adults, were due to perivascular nodules, or, at least, to proliferation of the capillary nuclei; the unique guinea-pig of Dr. Klein was the type I had hunted for. What I had found, at any rate in the acute tuberculosis of children, was certainly perivascular growth, accompanied generally by slight catarrhal, vesicular products, and lobular collapse.⁴ And I had noticed, as any man may notice, that especially at the two ends of life—in the general tuberculosis of childhood, and the bronchitic and emphysematous phthisis of advancing age—there were to be found, not only the true perivascular nodules, not always easy to be defined, but products, often by themselves—products to all naked-eye appearance resembling the 'tubercle' of authors—the 'grey granulations' of Bayle, which Andral⁵

¹ Op. cit., p. 60.

² Professor Klein allows me to make this correction of a merely clerical error in the original.

³ Op. cit., i. 326.

⁴ See Pls. I.-V. at end.

⁵ Op. cit. iv. 10.

recognises, and rightly, as the results of 'vesicular pneumonia,' and Buhl describes as 'lobular foci of desquamative pneumonia.' Thus far, the results found by myself in these cases differ but slightly from the facts stated by Dr. Klein.

In two of Dr. Klein's drawings¹ it is possible to see in the lung of the guinea-pig, as well as in that of the child, certain histological products which it has been attempted, not for the first time in the history of 'tubercle,' to set up as the specific elements of that growth. Happily these giant-cells will soon be relegated—if they be not even now relegated—to the list of ordinary epithelial cells, the limbo in which rest already the pathognomonic tubercle-corpuscle and cancer-cell. As my friend Dr. Klein informs me, and as I am quite prepared to believe, the giant-cell is but an epithelial cell growing under certain conditions. But

Each month is various to present
The world with some development,

and the specific element refuses still to be unrecognised; this time it appears under the form of the particular cells drawn and described by Rindfleisch in Ziemssen's '*Handbuch des Respirations-Apparates*.'² I am perfectly prepared to see these cells, also, sink to the same position as the Riesenzellen. I confess that I do not perceive why, in the pursuit of a supposed scientific truth, the same common sense which men use, or ought to use, in the ordinary affairs of life, should not exert itself; and when through the long list of specific structures, started by one author only to be hunted down by another, we find always the same untimely death, I believe that the very best thing we can do is not to join in the shadowy chase, but to abjure, as something that oppresses us by no fault of our own, this 'specific' incubus.³

With the results shown in his drawings and described in his work by Professor Klein, the researches of Dr. Burdon Sanderson and Dr. Wilson Fox in the main agree. But the latter writer goes much farther, and states that he finds 'in the lungs of patients dying of phthisis almost identically the same changes as those found in the

¹ Figs. xxiv. and xxvi.

² Vol. ii. p. 161. Leipzig, 1874.

³ See note on p. 51.

lungs of children dying of acute tuberculosis'—a sentence to which I cannot altogether give my adhesion. There are cases, no doubt—cases of which I hope to speak more at length hereafter—in which the physical signs and symptoms of lung-disorganisation are followed by death, with all the symptoms of this 'acute tuberculosis.' But there are also cases, of not infrequent occurrence in the adult, of this same 'acute tuberculosis' with almost the same series of clinical symptoms, and the same pathological changes, as far as I am able to make them out, as those found in artificial tuberculosis, and in the general tuberculosis of the child. The only case of the kind which I remember to have come almost entirely under my own observation was that of a young man, about twenty-one years old. In him there were no abnormal signs on percussion; the respiratory sounds were everywhere coarse. There was increase in temperature and pulse-rate; his chest and abdomen were covered with sudamina; he was admitted into hospital as a case of probable acute tuberculosis, or doubtful typhoid; within a short time, he died with symptoms of tubercular meningitis, and his body presented the expected changes.

And it was, I think, from these comparatively rare cases in the adult that observers and writers argued that '*ista tubercula (seu tumores)*'—I use the words of Morton—underwent a further, and that a cheesy change, resulting—not in these cases, which, if the argument be true, must be said to die before such changes can take place—but in cases the clinical symptoms of which are entirely different, in a larger or smaller destruction of pulmonary tissue. That I am not, Quixote-like, opposing some image of my own brain, is, I think, shown by the fact that writers of the present day still class these cases of 'acute tuberculosis,' with 'pulmonary consumption'; though it is but fair to state that Dr. Douglas Powell has, in his small work, drawn the distinction which others, though by no means all, have failed to make. I need not travel far for an illustration. In a very valuable, because very true and practical, though it may be a very simple, paper on the different forms of pulmonary consumption by my colleague Dr. Peacock—a paper published originally in 'St. Thomas's Hospital Reports' for 1870—are given two cases, 'selected from numerous instances of the same kind'; together

with a third, which differs from them in several respects; all three classed by the writer under the name 'acute constitutional phthisis.' Dr. Peacock's first case is that of a young lady, aged 22, who died on the twentieth day of her illness of apnœa. Four days before death 'the respiratory sounds were found everywhere harsh . . . but there was no rhonchus and no marked deficiency of the resonance on percussion in any part of the chest.' These signs were slightly modified the day before death. On *post mortem* examination, the body 'was thin, but not emaciated.' There were old pleuritic adhesions over a large portion of the left lung; the right lung was collapsed. 'Both lungs were copiously infiltrated throughout their whole substance with miliary tubercles, having an average diameter of from half a line to a line, and uniformly of a yellowish-white colour . . . In no part had any of them undergone softening.' Nothing is said about the head or abdominal organs. The second case is also that of a young woman, aged 24, who died after an illness lasting over three weeks, of capillary bronchitis; here was the same absence of phenomena on percussion and auscultation; but little emaciation of the body, a chest sufficiently broad and expanded; both lungs contained a copious deposit of small, round, yellowish-coloured and semitransparent-looking bodies, which in no part had softened; the bronchial glands were softened to a brown-coloured pulp; the abdominal viscera were free from tubercle. Dr. Metzquer, in a 'Clinical Study of Galloping Consumption,'¹ published in Paris in 1874—and I may mention, in passing, that, to the majority of French writers, galloping phthisis is synonymous with acute tuberculosis—gives two similar cases. Case 1 is that of a female aged 28–30, free from history of hereditary phthisis, and always well till she was taken one day with pains in the head and back, intense fever, rigors, and ringing in the ears. There were no signs on percussion or auscultation, though a few days later there were rhonchi and râles in both lungs, and streaks of blood in the sputa. Death occurred a month after the commencement of the illness, and there were 'tubercles in all organs.' The second case, that of a man aged 43, is precisely similar: the same

¹ Étude Clinique de la Phthisie Galopante: Edm. Metzquer, M.D. Paris, 1874.

absence of hereditary phthisis and physical signs on the part of the lungs; the same general tuberculosis without softening. In both these cases there was some diarrhoea and slight jaundice before death. It would be easy to multiply from modern literature cases of this kind, but I prefer to turn back again to the commencement of the century. I quite agree with M. Thaon that Bayle's cases numbered 4, 14, and 15, named by him cases of granular phthisis, do not answer,¹ either clinically or pathologically, to this 'acute tuberculosis'; but, in spite of the distinction Bayle makes between the *miliary tubercles* found in the lungs of his first case, a woman aged 20, who seems to have exhibited as her chief symptoms those of 'tubercular peritonitis,' and the *miliary granulations* in the lungs of his second case, a postilion aged 24, who died, as the four cases I have just quoted from Drs. Peacock and Metzquer did, from apnoea, both of them agree in these three points, that neither had any of the physical signs of phthisis pulmonalis during life; neither was emaciated, but on the contrary both were remarkably plump; and both presented pathological products elsewhere as well as in the lungs. His cases 7 and 8, of men aged respectively 45 and 24, are very similar. They are the more interesting that, in addition to the lung-changes found, the cerebral symptoms which were chiefly exhibited during life left some after-death results; while the author himself adds in the title of the last, 'Death from a disorder of the brain.'³ In case 7, 'there was near an ounce (of serum) at the bottom of the skull, which was as turbid as that contained in the lateral ventricles.' In case 8, there was what some pathologists would call now-a-days a 'scrofulous' tumour in the medulla oblongata, and a collection on the surface of the brain of miliary round bodies of a dull opaque white which may have been only Pacchionian bodies. But both cases again agree in these points: the most marked symptoms during life were not on the part of the lungs; the pathological products were presumably

¹ Cf. Andral, op. cit., iv. 10.

² Op. cit., p. 155, 8^e Observation. Deuxième Période.—*Phthisie granuleuse et tuberculeuse au premier degré.—Mort par une maladie cérébrale.*

³ On en trouva près d'une once à la base du crâne. Cette sérosité étoit aussi trouble que celle qui étoit contenue dans les ventricules latéraux du cerveau : op. cit. 153.

those found in general tuberculosis; the writer distinctly tells us there was no emaciation in either.

It would be but time wasted to quote similar cases. My own views as to the pathological products found in all these cases of 'acute tuberculosis' are briefly these: There are found frequently together, sometimes alone, numerous vesicular pneumonias, collections of lymphoid cells round the vessels or round the smaller bronchi, or—and the distinction from the two last is by no means easy—proliferation of the nuclei in the wall of the capillaries themselves. Each of these products to the naked eye is exactly like the typical tubercle of authors, and, without injection of the tissue and microscopical examination, cannot be distinguished from either of the others, except that, in cases where the vesicular pneumonias are the sole or almost sole production, the lung on section does not present to the hand that feeling of points standing out from the surface; though later, in a shorter or longer period after removal from the body, the lung-tissue collapses and sinks away, leaving the solid nodules more prominent.¹

I have purposely abstained from quoting cases of general tuberculosis in children under my own observation, because I find that they are only examples of what has been stated and illustrated by authors, who have expressed in a far better manner than I can do ideas which carry with them, at least to my mind, the impress of truth. Yet if, in addition to the evidence not only adduced for the purpose by writers like Buhl, but unconsciously present in the observations of older workers, there were needful, for my own decision, facts within my own knowledge and my own reasoning, they also are forthcoming to uphold the statement of others beside Buhl that acute miliary general tuberculosis is a disease of absorption and infection. And this conclusion, in the very case I am about to give, is the exact contradictory of the older theory—that of Laennec—inasmuch as he considered the larger areas of softening and destruction to be due to the smaller disseminated product, which we hold to be the consequence of some older caseous centre. The one case I wish to mention is this. At the commencement of January 1871, a boy aged ten years was brought to the Children's Infirmary with the following

¹ Cf. Pl. V. at end.

symptoms: marked dulness at the left apex; no increased vocal resonance or tubular breathing; tympanitic resonance over the right chest, which measured a quarter of an inch more round than the left. The pulse was 90; the temperature $98^{\circ}2$. Towards the end of the month, there supervened diarrhoea and night-sweats. Admitted into the hospital, the boy improved in general health, without much change in the physical signs up to the commencement of April. In the second week of July in the same year, he was brought back. The left side was flattened from above downwards. There was absolute dulness over the whole left front; less absolute behind. On coughing, there was tubular breathing, and slight crepitation at the end of expiration. The voice-sound was rather ægophonic and diminished in loudness. The right side was normal. There was no cough; no great pyrexia. The bowels were now constipated. Four days later, there was sickness. On the 25th of the month he was re-admitted in the drowsy state of tubercular meningitis. Early on the morning of August 3, the fifteenth day after the certain diagnosis of the tubercular meningitis, he died, his temperature the night before having been $102^{\circ}3$; and on the afternoon of that day we made a *post mortem* examination. The result was as was to be expected: the left lung consolidated; the vesicles filled with cheesy deposit; in the apex, a cavity which communicated with a half-chalky, half-cheesy mass in the position of the thymus, making its way apparently into the pericardium; perivascular nodules in the pia mater; small miliary tubercles elsewhere; cheesy bronchial glands. The only comment I can make on this case is this: As a matter of reasoning, it must either be allowed that the antecedent presence of miliary tubercles which, according at least to the language of some writers, had caused the changes in the lung, gave no fatal indication till they appeared in the adventitia of the pia mater; or—and I confess the conclusion is easier to my mind—the presence of these nodules was in all the organs of the body simultaneous, or almost so; later than, and in every probability secondary to, the lung-changes which had already proceeded. There is no need to look upon the cheesy mass in front of the trachea as the original focus; though, as a pathological curiosity, its connection with the lung, and the thinning it

was causing in a portion of the pericardium, are extremely interesting. There is one more point connected with this case, to which I may allude later on, which shows the probably hereditary character of what I assume to be the original disease. A younger sister and brother, of whom the latter died, both exhibited symptoms of pulmonary change, commencing, as it did in this boy, at the left apex. I cannot lay my hands on any notes of, nor do I remember making, a *post mortem* examination of the younger boy. In all probability, it was not allowed.

In everything I have said about this so-called 'tubercle' I have confined myself altogether to that description of it by various writers as applied by them entirely to its supposed presence in the lungs. Unhappily, as I have already hinted, conclusions made as to its occurrence or supposed occurrence there, whether histologically as homologous growths, or pathologically as heterologous products, have been referred to the occurrence of 'tubercles,' neither histologically nor pathologically similar, in other organs. Backwards and forwards, from its implied type in the lung, its somewhat less defined repetition elsewhere, has this word 'tubercle' been tossed, till, if it could speak for itself, it would make of men the same complaint which men, according to Plautus, make of the gods: 'Dii nos quasi pilas homines habent.'¹ If any support for such a proposition be needed, the latest standard works on pathology supply, in their wood-cuts, the most various microscopical illustrations, stamped all of them with the very same name—'Tubercle.'

What, I think, we must conclude from a careful reading of different writers is this: that among the ancients, and even down to the time of Morton, pulmonary consumption was due to what they considered to be destruction of the lungs by ulceration. Sydenham even looked upon the close of the disease as the result of what we should call now-a-days a pyæmia:² 'Pulmones exinde pure referti purulenta *μιάσματα* quaquaversum in carnes dispergunt.' But with every writer, from Hippocrates to Morton, the *φύματα ἀπεπτα*, the *tubercula cruda*, were the first cause of that ulceration. Bayle, with

¹ Capt. Prol., 22.

² T. Sydenham, M.D., Opera Omnia: Syd. Soc. Ed. 1846, p. 608.

larger experience of *post mortem* observation, allows a distinction, hardly perhaps accurate, between tubercular and ulcerous phthisis, and draws attention to the difference between miliary tubercles and miliary granulations; Laennec makes one step further, and describes the first commencement of the phthisis as extra-alveolar, leading on by some means or other to infiltration; Rokitansky sketches the sharply marked line of demarcation¹ between 'interstitial tuberculous granulation' and 'tuberculous infiltration,' insisting² on the existence of a 'genuine grey tubercle-granulation' which never undergoes the cheesy change, and asserting that Bayle's pulmonary granulations are vesicular tuberculous infiltrations; while Virchow³ took the grey granulation to be the typical tubercle, of which cheesy metamorphosis was the subsequent characteristic. With writers of this century generally, it seems as if the word 'tubercle' had become coextensive with and almost limited to 'tuberculous infiltration,' thus returning very nearly to its ancient meaning. The special pathology of the tubercle-granulation of the last ten or fifteen years, down to the present moment, I have attempted to sketch briefly, and I hope truly; and it needs no words of mine to show any one who reads the literature, whether of France, Germany, Italy, or England, to how many different, even histologically different, products this word 'tubercle' is now applied. And I cannot but feel that, with all this uncertainty of use, even clinical facts will have no bearing till we agree to discuss the same thing from the same standpoint—the same definition. With all humility, I think it would be well if we ceased to use the word altogether, at any rate in reference to ordinary consumption. To borrow the words of Andral in reference to the term inflammation—'created in the infancy of science, this expression, altogether metaphorical, . . . is become so very vague, its interpretation is so very arbitrary, that it has really lost all value; it is like an old coin without an impression, which ought to be removed from circulation, as it only causes error and confusion.'⁴ If it must be

¹ Op. cit., iv. 102.

² Ib., i. 29.

³ Die Cellularpathologie: 3rd ed. 1862, p. 441: Chance's translation, 1860, p. 477.

⁴ 'Créée dans l'enfance de la science cette expression toute métaphorique . . .

kept, let it be for that series of clinical symptoms and pathological results, always secondary, as I believe, and always fatal, to which we do apply the name general tuberculosis; for, as regards this last affection, I am not prepared in any sense to adopt the term 'granulia,' first applied to it, I believe, by Empis¹ over ten years ago, and advocated recently by Dr. Bastian.² The word 'granule' has at present a well-defined precise meaning in histology—a meaning which no want of a name for any particular affection ought to disturb; the vagueness of which meaning, if disturbed, would be open to the same abuses as *φύμα*, tumor, tuberculum. Bayle³ truly says: 'Nothing is more powerful than the influence of language. Erroneous denominations, and equivocal definitions, and false appreciations, bring in their train error, confusion, and the gravest mistakes, especially in sciences which, like medicine, are open to practical solution.'

In coming to the close of this lecture, I would wish to add that, in anything I have said, I would not be supposed to detract—no assertion or supposition of mine could detract—one iota from the greatness of Laennec. The use of the word with which I have found fault did not originate with him. His attempt—and an honest one—to simplify the origin of phthisis has been carried much further, I think, than he intended. But the words in which Addison⁴ spoke of him exactly thirty years ago are to everyone who reads Laennec carefully a mere statement of the truth regarding him. 'We are never permitted for a moment to imagine that we are reviewing for the first time the mere professions of an ingenious speculator or plausible theorist. We are led insensibly to the bedside of his patients: we are startled by the originality of his system; we can hardly persuade ourselves that any means so simple can accomplish so much—can overcome and reduce to order the chaotic confusion of thoracic pathology; and hesitate not, in the end, to acknowledge

est devenue une expression tellement vague, son interprétation est tellement arbitraire, qu'elle a réellement perdu toute valeur; elle est comme une vieille monnaie sans empreinte, qui doit être mise hors de cours, car elle ne causerait qu'erreur et confusion.'—*Précis d'Anat. Path.*; Paris, 1829: tome i, p. 9.

¹ Paris: 1865.

² See discussion at Pathological Society already referred to.

³ Op. cit., p. 10.

⁴ Guy's Hospital Reports, ser. ii. iv. p. 1.

our unqualified wonder at the triumphant confirmation of all he professed to accomplish.' It may seem almost an odd thing, that in these days, in which we look—and, as I take it, look rightly—for light to come from the Teutonic rather than from the Latin race, we should be turning back to the pages of these French writers, some of them still fresh in the memory of many yet living, and, digging as it were through the rubble that has already half-concealed the real foundations, should attempt to raise, not only each for ourselves, some firmer superstructure. And yet the lesson, if in some sort our own, comes to us to-day from the Germans. Buhl sixteen years ago, and his approving critic Waldenburg later, seem to aim somewhat at the simplicity, though by no means at the theory, of Laennec. And perhaps, sir, if simplicity and truth—the very elements of the most powerful observation—are at all to be praised, you will allow me here to pay a passing homage to one who, stepping out as it were from between the half-closed portals which for years had hidden him from ears that longed to hear him, inscribed, only some twelve months back,¹ one more conscientious record on the truthful and brilliant monument of his *Clinique Médicale*. The death in life which parted him almost altogether from the active work of his profession has become, in these last four weeks,² the death, indeed, of one who to a great number of Englishmen had ceased to be the living possessor of a vast knowledge and a large reputation. To many of us, much his juniors, so far as he is concerned

‘Obserat umbrosos lurida porta rogos.’

But Andral's name may well be added to that list, including those of Hippocrates and Aretæus, Sydenham and Morgagni, of whose works Bayle³ speaks with discerning praise as ‘being only expositions of facts: not, therefore, brilliant’—as compared, he means, with theories and speculations—‘but having the advantage of never growing old.’

¹ Documents pour servir à l'histoire de la glycosurie: Comptes Rendus, 1875: tome 25, p. 858.

² Andral, born Nov. 6, 1797, died Feb. 13, 1876. The lecture was delivered before the College on March 10.

³ Op. cit., Préf., xiv.

LECTURE II.

MR PRESIDENT, FELLOWS, AND GENTLEMEN,—In my first lecture, I attempted to show that certain cases of disease included under pulmonary consumption by writers living in different countries and at different periods of time—all of them workers of the most trustworthy authority—ought not to be classed under that affection. My reasons for taking up that position were, that in none of them, or at any rate in the most typical cases, could death be said to occur from disease of the lungs; that the series of clinical symptoms was essentially alike in all, and absolutely characteristic of a disease to which the term ‘tuberculosis,’ if it be preserved at all, may be given, but given only as a name for a certain and well-defined group of symptoms, and not in relation to any particular growth or product. I stated reasons why I am prepared to hold, with Buhl and others, that this disease is one of infection, never causing independently any peculiar destruction of lung-tissue; and I think I demonstrated that, excepting in cases where the disease supervenes, as sometimes it does on some former destructive affection of the lungs, the most marked characteristics of pulmonary consumption, as defined by Aretæus, by Sydenham, by Morton, were absent. Almost every writer without exception tells us that there was no emaciation; that the lungs, beyond being more red than normal, and surcharged with innumerable minute granulations, were sound. Bayle,¹ in contradiction of his own definition of phthisis, exclaims in reference to his second case,—that of a postilion aged 24, who died from apnœa twenty-two days after being attacked with a dry cough, his lungs being found crammed with miliary granulations,—‘In the beginning of November, the cough not having yet commenced, where is the physician who, on

¹ Op. cit., p. 130; Barrow’s translation, Liverpool, 1815, p. 143.

examining this young man, who seemed to enjoy the finest health, and whose chest was perfectly well formed, would have suspected a consumption?' And from cases of this kind, as compared with others of which I shall speak in this lecture, I hope to show that this condition is never the commencement of the ordinary phthisis of this country. Therefore it is that I insist that the names 'tubercle' and 'tubercular,' vague in their primary sense, have become vaguer in their secondary one; and if in any degree I am able to assist in encouraging some strict definition of terms so commonly used, I shall not have wasted time in a fruitless strife of words.

I pass on to consider the ordinary form or forms of consumption, keeping before me the definition of Morton, to which may be added the sanction of Bayle:¹ 'The lung is the only organ which constantly undergoes organic change in pulmonary phthisis'; and that of Portal,² who, in his chapter on the examination of bodies dead of this disease, says, 'The lungs always undergo change.'

One of the great facts which Addison³ set himself to demonstrate was, that pneumonia 'leaves behind it divers forms of induration of the pulmonary tissue, all of which have been somewhat indiscriminately, but I believe erroneously, regarded as modifications of tubercle or of tubercular infiltration. Such indurations of the pulmonary tissue, altogether independent of tubercle, are, I am more and more persuaded, of very common occurrence; and moreover venture to predict that the time is not far distant when it will be generally acknowledged that they have not by any means commanded the attention they deserve.' I am content to confess my belief in Addison's prediction, though its fulfilment is hardly yet come. But since the time of Morton, with sixteen varieties of phthisis, Sauvages with twenty, Portal with forty, Baumes with three, Bayle himself with six and yet doubting whether there may not be more, the tendency has certainly been to arrive at some simpler and truer statement of the phthisical process; even though Buhl, perhaps the clearest writer of

¹ Op. cit., Chap. VI.

² Observations sur la Nature et sur le Traitement de la Phthisie Pulmonaire: Paris, 1792; see p. 539.

³ Guy's Hospital Reports, ser. ii. vol. iii. p. 3.

to-day on the subject, must needs divide and subdivide varieties. The division I take in this lecture for my own convenience is to some extent similar to that adopted by Dr. Peacock in the paper to which I have already referred, though I must still insist upon distinguishing between the effect of intra-alveolar and extra-alveolar products; and so far, in its larger characters, my division agrees with that given by Buhl. At any rate I cannot but feel that the clinical corresponds here with the pathological grouping.

All forms of phthisis may, I think, be classed according as to (a) whether dead or dying tissue-elements are found choking up the alveoli and bronchi, and leading to further destruction of the respiratory organ; (b) whether changes occur in the walls of the vesicles and bronchi, robbing that organ of its function in a different way; or (c) whether the interstitial tissue undergoes metamorphosis, interfering in yet another fashion with that same necessary function—on the imperfect and abnormal performance of that function depending all the symptoms of innutrition and fever which go to make up pulmonary consumption. To the first group belongs that form of the disease to which Buhl has given, I think correctly, the name of ‘desquamative pneumonic phthisis’; to the second is due that form next common in frequency, caused by long-standing bronchitis and emphysema; and to the third, those fibroid changes resulting in the same true symptoms of consumption, differing somewhat clinically and pathologically, as they are caused by alcoholism, syphilis, or anthracosis. All these forms of consumption fall under the definition of Morton: all owe their origin to primary disease of the lungs; all are accompanied by symptoms due to that lung-disease; all alike bring in their train that general wasting of the bodily structure and strength which is included in the very term ‘phthisis’—‘consumption.’ Upon the first and second forms, if not upon the third, a further process, resembling that of ‘acute tuberculosis,’ may and does frequently supervene, constituting Waldenburg’s ‘phthisis combinata’; but the series of symptoms in these cases is in strong contrast to those alluded to in my first lecture. I need scarcely state, after what I have already put forward, that my own work, clinical and pathological, leads me to support the proposition of Addison,¹

¹ Guy’s Hospital Reports, ser. ii. vol. iii. p. 29.

‘that inflammation constitutes the great instrument of destruction in every form of phthisis.’

I proceed to speak of the first form of morbid change, which, leading to destruction and death of the breathing surface, originates, as I believe, in catarrhal inflammation of the epithelium lining the alveoli and smaller bronchi, and is the form under which the common pulmonary consumption of this country most frequently occurs. This view I do not intend to support by reference to the numerous authorities who, from the time of Broussais downwards, have upheld the inflammatory origin of phthisis. I propose, on the other hand, to show, from writers who uphold its ‘tubercular’ origin, how far their descriptions are consistent, as they profess them to be, with the supposed development of an extra-alveolar miliary nodule into an intra-alveolar and interstitial exudation or infiltration. I shall, however, press into my service especially such plates as exist, by whomsoever prepared, in illustration of what certain writers mean by certain *post mortem* appearances, the correctness or the reverse of such appearances being open to the judgment of those who inspect them. The agreement of these drawings with what each of us can see for ourselves in the *post mortem* room being allowed, the general experience of all is conclusive that a drawing, however inartistic, represents those facts which the draughtsman most certainly appreciates for himself,

Quæ sunt oculis subjecta fidelibus, et quæ
Ipse sibi tradit spectator.

Of the clinical symptoms of the ordinary phthisis of this country it is not for me to speak. The sequence which Morton sketched—the general wasting of the body, due in the very first instance to the local mischief in the lungs, and accompanied from the very commencement by cough, dyspnœa, and other signs pointing to those organs, joined by symptoms of pyrexia, at first of a low and hectic type, but increasing in intensity as it becomes also more frequently remittent—such is the every-day picture of that phthisis which, as Hippocrates noticed, occurs most frequently between the ages of eighteen and twenty-five, and of which Sydenham declares ‘Atque hæc est præcipua Tabis species.’¹ Modified by age, at any rate, in its rapidity of

¹ Processus Integri, cap. lx. [1].

march, here swiftly striking down the young and growing, there clinging to the full-perfected man, till, with a grim satire on the 'survival of the fittest,' it robs him of the later years of manhood—it preserves, with this one exception of rapidity, the same marked outlines, to recall which further to your minds would savour of impertinence on my part. It is on the interpretation of the morbid appearances found that differences of opinion alone arise. Death in this form of phthisis is brought about, as Aufrecht¹ has already stated, either, though this is rare in adult life, by the supervention upon pulmonary disease of longer or shorter standing of what, with Empis, he calls 'granulia'—that is to say, of 'acute general tuberculosis': secondly, as an acute galloping consumption; or, thirdly, as the termination of a long chronic process.

The appearances found in the second and third class of cases seem to me to be the most unmixed, though more difficult to unravel in the type of galloping consumption: and are, as far as I can see, the probable key to the commencement of this affection. The signs during life are, of rapid consumption, those of consolidation at the apex generally of both lungs, followed very quickly by signs of breaking down of the lung-tissue, both consolidation and destruction creeping swiftly downwards to the base.² The signs in chronic consumption are a very slow procession of the same features over one or both lungs. On *post mortem* examination, these organs, in addition to the presence of larger or smaller cavities, and of portions of tissue in a condition easily broken down by the finger, exhibit here and there those grape-like masses which are most marked in the chronic form of the disease. To this arrangement in the latter form Laennec evidently refers when, in a description of one of his plates, he recognises it as a collection of 'crude tubercles,' at the same time comparing it to the club on playing-cards, drawn even at this day more correctly on the cards of Paris than on those of London, as a stalked trefoil.³ This same racemose arrangement is seen in Carswell's plate,⁴ which he describes as a delineation of tubercle, a

¹ Die chronische Bronchopneumonie [Lungenschwindsucht] und die Granulie [Tuberculose], Magdeburg, 1873.

² See Appendix of Cases, p. 55.

³ Op. cit., Plate I. fig. 7; and see note on p. 51 of this book.

⁴ Pathological Anatomy, London, 1838: 'Tubercle,' Plate I. figs. 1 and 3.

delineation which Sir Thomas Watson praises, and adopts as a representation of his own views. Bock, in his 'Atlas of Pathological Anatomy,' published at Leipzig in 1855, gives in Plate XXIII. a very good illustration of a most common *post mortem* appearance—cavities in the apex, and in the base clusters of round bodies. With him, again, these latter are 'tubercles.' Colberg,¹ in 1867, gives the naked-eye appearances of chronic catarrhal pneumonia (phthisis pulmonalis), in which the same clusters are said to be due to the cheesy degeneration of the contents of the alveoli; and Thaon² in 1873 gives a plate resembling Colberg's in everything but colour, the description of which reads as follows: 'Fibrous granulations, or the granulations of Bayle arranged in clusters: isolated clusters: confluent clusters: bronchial ramifications: normal pulmonary tissue.' But whether called by the various names of tubercle, chronic catarrhal pneumonia, bronchopneumonia, it must be conceded that all these plates have these points in common: they profess to represent the appearances found in the bodies of those who die of pulmonary consumption; they represent the naked-eye appearances of what we find to-day on the post-mortem table in bodies dead with the same symptoms described in connection with these cases; they represent an intra-alveolar and intrabronchial product, with more or less surrounding inflammation and more or less surrounding induration.

To Addison's lithographs I have already referred. Bayle gives no plate of his own; but Barrow³ who translated his work in 1815, gives two woodcuts of a lung containing ragged cavities of different sizes and bronchi cut transversely; the latter being, according to him, tubercles. Not only do the woodcuts but the very words of the late Dr. Hughes Bennett⁴ point to the same intra-alveolar, intrabronchial production of what he names 'tubercle.' He asserts: 'Numerous successful injections of pneumonic, tubercular, and cancerous lungs, in my possession, demonstrate that the exudation in all is poured out in

¹ Beiträge zur normalen und pathologischen Anatomie der Lungen.—*Deut. Arch. für Klin. Med.*, 1867, ii. 486, taf. vii. fig. 7.

² Op. cit., Plate II. fig. 3.

³ Researches on Pulmonary Phthisis, from the French of G. L. Bayle, D.M.P., by William Barrow, M.D., Liverpool, 1815.

⁴ Clinical Lectures, 1859, p. 711.

the same manner, and occupies the same position in the pulmonary textures'; that is, as the preceding sentence tells us, fills the interior of the air-vesicles. The same growth of 'tubercle' in the lung from the intra-alveolar epithelium was the view of Schröder van der Kolk.¹ The same, too, had been apparently² Virchow's earlier view, though³ later, in his criticism of Reinhardt, he held the 'tubercle to originate from connective tissue.' Such, if I may be permitted to state my belief, is the view held by a large number of persons, who still use, without more distinct definition, the word 'tubercular,' while they allow that the product is intra-alveolar.

This intra-alveolar origin of the pathological products of the commonest form of phthisis being for the moment allowed, the rapidity of proliferation of the epithelial cells, growing closely side by side, may easily be judged of by comparison with the rapid enlargement and proliferation of the cells of irritated articular cartilage, or with that of the cells of the inflamed cornea. But, with this rapid proliferation of cells, the portions of lung attacked begin to lose their function as breathing surfaces, and to take on the function of secreting glands. It is scarcely possible, I think, to overlook the likeness there is between, at any rate in their pathological aspects, the inflamed lung and the inflamed sebaceous follicle. The lung, in a state of chronic inflammation and of epithelial—or, if the word be better chosen, endothelial—growth, is very like a racemose gland, also in a state of chronic inflammation. In the description of one of his lithographs,⁴ which to my eye represents lobular products with recent pneumonia, or, in his own words, 'a form of phthisis in which the disorganisation results partly from the softening of recent hepatisation, and partly from the disintegration of pneumonic induration more or less ancient,' Addison draws what he conceives to be, 'although rude and incorrect, some sort of analogy' between his 'sthenic tubercles'—*i.e.*, the result pictured—and facial acne. I confess that I fail to see either the rudeness or the incorrectness of the comparison. A lung-alveolus is

¹ Paget's Surg. Path., ed. 1863, p. 815.

² *Ib.*, p. 814.

³ Die Cell. Path. 1862, p. 489: Chance's Translation, 1860, p. 474.

⁴ Guy's Hospital Reports, ser. ii. vol. iii. p. 36, Plate IV.

not so unlike a sebaceous follicle that its contents, like those of the latter, proliferating more rapidly in a condition of inflammation and, to quote Morton again, 'having a difficult exit,' lead to further inflammation. Both become plugged with their contents; the contents of both undergo the same cheesy (oily) change, and set up the same inflammation and death in the secreting wall itself and the immediately surrounding tissues. And as increased cell-growth cannot but be influenced to a very large degree by the simplest mechanical processes—of which fact no histologist can doubt—we might easily expect that in the loose and spongy tissue of the lung, as compared with the dense structures outside sebaceous glands, the death of the parts engaged is at the same time more rapid and more wide-spreading.

And this, as it seems to me, is the process—the great fault of which is its simplicity—which really does occur in the very large majority of cases of ordinary phthisis. If we take a portion, apparently the most recent, of one of those grape-like clusters to which we have referred, we shall find pretty well the same microscopical appearances as those drawn by Professor Klein in a vertical section through the lung of a child which 'died of acute miliary tuberculosis.'¹ Here the masses found agree with Buhl's description of desquamative pneumonia. The alveoli and infundibula are distended by abnormal material. The inter-alveolar capillaries, as the disease advances, are no longer permeable, seem to disappear; as does the epithelial lining of the alveoli, still visible in the regions of latest change. Here is no stubborn tissue opposing its own vitality to the invading change. The cell-proliferation in a few alveoli leads not only to its own death, to the death of the capillaries which first fed it, and to the death of the wall which supported those capillaries: by easy extension, it passes onward to more alveoli, more infundibula, till bronchioles and bronchi are caught in the devastation; or it may be that the bronchioles are the first parts affected, and the catarrhal proliferation in the alveoli is due to an extension of the inflammation from them. The microscope only tells us this: that these grape-like masses con-

¹ Compare Dr. Klein's Plate VI. fig. 25, with Plates VI. and VII. at end of this book.

sist of intrabronchial and intra-alveolar products in a more or less advanced stage of cheesy degeneration.

It is scarcely needful in these days, I suppose, to say much with regard to that distinction laid down by Rokitansky¹ and Skoda,² and followed by numerous writers and teachers, between pneumonia and what they called pulmonary 'tubercle'; namely, that the former began, as a rule, at the base; the latter, at the apex. Skoda himself narrowed this question very much by begging the larger premiss, and asserting that pneumonia being an acute affection, and tuberculosis only seldom acute, healthy persons were attacked most often by apical pneumonia, while any acute apical infiltration in persons suffering from chronic 'tuberculosis' was 'tubercular'—*i.e.* phthisical—leading to destruction of lung-tissue. At any rate, from the time of Morgagni downwards to a paper published in 1873 by Schlesinger³—the latest paper I think I have seen on the subject—there are numerous statistics to show that apical pneumonia is very far from being an uncommon thing. And there is a class of cases to which I think sufficient attention has not been paid, of which the following is an example. For being allowed to examine the case, and for some of the notes, I am indebted to my colleagues Dr. Broadbent and Dr. Cheadle. I may mention, in passing, that, judging probably from the sharply defined distinctions of books, the house-surgeon who first saw it took it for a case of phthisis: an opinion which in lapse of time will probably, I think, be justified by the result. A married woman, aged 22, whose father was said to have died of consumption, was admitted into St. Mary's Hospital, having been perfectly well up to a week before, when she complained of pain under her right clavicle. The physical signs were impaired resonance with bronchial breathing at the right apex, and general bronchitis of the smaller tubes. The same night, she was delivered of a six-months birth. A month later I examined her. There was no difference on percussion on either side; only in addition to a general bronchitis which still

¹ Op. cit., Syd. Soc. Trans., iv. 106.

² Differentialdiagnose zwischen Pneumonie und Tuberkulose, Allg. Wien. Med. Zeitung, vii. 46. 1862.

³ Zur Statistik der genuinen fibrösen Pneumonie, Berlin, 1873.

existed, there was feeble inspiratory murmur at the right apex as compared with the left.

I have notes of cases similar to this, seen in my out-patient practice—cases which all agree in the presence of a more or less general capillary bronchitis, with localised dulness at the apex of a lung. I have not been able myself as yet to follow out any one of these cases; but in a series of American lectures now being published, there is one by Dr. Colwin Ellis on the frequency with which capillary bronchitis is complicated with changes in the air-vesicles, and on its relation to catarrhal pneumonia. In this paper five cases of the kind I speak of are given, two with *post mortem* results. Rindfleisch¹ writing on 'chronic tuberculosis of the lung,' and intending by that name the ordinary form of phthisis we are now considering, supports this view in so far that he places the original seat of his 'tubercle-granule' at the passage of the finest bronchi into the air vesicles, into which its further infiltration proceeds. With the statements of Rindfleisch, Jürgensen, and Buhl, agrees the opinion of Dr. Hughes Bennett,² that in the phthisical process 'the bronchi are necessarily involved; their terminal extremities are among the first structures affected'—those parts of the tubes which, says Andral,³ 'are on the point of forming the air-vesicles.'

Two cases in one family, under my observation at the Victoria Park Hospital, link together in a very interesting way the form of phthisis I have thus slightly sketched, and that other form which, exhibiting all the clinical symptoms common to the two classes, does not depend, I think—at any rate, originally—on intra-alveolar changes, but on changes in the walls of the alveoli and bronchi themselves, *i.e.*, on chronic bronchitis and emphysema. Laennec had noticed the strong likeness between his 'pulmonary or tubercular phthisis' and this 'chronic mucous catarrh'—a common infirmity of old age.⁴ He says: 'There exists, in fact, the most perfect similarity between these two affections, whether it be in the sputa, the emaciation, or all the other symptoms.' Of the two cases to which I have referred, one is that of a lad aged 16, who presents all the signs of what I am in the

¹ Deut. Arch., xiii. 43; Cf. Ziemssen's 'Cyclop.'

² Clin. Med., ed. cit., iv. 3.

³ Op. cit., p. 713.

⁴ Op. cit., ii. 76, 77.

habit of calling cheesy pneumonic or bronchopneumonic phthisis, with, the last time I saw him ten days ago, marked pyrexial symptoms. The other is that of his father, aged 54, who declares that up to last winter—at the very most, a year ago—he was perfectly well; while, as to his son, he asserts that, after an attack of scarlet fever, ‘he was pretty hearty till he caught a cold.’ The father’s father had died at the age of 35 from ‘rupture of a blood-vessel.’ The two cases stand in strong contrast, yet in strong similarity; the younger dying in no long time from, it may be, the engendered phthisis, ‘*quæ quidem leni catarrhi nomine à miseris istis ægris signari solet; donec tandem negligentia incurabilis evadat*’;¹ the older surviving beyond the life of his son, to wait the close of a chronic and incurable phthisis, ‘*quoniam omnes senes, qui aliquo acuto morbo non corripiuntur, hoc modò phthisicè languentes tandem ultimum claudunt diem*.’² It is not true, as Morton seems to have thought, at any rate to some extent, that old age itself is a chronic and incurable phthisis of this kind; but it is true, as he laid down, that the ‘asthmatic phthisis’ of which he writes is marked off from other forms of phthisis by the presence of wheezing and intense dyspnœa throughout the whole course of the disease. I should but waste time were I to enlarge further on this form of consumption. There is one fact to which I cannot but draw attention; and I think it is important, because it throws some light upon a theory which, for myself, I have utterly discarded: the relation between phthisis—consumption—as with Morton I have defined it, and the presence and development of so-called tubercle. I do not remember to have seen, though I have heard of, cases of old people dying of acute tuberculosis. But, even in those who die in the ordinary course of a chronic bronchitic phthisis, there may be seen scattered round old cavities, or in the neighbourhood of dilated tubes and patches of emphysema, more especially at the bases of the lungs, certain bodies, to the naked eye like miliary tubercles—like ‘well-boiled rice grains’—but under the microscope vesicular lobular pneumonias. The evidence of other observers goes to show, what I have not yet been able to prove to myself, that, in addition to these

¹ Morton, *op. cit.*, p. 334.

² *Ib.*, p. 236.

alveolar proliferations, there are also perivascular products ; and in so far I readily accept Dr. Klein's statement with regard to their occurrence in artificial tuberculosis, as probably true also here, that these semitransparent nodules, 'due to catarrhal pneumonia, depend on the spreading of the perivascular cords,'¹ and, to quote Rokitansky again, 'are usually secondary processes.'² But, beyond this, they have no special meaning ; they are but the common accompaniments here, as always, of any affection whatsoever of the lungs. The font to which they owe their origin is probably, in these cases, some cheesy focus in some dilated tube : a mechanical process to which the next set of cases may lend at least a possibility.

I pass on to that form of phthisis which consists essentially in an extra-alveolar growth—in the fibroid proliferation of the septa of the alveoli. The main symptoms during life are still the symptoms of Morton's definition ; but it has a different history in different cases, and its *post mortem* appearances vary with its history. The alcoholic is not precisely similar to the syphilitic ; and both differ largely from that form which, whether in the typefounder, the stoneworker, or the excessive smoker, may be included under the term 'anthracosis.' Perfectly true it is, though I must say not universally true, that in all these cases there is the opportunity for and the tendency to that one form of dissipation—spirit-drinking—which might bring them all under the one definition of Dr. Sutton's 'fibroid phthisis.' Even then they would be varieties of one genus, in which the alcoholic poison was modified in a most distinct manner.

I can add nothing, except in the way of illustration, to that 'fibroid degeneration of the lungs' which Dr. Sutton has described in the forty-eighth volume of the 'Medico-Chirurgical Transactions.' But to this fibroid phthisis belongs, I think, a form very closely resembling that described by him and others, due, as I believe, to syphilis. In common with my friend and former colleague Dr. Bäumlér, now Professor of Materia Medica at Freiburg-in-Breisgau,³ I had almost taken it for granted as a form already recognised clinically, though, up till very lately, I had no great reason to search out any authorities

¹ Op. cit., ii. 60.

² Op. cit., iv. 83.

³ See note on p. 52.

on the subject. The pathological change in this form is quite distinct from that found in those instances of scattered syphilitic products in which the lung, in common with other organs, reveals the presence of gummata of varying size and shape and in different stages of development. Clinically, the cases to which I now refer agree in the following points: absence of any hereditary history of consumption; distinct history of the syphilitic taint; cough, accompanied by very slight, if any, expectoration; dyspnœa more intense on exertion than the dyspnœa of ordinary phthisis, and more resembling that of emphysema and chronic bronchitis; great emaciation; marked clubbing of the nails; absence of diarrhœa, or any symptoms of intestinal ulceration; absence, too, of any signs of granular kidney. Add to all this that the patients were of well-made bodily structure, and had had good health for some time after the invasion and ordinary results of the syphilitic poison. For those who had not got beyond the idea that 'phthisis pulmonaris' is always 'tubercular,' the decision, as I have had occasion to observe, was easy, though the physical signs were sometimes troublesome and contradictory. There was absence of dulness where dulness, theoretically, ought to have been; sometimes excessive resonance. There was no great alteration of the voice-sounds; there might be creaking at times here and there; there were no râles or crepitation;¹ or in a more marked manner there were signs of induration at the apices, with those of emphysema and bronchitis. And, *post mortem*, the only lung-change found was what is represented in Plates VIII. and IX.; the lung almost everywhere indurated; slight dilatation of the bronchi, but not so marked as in the cases of fibroid disease described by Dr. Sutton; almost total disappearance of the alveoli from the fibroid proliferation of their septa; small bladders here and there of emphysema, starting up among the hard gristly tissue, and accounting for the signs furnished by percussion and auscultation; small grape-like masses of chalky consistence, the remains of former vesicular pneumonias—or, more correctly, lobular bronchopneumonias—which have long ceased to influence, if they ever influence, the alveolar and bronchial walls; and, as in this case, the fresh pneumonia which, depriving the patient of his only

¹ Cf. Sutton, loc. cit., p. 30.

breathing surface, gave the last stroke to an organ already hindered in its function. In the best-marked form, as in this very case, there is nothing like the miliary tubercle, or the grey granulation, or even the yellow infiltration of authors, except it be represented by those obsolescent remnants of former local inflammation: only this fibroid change, which to some writers of to-day represents—and the words lack the true scientific severity—‘phthisis with its age forgotten.’¹

I would have it distinctly understood that these cases of what I consider to be fibroid syphilitic phthisis are not to be confounded with the common type of phthisis, present by no means unfrequently in persons affected with syphilis, any more than they are to be placed in the same category with such cases as Dr. Wilks has described in the ninth volume of the ‘Transactions of the Pathological Society,’² in which fibroid isolated nodules occur. Lancereaux gives a list of various authors who have written on phthisis in combination with syphilis, and proceeds to speak of the form to which I am now referring as interstitial pneumonia.³ He quotes a case reported by Vidal, in which a fibroid change had taken place in the lower lobes; and gives another observed by himself, in which the upper lobe of the left lung showed a radiating cicatrix; the lung-tissue fibrous, with numerous yellow points; the bronchi for the most part dilated or contracted, terminating in ampullary *culs-de-sac*. Dittrich, in the ‘Prager Vierteljahrschrift,’⁴ writing on syphilitic affections of the liver, recognises the results of a ‘syphilitic pneumonia,’ with the same fibroid production, in a woman aged 27. Dr. Moxon, in the ‘Guy’s Hospital Reports’ for 1867, gives, in a ‘Contribution to the History of Visceral Syphilis,’ several cases in which this change occurred; *i.e.*, thickening of the fibrous septa of the alveoli. In another paper, published in the Pathological Society’s ‘Transactions,’⁵ he records a case which, at any rate so far as the relation of the *post mortem* appearances of the lung go, may be taken almost word for word to apply to that from which the lung drawn in Plates VIII. and IX. was removed, and to two other cases the records of which, through the death of my friend and col-

¹ Path. Soc. Trans., xxiv. 313.

² P. 55.

³ Traité Historique et Pratique de la Syphilis, 2nd ed., Paris, 1874, p. 329.

⁴ 1850, ii. 42.

⁵ Vol. xxii. 40.

league, Mr. Gascoyen, have been somewhere mislaid. The history of the case I bring before the College is, indeed, only an illustration of the clinical signs I have already drawn. The first symptom was, some few years back, an hæmoptysis. The *post mortem* appearances—to be brief—were those of intense fibroid change, with numerous bladders of emphysema. Dr. Moxon himself¹ notes that the larger bronchial tubes in his last case were unnaturally contracted; and, though I do not wish to push my own observation beyond the fact, so far as I have been able to see at present, the dilatation of the tubes in ‘fibroid phthisis,’ or in anthracosis, is not reached in this form. Dr. Moxon in his earlier paper had answered in the affirmative the question, ‘Is there a syphilitic form of phthisis different from tubercular phthisis?’² but in his last contribution he gives a distinct denial to the proposition I am attempting to support. Dr. Sturges, in his book on the ‘Natural History and Relations of Pneumonia,’ only lately published, gives a case³ which he considers to be ‘an instance of fibroid lung, probably the result of syphilis,’ occurring in a gentleman a little past 50, easy when at rest, but breathless on slight exertion. ‘The patient was of healthy family, of active business habits, with no tubercular or phthisical history; but some years before he had contracted syphilis. His first notice of illness consisted in an attack of hæmoptysis; and from that time he had complained, and complained only, of impaired breathing power.’ A woodcut of the appearances found in a case of the same kind, communicated to Dr. Sturges by my friend and colleague Dr. Cheadle, is given in Plate X. in spite of some misgiving that my former teacher, one of the Censors of the College, may accuse me, in using it as an illustration, of having proved more than I really wish to do.⁴

Lancereaux had spoken of the few facts on which his notice of this supposed syphilitic lung-change was based. That remark still holds good; for, in the very valuable paper on Syphilis by Professor Bäumlér in Ziemssen’s ‘Cyclopædia,’ the only cases he quotes—and I can well answer for his industry—are those of Vidal, Dittrich, and Moxon. A doubtful case of the same kind was published by Cornil in the ‘Gazette

¹ Path. Soc. Trans., loc. cit.

² P. 185.

³ P. 372.

⁴ See note on p. 52.

Médicale' for 1873;¹ and though, perhaps, it is hardly possible to claim Bayle's twenty-third case as belonging to this class—a case of 'tubercular phthisis complicated with melanosis' in a man aged 62, who 'had often contracted the venereal disease'²—it is far less possible to pass over Morton's chapter 'De Phthise à Lue Venereâ orta.' His observation of its clinical symptoms was made with his usual keenness: 'Semper enim (quantum ego observavi) est genii Asthmatici, Phlegmate viscoso, et dyspnœâ magis, quàm urgenti tussi stipari solita.'³

With reference to that third form of fibroid change which, called roughly by the Germans 'Staubinhalationskrankheit,' includes under one name a pathological result due to the inhaling of fine particles of coal, iron, stone-grit, tobacco, or cotton, we in London have, perhaps, but small experience. But since Wepfer,⁴ over a hundred and fifty years ago, noticed its occurrence among millstone-workers at Waldshut on the Rhine, and tried to see for himself its pathological changes, and tried in vain—'quia hactenus nullo cadavere potiri potui, quamvis id precibus et pretio tentarem'⁵—experience as to this alteration is becoming large.⁶ Without referring further at this moment to a paper written by Dr. Peacock, who begins by quoting Wepfer, in the twenty-fifth volume⁷ of the 'Medico-Chirurgical Review' for 1860, the literature on this subject, especially of late years in one periodical, the 'Deutsches Archiv für Klin. Med.,' has been multiplied exceedingly. Zenker, Seltmann, and Riegel give full bibliographical references in addition to their own experience. I have to thank my colleague Dr. Andrew for allowing me to lay before the College one of the most marked examples of this affection which it has been my fortune to see. The patient was a French millstone-maker, aged 45, who had worked at his trade since his apprenticeship. He had had a winter-cough for many years; had never suffered from syphilis; 'had an attack of congestion of the lungs five years ago'; had worked hard, and had undergone great domestic trouble. And yet with the lung pictured in Plate XI.—and, with the exception of cavities and dilated

¹ P. 185.² Barrow's Trans., p. 249.³ Op. cit., p. 281.⁴ Observationes Medico-practicæ, etc., Schafhusii, 1727.⁵ Op. cit., Obs. cix, Catarrhi frequentes, p. 444.⁶ See note on p. 52.⁷ P. 214, etc.

tubes, the whole of both lungs was in that condition—he managed to live till he was killed by a pericarditis. The note made by Dr. Bristowe in reference to one of Dr. Peacock's cases¹ has its exact repetition in this patient's lung. 'The diseased portions of lung were much indurated, having generally an opaque whitish hue, but being thickly studded with black pigment. Under the microscope, little or no trace of original lung-structure was visible; but the diseased masses appear to be made up of dense closely arranged fibroid tissue, studded here and there with numerous irregular groups of black pigment.' The lung itself, so far differing from this description that it has the appearance of a dull black granite, and a microscopical section of it, are pictured in my Plates XI. and XII.

Physiological experience points in these cases even more markedly than in other types of phthisis to the part the lymphatics seem to play. I have no need to refer to the calculations, whether as to chemical constitution or to weight, of the foreign particles found in the lung-tissue of these cases. That they do occur in the lung-tissue is a settled fact. By what way they reach it may be still an open question. Knauff,² writing in 1867, had sketched to his own satisfaction the following process. In the case of the inhalation of particles of carbon, he held that, while in healthy persons these particles led only to their own expulsion from irritation of the bronchial mucous membrane, in persons continually subjected to their presence they caused, by repeated and increased catarrh, extensive destruction of the ciliated epithelium, and by accumulation further necrotic processes, till a way was opened into the lymphatic vessels. Sikorsky, in 1870,³ showed from his experiments that carmine particles, injected under the form of carminated ammonia into the lungs of cats and dogs, penetrated between the epithelial cells of the bronchial mucous membrane into the lymphatic system of the bronchi. The further explanation of these facts is furnished by Dr. Klein,⁴ who has demonstrated the presence of certain inter-epithelial connective-tissue cells, to which

¹ Loc. cit., p. 222.

² Das Pigment der Respirations-organe, Virch. Arch., xxxiv. 442.

³ Centralbl. für die Med. Wiss., 1870, No. 52; and cf. Slavjansky, Virch. Arch., xlviii. 326.

⁴ Op. cit., ii. 27, etc.

he gives the name 'pseudo-stomatous tissue.' These occupy a system of spaces which, in the normal state, do not form open communications between the surface and the lymphcanal system, but in certain circumstances, under which they are distended, may be converted into free passages between the two. The same inter-epithelial cells are found in the inter-alveolar septa, and may aid absorption from the alveoli themselves.

It is this form of phthisis—the third of my temporary division—which has been, as we are reminded, 'unfortunately called fibroid, in which death often occurred through the indirect result of tubercles that had terminated their career'¹; it is this form which has carried the upholders of a specific tubercle into theories of the most startling kind, till it almost seems as if, in their allegiance to a Circe of their own creating,

‘τοὺς αὐτὴ κατέθελεξεν ἐπεὶ κακὰ φάρμακ’ ἔδωκεν.’²

And yet in obedience to them we are to believe that histological growth, or, if you will, pathological hyperplasia from already existing tissue, is not the simple thing it seems to some of us to be; but, against our own eyesight and our common sense, are to accept without questioning this *sacramentum* of 'Tubercle.' We might as well, it seems to me, on the same grounds, give the same name to interstitial keratitis, or to the hyperplasia of irritated cartilage. Virchow, writing on tumours, had laid down a rule which in the case of this fibroid phthisis it would be well to follow: 'Investigations ought not to be conducted with a view to determine whether they have a physiological' (including of course a pathological) 'type, or whether they bear a specific stamp impressed upon them; our final answer depends upon the question, *whether they arise at a spot to which they belong.*'³ And the change arises in fibroid phthisis at a spot to which it does belong, and is as clearly due to the local irritation as is the cell-growth in irritated cartilage and cornea. Here once more the words of Addison apply: 'I fail to discover what I had always been taught to consider as essentially tubercle: a distinct, separate, or rather sepa-

¹ Path. Soc., xxiv. 309.

² Odyssey, x. 213.

³ Die Cell. Path., ed. 1862, p. 451: Chance's Trans., 1860, p. 487.

nable body, of a particular colour and consistence, embedded in, and, although adhering to, supplanting a portion of the ordinary tissue of the lung. On the contrary there is not one of the varied morbid conditions coming under the denomination of tubercle which has not appeared to me to result from changes in or on the natural tissues, rather than from any separate and well-defined deposit displacing these tissues. These morbid changes have appeared to me to be perfectly identical with those of inflammation.'¹ And, to close with those words which the consulting physicians of two hundred years ago used to append to the written statement of their opinion—
'*Ita censeo.*'²

¹ Guy's Hosp. Rep., ser. ii. i. 383.

² Wepfer, op. cit., p. 348: '*Ita censet Raoult: Lutetiæ Parisiorum, die 4. Septembris, 1678.*'

LECTURE III.

MR PRESIDENT, FELLOWS, AND GENTLEMEN,—Of the three forms of pulmonary consumption to which in my last lecture I drew your attention, the first is beyond doubt the most common; the second, mainly at the other end of life, compared with the first, succeeds it in frequency; the last is so sufficiently represented that, even without the distinction I have attempted to make between the syphilitic type and the other two subdivisions, it has long ceased to be a mere pathological curiosity, and claims for itself a separate clinical position.

Differing widely in their first—if I may use the word—histological origin, continuing to hold throughout their course a pathological distinction, here and there, perhaps, delicately shaded off to one type or another, the pre-eminently cheesy form is never perhaps without some fibroid induration; the bronchitic and the fibroid, never without catarrhal products; but their result being in the end the same destruction of breathing surface, their clinical symptoms are almost necessarily consistent, and repeat the same portraiture of a disease which is mainly one of innutrition and increasingly imperfect assimilation. And through the web of this disease runs no longer, for us at least, the one thread of a ‘tubercular’ product—the first generalisation of imperfect knowledge and observation. Even those who most wish to keep up its specific character are driven to allow its unspecific form, and to plead that, like products of a higher type, its appearance varies with its age; or even still, as in seeking the philosopher’s stone, to search for some particular cell-form which is to be the characteristic of ‘tubercle.’

But, however alike in their general symptoms and in the mode in which they lead to death, the three forms differ, not so much, perhaps, in their greater or less liability to catarrhal influence and

catarrhal products, as in the qualities of hereditariness or acquirement. The common judgment, not only of scientific men, has long accepted the law of hereditary predisposition to the first form of phthisis; and the hereditary character remains the same, whether it be a tendency to repeated catarrh and its results in the bronchi and alveoli, or to a supposed growth of some destructive element called 'tubercle.' The *dispositio catarrhalis* of Morton¹ was no empty name; the tendency even to catch cold, without any necessary phthisical process, is a matter of every-day occurrence. The very *dispositio catarrhalis* may be the only link between the two cases I quoted in my last lecture of a father dying probably of a slow bronchitic and emphysematous change in his lungs; the son, almost forty years younger, going in all likelihood more quickly to the grave with the cheesy degeneration of intra-alveolar and intrabronchial products, just as his grandfather before him had apparently gone. But, in the matter of hereditariness, the third form—that of fibroid change—can scarcely be said to agree with these two. Whatever be the poison, whether the more subtile one of alcohol or syphilis, or the rougher irritation of coal and grit, there is no evidence as yet to show that the tendency to fibroid change is one of hereditary character, although in some instances that character may be imitated by energies due to similarity of position or occupation. With the fibroid alteration found in the bodies of children affected with congenital syphilis, I have nothing to do here.

On the other hand, it is not sufficient to acknowledge the mere truth, in the ordinary form of phthisis, of a simple hereditary tendency. The writings of Mr. Darwin, Sir Henry Holland, and of Mr. Sedgwick, like the every-day experience of life, are full of facts to prove that hereditary disease shows itself not only in the same sex in which, but at the same age at which, it revealed itself in some ancestral member of a family.² The precautions taken by their kin to hedge round individuals of such families at what is called 'the dangerous period of their lives,' are no vain ones, though, in some cases, they may be carried too far. The knowledge so to be gained is of the very greatest importance in the prognosis of particular cases.

¹ Op. cit., p. 77.

² See note on p. 53.

But this very knowledge is difficult to obtain. Very often the first sign which has drawn a patient's attention to his chest has been a spitting of blood; though quite as often, I am compelled to admit, the hæmoptysis is absent, and the cough and dyspnœa and loss of weight have awakened him to a sense of impending mischief. My notes go to show that, in cases under the age of thirty—I had almost said twenty-five—the prognosis is better where the hæmoptysis occurs than in those in which it is absent; and the reason of this might be found in the statement of a fact¹ by my former teacher, the late Dr. Barlow, as to the almost constant occurrence of bronchitis immediately before or contemporaneously with the commencement of phthisis: 'that, whether the bronchitis be the cause of the phthisis, or the phthisis of the bronchitis, the fact still remains the same, that there almost always exists a considerable hyperæmia of the bronchial mucous membrane at the commencement of phthisis'; and, to carry his assertion one step further, in almost all cases a considerable hyperæmia of the alveolar capillaries. And it is in these cases, very similar to, if not identical with, those classed by writers of different ages under 'phthisis ab hæmoptoe', that the course of the disease is most favourable. It appears almost to stop short at the production, followed by resolution, of a local pneumonia, in which the escape of blood had something of the nature of a relief to over-distended blood-vessels; though of this local bleeding, in its further results, it would be, perhaps, too much to say simply with Cullen,² 'It is, indeed, easy to conceive that a rupture of the vessels of the lungs, like that of the vessels of the nose, may be often healed, as the surgeons speak, by the first intention.' It is somewhat astonishing, at first sight, that the occurrence of hæmoptysis, supposed by the public to be very common at the commencement of true phthisis, is really not so. In most cases, the mischief has advanced some way before the bleeding, due probably to some degenerated blood-vessel, shows itself. And when we consider what really takes place in the catarrhal form of phthisis—that proliferation and caseation cause, or at any rate seem to cause, as the micro-

¹ Guy's Hospital Reports, ser. i. vi. 210.

² First Lines of the Practice of Physic, Edinburgh, 1789, ii. 372.

scope shows us in such specimens as Plate VII.¹ represents, impermeability and disappearance of the capillary vessels—the absence of any large amount of blood-spitting, I do not say throughout, but through a long portion of the phthisical process, is not to be wondered at. Of the copious hæmorrhages which take rise from a small aneurism in the wall of a cavity,² or through the continuous oozing into the latter of blood from a degenerated vessel, I do not speak now. These are obviously of a dangerous character; but of the kind I have described I do not take so positively unfavourable a view. I may err in judging only from out-patient experience, from which I find that in cases coming to me for the first time there is a history of spitting of blood in only about half.

And this leads me to speak very briefly of the analysis I have made of my notes of 849 cases of phthisis among out-patients at the Victoria Park Hospital, not only as to its occurrence at various ages, but also as to sex, and to the seat, so far as shown, on their presenting themselves, by the physical signs.

The table of ages on page 59 only illustrates once more the doctrine laid down by the ‘Father of Medicine,’ ‘*Φθίσις γίνεταί μάλιστα ἡλικίῃσι τῇσιν ἀπὸ ὀκτωκαίδεκα ἐτέων μέχρι πέντε καὶ τριήκοντα ἐτέων*,’³ and exactly reproduced by Sydenham,⁴ ‘*Phthisis autem invadit ab ætatis anno decimo octavo ad trigesimum quintum.*’ I have omitted altogether those cases which, presenting only dyspeptic symptoms, had no signs of mischief in the lungs. The large majority of cases, as may be seen, were between the ages of fifteen and forty.

There is one other fact illustrated by this table which has some bearing on a rule laid down by insurance offices as to the possibility of phthisis of the hereditary type being extinct after the age of forty-five. In this table, there are forty-seven males and twenty-nine females, making a total of seventy-six persons, or nearly 9 per cent. of the whole number, attacked with a pulmonary disease, whether it be the ordinary cheesy form first revealing itself at this later age, or

¹ Cf. Klein, op. cit., Pl. VI. fig. 25.

² Cf. Plate XIII. and description, at end.

³ Aph., v. 9.

⁴ Proc. Integ., cap. lviii.

that form of chronic bronchitis which, leaving its own type of winter-cough, has taken on the form of a continuously emaciating phthisis.

As to the seat of change in these patients, the result of analysis does not differ very much from those obtained by, at any rate, later writers on the subject. Laennec believed that the right lung was more frequently affected than the left; while Louis found the disease confined in five instances to the left lung, and in two only to the right; and, as he observed the advance of the disease from above downwards especially marked in twenty-eight cases on the left side, and in ten only on the right, he concluded that the left lung was by preference the seat of change. Dr. Hughes, in a paper in the *Guy's Hospital Reports* for 1842, is probably very near the truth when, in giving his own results of 116 cases on the left side, against 89 cases on the right, he declares his conviction¹ that this difference is so trifling as to be altogether unworthy of notice in reference to diagnosis; and I think he might have gone further and added 'prognosis.' Dr. Cotton,² finding the same preference of the left over the right lung, comes to the same conclusion in almost the same words: the difference 'is so small as to render it a subject of curiosity only, and not of the slightest value either in the diagnosis or treatment of consumption.' My own numbers give the results shown on p. 59.

I have gone through with care a large number of other tables based on records of cases under my own observation, not only with respect to age, sex, and occupation, and the so-called different stages of the disease, on which last I am disposed to lay no great stress, but also in reference to the supposed influence of various concomitant affections, and the influences of temperature and weather. It is barely possible that something may be learnt from these.

But to my mind they are merely statistical curiosities. They have no bearing in the case of some individual patient who comes to us for advice; they might not have on him the same evil effect, perhaps, which the result of calculations as to the mean duration of phthisis by different observers might have. In giving a list of averages of duration, in which the shortest time, according to Louis and

¹ P. 249.

² On Consumption, etc., 1858, p. 21.

Bayle, is twenty-three, and the longest, according to Dr. Williams,¹ forty-eight months, Dr. Pollock² is much more hopeful in stating that Portal considered phthisis might last 'from eleven days to forty years, and he is certainly nearer the mark than any other authority.' On this point, Morton himself observes: '*Hinc fit, quod phthisis vulgo tam male audiat, ac si esset morbus naturâ suâ prorsus incurabilis, quum (quantum ego longâ experientiâ edoctus scio) æquè certam curationem, atque alii morbi, admittat, modo debitâ methodo, satis tempestivè tractetur.*'³ It is an odd thing that one⁴ of the upholders of the inflammatory origin of phthisis should have held also the possibility of its cure—that is to say, that it was not absolutely hopeless; just as Niemeyer, writing in these later times, and holding the same theory, has as strongly asserted; while the champions of the 'tubercular' theory held and hold with Laennec that 'the tubercular affection is, like cancerous affections, absolutely incurable';⁵ or, in the stronger language of the next paragraph, 'that the observations of Bayle and myself show that the idea of the possibility of curing phthisis is an illusion.' I dare not yet speak of my own experience. I do but see from time to time cases of the chronic form of cheesy phthisis, keeping the almost 'noiseless tenour of their way,' with but little, if indeed any, change in physical signs; and in these cases I cannot but suppose that, as in other chronic forms of disease, the body or the constitution—call it as you will—becomes, as it were, habituated to the changed circumstances of life, which make up for it, as a living whole, its normal standard.

Holding, therefore, almost the contradictory of Cullen,⁶ that 'phthisis in consequence of pneumonic inflammation is that which occurs most rarely in this climate,' I am able, with Morton and Broussais and Niemeyer, to have a larger hope; and though, with Cullen,⁷ I am ready to conclude that 'nothing should allow us to neglect any appearance of catarrh, as is too frequently done, for it may be the beginning of a phthisis, which is mistaken for a genuine catarrh,

¹ This average has been more recently (Williams, *Pulmonary Consumption*, 1871 p. 306) raised to, roughly, eight years.

² *Elements of Prognosis in Consumption*, 1865, p. 56.

³ *Op. cit.*, p. 171.

⁴ Broussais.

⁵ *Op. cit.*, ed. 1, i. 59; ed. 2, i. 581.

⁶ *Op. cit.*, p. 100.

⁷ *Op. cit.*, p. 381.

or that, even as a catarrh continuing long, it may produce a phthisis,' and with Hippocrates¹ 'τὸ φθινόπωρον τοῖσι φθίνουσι κακόν'; I am compelled to say, from my experience at the Victoria Park Hospital, that while, in the warmth and even heat of summer, most of my bronchitic patients are better, those who are suffering from the common form of phthisis are very much worse, partly because the heat calls for more work from the injured respiratory organ; partly because, as even in the healthiest of us, it throws the power of assimilation, and therefore of nutrition, somewhat into abeyance. The 'fall of the year' is of worse omen, on the other hand, to those in whose dilated bronchi, and emphysematous vesicles, circulation is already hindered. The advice recorded in Wepfer's observations² though difficult to follow, because its conditions are difficult to obtain, is probably true in regard to the temperature best suited for phthisical patients: 'Ægro nobilissimo aër convenit temperatissimus, id est, nec calidior, nec frigidior, nec siccior, nec humidior, ideo et æstum solis nimium et aerem vespertinum et pluviam vitet.'³

The title I chose for these lectures debars me from speaking with the faintest air of authority, or to any extent, of the various drugs used to oppose the ordinary course, and therefore considered to have some effect on the natural history, of consumption. The key to any rational treatment of the disease is probably to be found in a careful consideration, in any individual case, of the present condition of the phthisical process—whether it be still active, or for the time being stationary; and of the constitutional habit of the patient, to be largely judged of by the family history. The specific treatment of the disease is, to my mind, as illusory as the presence of the so-called specific cells of 'tubercle.' But of one medicine, or rather food, I must speak briefly, because, in its effects on the patient, it offers a distinct bedside result. To use the words of a former President of the College, 'you may learn much (and so, no doubt, you ought) by prying into the arcana of the night-chair,'⁴ and yet, in these days of numberless

¹ Aph., iii. 10.

² Op. cit., p. 435.

³ This opinion of the consultant, amusing and full of common sense throughout, concludes with words equally difficult, but equally true, for the consumptive patient to take to heart, were it only possible: 'Vitet mœrorem atque quemvis alium animi affectum gravem'; and cf. Morton, op. cit. 169, to the same effect.

⁴ Watson, Lectures, 1857, ii. 715.

instrumental aids to diagnosis, the learning gained from that inspection, like the splendid knowledge of the pulse and appreciation by the hand of increased temperature, which marked a generation happily not passed away, seems to be in danger of leaving us, who more unworthily trust to mechanical assistance. But an inspection of the night-chair of a consumptive patient taking large quantities of cod-liver oil will reveal, as perhaps physiological theories ought to have predicted, a very great increase of fatty or oily matters evacuated. This again is no new observation, though it is one, I think, which may well teach us its lesson. Over twenty years ago, Sir William (then Dr.) Gull had recorded¹ his own observations on 'fatty stools from disease of the mesenteric glands,' and written down in no half-hearted way his opinion as to the careless and utterly unscientific use of cod-liver oil. It cannot be denied that by some means or other this drug had, I might even say still has, come to be looked upon as a 'specific' for 'consumption'; and I use the word as our patients use it, as I have used it in these lectures—consumption from disease of the lungs. Patients themselves tell us they must have phthisis, because the doctor who prescribed for them gave them cod-liver oil. At any rate, in hospital practice, later, I repeatedly examined the fæces of phthisical patients, perhaps because the teaching of the wards of Guy's was unconsciously with me; and I found, as everyone who performs the same experiment will find, that beyond a certain amount of oil administered, varying of course in individuals, but, on the average, four drachms daily, large quantities of it pass through the intestines almost unchanged. And to this simple waste, not too much to be decried, is superadded very often increased disturbance of digestion and nutrition. Still to quote Sir W. Gull, 'if it be ever admissible to limit the attention to one organ in treating disease, it is so' here, where 'the condition of the gastro-intestinal membrane is of paramount importance.'

And what I have said with respect to cod-liver oil, and its possibly harmful waste, applies quite as much if not more to a highly vaunted drug, which, to judge from the weight of an ordinary pig's pancreas, would demand for each patient, if I be not very wrong, hecatombs of

¹ Guy's Hosp. Rep., ser. iii. i. 369.

victims; unless, indeed, there be a peculiar breed of swine with a larger pancreas,

‘οὗς ἔθρεψε συβώτης ὄρχαμος ἀνδρῶν.’¹

Only a fortnight ago a gentleman who had taken the emulsion had noticed for himself the fatty nature of his stools: a fact which my remark as to one of the effects of cod-liver oil led him to mention.

In approaching rapidly the close of my subject, I cannot but congratulate myself that the work of the very latest time leads to a conclusion, which in its pathological results, though not at all in its reasoning from these results, has the support of the perhaps oldest living authority on pulmonary consumption in this country. Dr. C. J. B. Williams, in the discussion to which I have already referred,² has given us his ‘explanation of the twofold seat and origin of tubercle, or rather of consumptive disease: 1. Lymphatic, which is miliary, infective, and scattered; 2. Inflammatory, which is diffused in form, and local in extent.’

To sum up briefly the views, by no means original, which I have attempted to support respecting pulmonary consumption in these lectures, I am disposed to conclude:

That in the affection to which the name ‘acute general miliary tuberculosis’ is given, the hard nodules occurring in the lungs are due mainly to growth of the perivascular and peribronchial cords, together with alveolar catarrh of smaller or larger extent.

That this perivascular growth is secondary to a cheesy focus not necessarily present in the lungs.

That the commonest form of pulmonary consumption in this country is due, in the first instance, to an intra-alveolar and intra-bronchial catarrh, accompanied by proliferation of the epithelium more or less rapid; followed generally by impermeability and disappearance of the alveolar capillaries, and by changes in the septa of the alveoli; and resulting in the destruction of lung-tissue: the whole process giving rise to the clinical symptoms of phthisis.

That the same clinical symptoms of phthisis are caused by the pathological changes present in chronic bronchitis and emphysema, and

¹ Odyssey, 14, 22.

² Path. Soc. Trans., xxiv. 340.

in other cases by fibroid growth in the alveolar septa themselves, leading to the disappearance of their cavities.

That catarrhal pneumonia is the most common accompaniment of any affection of, or even injury to, the lungs; and that its occurrence often gives rise to the appearance of bodies possessing, to the naked eye, all the characteristics of the 'tubercle' of authors.

That there is nothing in common between the pathological results of acute tuberculosis and those of chronic cheesy degeneration of the lungs, except it be in the occasional presence in the latter of the secondary lymphatic (?) products almost always, if not always, to be found in the former.

That the caseous form of pulmonary phthisis ought not to be looked upon as one absolutely hopeless and fatal.

That, in the majority of cases of this form of phthisis, the whole bent of our treatment should be against repeated and chronic inflammations of the lung, in the sense of catarrh of the air-vesicles and finer tubes, and as far as possible in aid of increased assimilation and nutrition, especially in the encouragement of those methods of hygiene which consist not only in change of air and climate, but also in the more ordinary matters of baths and suitable clothing.

Portal, publishing his work on the 'Nature and Treatment of Pulmonary Phthisis' in 'the first year of the French Republic,' as his title-page tells us,¹ speaks more boldly than did Bayle, who, with some sort of solemn religious feeling, confesses that to a large extent he has not dared to 'explain the part that Nature plays in the production of phthisis.'² Considering that medicine is but a branch of natural history, Portal thought he could not do better than conform strictly to the method followed in its other branches; that is, to give a history of facts observed, arrange them in order, and draw from their comparison the true character of the object in view. 'We ought never,' he says, 'to hope to guess at, or to domineer over Nature; we can but listen in silence to, and meditate attentively over, the phenomena we

¹ 'Observations sur la Nature et sur le traitement de la Phthisie Pulmonaire, par Antoine Portal. A Paris, chez les citoyens Du Pont, Imprimeurs-Libraires, rue de Richelieu, N°. 14, 1792. L'an premier de la République française.'

² Op. cit., Pref., p. xiii.

observe; we can but discuss them carefully, and gather from them such truths as shall be useful.'¹ My aim has been to work after this fashion.

In conclusion, if I have not in very word complied with the conditions of the bequest of Dr. Theodore Goulston, that 'a dead body was, if possible, to be procured, and two or more diseases treated of,' I have at least brought the pictured results of the post-mortem room within the College, and treated, however imperfectly, of an affection which is Protean in its anatomy, if not in its features. Following out, at any rate, the feeling which, as Censor between the years 1615 and 1626, he had probably attempted to inculcate, that not without the scalpel would the bounds of knowledge be widened, I may say, in the words which his perhaps greater successor in this Fellowship makes use of, '*Non solum manus pro virili medicas languidis corporibus adhibendi, verum etiam defunctorum cadavera introspectiendi quàm sæpissimè ansam arripui.*'² Yet it may be that whatever I have said on the subject I have had the honour to bring before the College only illustrates once more the twice-told sentence of Bacon,³ 'The spirit of man feigns in Nature a simplicity and uniformity greater than really is.' It may be that the conclusions to which I have been almost irresistibly led as to what seems to me to be the simple nature of pulmonary consumption may fail to hold, when scanned by some more searching eye than my own; and if it be so, for work at least honestly attempted some consolation may be found in the words in which Heberden speaks of the uncertainty of modes of treatment: 'No aphorism of Hippocrates holds truer to this day than that in which he laments the length of time necessary to establish medical truths, and the danger, unless the utmost caution be used, of our being misled, even by experience.'⁴

¹ Op. cit., Pref., p. ix.

² Morton, op. cit., Ad Lect.

³ Novum Organon, liber i. xlv.; and cf. Advancement of Learning, book ii.

⁴ Comm., 1802, p. 71.

NOTES.

Note to Page 11.

GIANT CELLS.

SINCE the text was written a paper has been published in the 'Wiener Medizinische Jahrbuch' (1876, Hft. 2, p. 157) by Dr. J. Rabl on 'Das Granulationsgewebe und seine Bedeutung für die Scrophulosis,' in the plates attached to which giant cells occur in drawings of 'scrophulous' deposits from different parts and tissues of the body. Drs. Baumgarten and Browicz find these same cells in various syphilitic products ('Centralblatt für die Medicinischen Wissenschaften, 1876, No. 45; 1877, Nos. 19 and 22). G. Weiss discusses the question generally in a paper in 'Virchow's Archiv (lxviii. 59), 'Ueber die Bildung und die Bedeutung der Riesenzellen, und über epithelartige Zellen, welche um Fremdkörper herum im Organismus sich bilden,' one of his conclusions being that true giant cells may be found in the merely hyperplastic-lymph glands of those who are 'perfectly free from tubercle.'

Note to Page 25.

The racemose arrangement of the epithelial products in the affected lung is exactly imitated in an early plate of injected bronchi and alveoli, which the rapid publication of books at the present day has, like Laennec's *tubercle*, 'discarded and pushed aside.' Among the milestones, as it were, on the road we travel is a short pamphlet published at Strasbourg, ten years after the appearance of Portal's treatise quoted in the text, by F. D. Reisseissen, 'De Pulmonis Structura. Argentorati, A. Reip. xi. (1803)': 4to. pp. 43. To this is attached a copper-plate engraving showing the racemose arrangement of the tubes and vesicles in a healthy lung—'Icon hæc duos lobulos contiguos, sub lente delineatos, refert, in quibus bronchiorum ramuli ad superficiem usque ramificantur.' See also the coloured copper-plates of his larger work, 'De fabricâ pulmonum.' Berlin, 1822.

Note to Pages 32 and 35.

Since this was written Dr. Baümler has succeeded Prof. Kussmaul as Professor of Clinical Medicine at the same university. In a second edition of his paper referred to in the text he has been unable to add anything to the bibliography of the particular affection described. The subject has been very fully discussed at the Pathological Society, and, though many cases were brought forward as illustrations of this particular affection, and though my friend Dr. Goodhart has kindly allowed me to read the notes of all the cases on which he based his remarks, I am compelled to say that they do not agree with the description of the very few cases quoted in my second lecture. They include mainly cases of gummata, gangrene, ordinary yellow deposits, with destruction of tissue or partial fibroid change. The case of a man with well-marked syphilis, under my observation when the lecture was delivered, has impressed me still further with the rarity of this affection, a rarity more recently insisted upon by Drs. Wilson Fox and Pye-Smith. The *post-mortem* examination revealed, indeed, a chronic pulmonary consumption in a body which had abundant evidences of syphilitic disease: but the condition of the lung was in no way like that described in the text and represented in the plates. On the other hand, Fournier,¹ who recognises this particular form among others of 'syphilitic phthisis' under the name of 'pneumopathies hyperplasiques simples,' gives a description of it which might indeed belong to my plate:—'*Les tuyaux bronchiques aboutissant à ces foyers scléreux sont généralement déformés, aplatis, oblitérés, et se terminent en ampoules. Quant au parenchyme pulmonaire proprement dit, il n'existe plus; il est remplacé par une gangue compacte, fibroïde, ou scléreux à son degré le plus avancé.*' I cannot sufficiently assert that, in these uncommon cases, it is with syphilis of the lung, accompanied by all the clinical symptoms of pulmonary consumption, that we have to deal, not with the most ordinary form of lung-disease in a syphilitic subject.

Note to Page 36.

I had thought, when the text was written, that Wepfer had been the earliest observer of this disease and its cause. But in Albert Haller's collection of '*Disputationes ad Morborum Historiam et Curationem facientes*,' published at Lausanne in 1757, is an older paper on this subject; '*Georg. Dan. Coschwitz et auctor Joannes Bubbe de Spadone Hippocratico Lapidarum Seebergensium Hæmoptysin et Phthisin Pulmonem (Pulmonum?) vulgo der Seeberger Steinbrecher Krankheit Præcedente. Halæ. Julii 1721.*' At page 118 of this work, the authors speak of '*Pulvis ille a lapidibus effossis sub illorum effabricatione ad usus mechanicos secedens, ac*

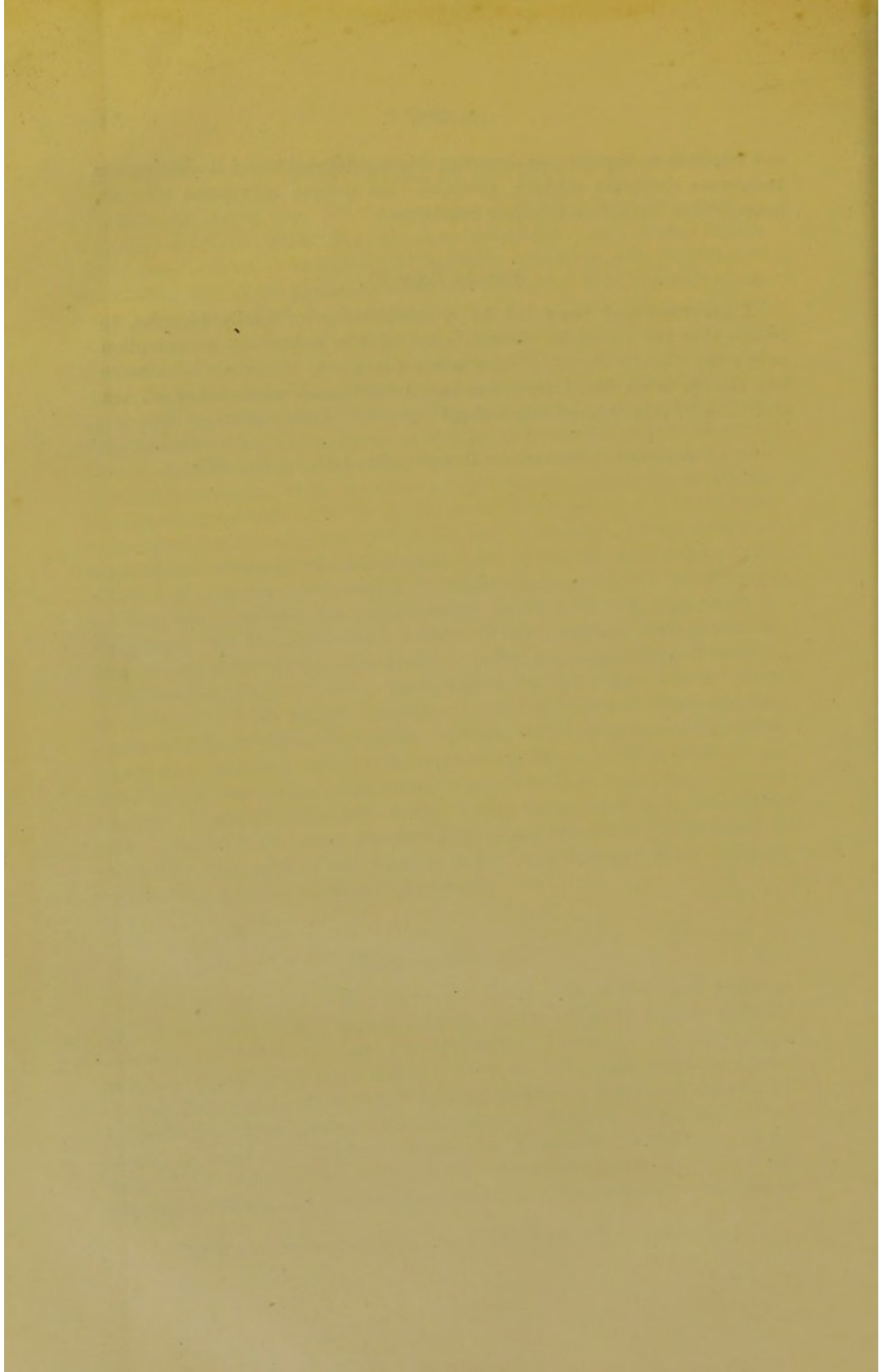
¹ De la Phthisie Syphilitique, '*Gaz. Hebdomadaire*,' 1875, No. 48, p. 768, &c.

sub respiratione in pulmones attractus, ibique indole suâ terreâ et adstringente tunicarum stricturas efficiens, varièque vasa quoque interspersa afficiens, sanguinisque legitimum circulum impediens.'

Note to Page 41.

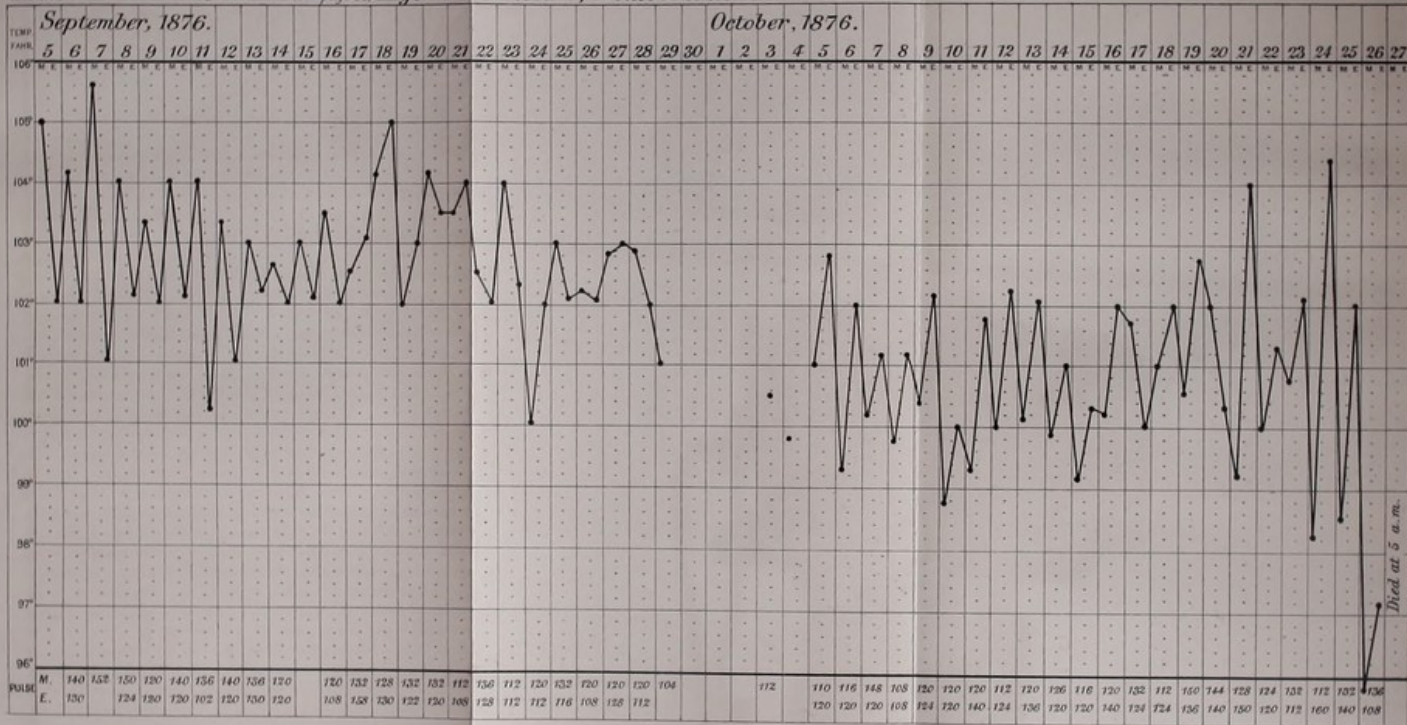
I am more and more led, by a consideration of family histories, to believe that the particular constitutional taint in pulmonary consumption as in some other, if not all, diseases is due not only to immediate inheritance but also to what Mr. Darwin has called 'the most wonderful of all the attributes of inheritance'—reversion.¹

¹ *Animals and Plants under Domestication*, 1868, vol. ii. p. 372.





Name *M C* (see page 55) Age *19.* Disease, *Acute Phthisis.*



APPENDIX OF CASES.

I. 'GALLOPING CONSUMPTION.'

THE first of these cases is that from which the lung represented in Plate VII. was removed. Appended is a chart of daily temperatures taken almost throughout the whole period the patient was under observation. There is nothing very special about it except the persistently high range of temperature (over 104 deg. Fahr.) and its almost regular evening fall in the earlier part of the time, which, in the latter part, when the physical signs were most extensive, became a regular evening rise. The patient was a girl, M. C., aged 19, a housemaid; her father had died of phthisis, otherwise her family history was good. In August 1875 she had had a severe cough, with pain in the left side of her chest; had lost flesh, appetite, and strength; had had slight hæmoptysis, night-sweats, and aphonia. On admission to Victoria Park Hospital on August 28, 1876—a year later—she was anæmic, with flabby muscles and slight clubbing of the fingers. The catamenia had ceased for thirteen months, *i.e.* since the first commencement of her illness; there had been some diarrhoea, but the bowels were now regular; there was a hacking cough, worse at night; there were slight streaks of blood in the sputa. Expansion was somewhat deficient under the left clavicle as compared with the right, and the resonance was diminished there; on forced inspiration, there were abundant moist sounds in the same place, while the breath sounds were weak under the right clavicle, and there was slight crepitation at the left base. Nine days later, there were moist sounds under the right clavicle, which rapidly crept downwards, while there were dulness and bronchophonic resonance at the left apex, and coarse large moist sounds over the lower lobe. Throughout the remainder of September and the first half of October the disease kept on its way steadily; on the 13th of this last month, friction sounds were heard on the left side, and, on the 17th, on the right side. On the 27th she died, considerably emaciated. With the exception of the remark that no 'miliary tubercle' was found in any of the organs of the body, I confine myself to a description of the *post-mortem* appearances found in the lungs, which alone were diseased. The

left pleural cavity contained about six ounces of clear fluid. The left lung was firmly adherent to the chest-walls in the greater part of its extent. The apex was one large cavity having very thin walls, less firmly fixed to the parietes than the rest of the lung; lower down was a series of smaller cavities surrounded by a thicker pleural layer so firm as to cause laceration of the lung during removal; these cavities were lined by irregular patches of cheesy matter, and contained a reddish-yellow fluid. The lower lobe was filled with racemose arrangements of whitish or yellow bodies from the size of a small pin's head to that of a pea, some softening in the centre and a few at the upper part forming small cavities. The right lung was adherent towards the apex; at the extreme apex were some cavities full of pus, while the rest of the lung showed similar appearances to those of the left lower lobe. So far, I think, this case is complete—a matter for which I have to thank Mr. Bark and some of the clinical assistant officers of Victoria Park Hospital; and everything throughout it—the thermometric range, the naked-eye appearances, and the microscopical section—points entirely to intra-alveolar inflammation.

This was a hospital case, in which patient and careful observation was comparatively easy. It may be instructive to compare with it two less complete cases occurring in private practice, because it will be seen that, in the main and sharp features of the affection, the three agree. On September 26, 1870, I saw, in consultation with Mr. A. Roper, of Lewisham, a lad, J. M., aged 19, a hammerman. He had been ill for only four months previously. There was dulness over the whole upper lobe of the left lung, with fine moist sounds. The thermometer placed in his axilla about 4.30 in the afternoon rose in the space of one minute from below normal to 103 deg.; his pulse was 132; his respirations 44; he was covered with great beads of sweat. He had a tearing cough, with but little thickish yellow expectoration. He had never spat blood; there was no striking loss of flesh; his appetite was good, his bowels regular. Two months later I saw him again. There was loud tubular breathing over the left upper lobe, large and small crepitation over the left lower lobe, small crepitation over the right upper lobe, with pleural friction sounds. A week later he died. The body was generally emaciated—a condition reached in the course of nine weeks. The whole of the left lung was adherent behind, and over the upper lobe strongly adherent in front, the apex being torn in removal. The pleura, especially that covering the upper lobe, was greatly thickened. The whole upper lobe was utterly disorganised, consisting of a ragged cavity or intercommunicating cavities containing sero-purulent fluid. The lower lobe was crammed with masses of cheesy matter beginning to break down. The bronchi were thickened and cheesy. Over the upper lobe of the right lung there were signs of recent pleurisy, a few easily broken bands, with some fluid in the pleural cavity; the upper lobe had yellow deposits scattered all over it, and broke down somewhat easily; the middle and lower lobes were

congested, but scarcely broke down under pressure. There were no 'miliary tubercles' anywhere; the bronchial glands were healthy, and there was nothing abnormal about the larynx and trachea.

The statement I have already made elsewhere that these cases of 'galloping consumption' are the most difficult to unravel is my excuse for quoting another case in private practice even less complete than the last. M. A. G., aged 22, a governess, consulted me in the summer of 1874. At that time she presented no physical signs of phthisis, though from the history, which included the remark of the medical man she had seen some time before, that her left lung was affected, she must have had a pneumonic attack, probably at the left apex. There was no history of phthisis in the family. She improved in her general condition, and I lost sight of her till June 28, in the following year. There was then impaired movement below the left clavicle, with somewhat coarse crepitation there and in the supra-clavicular space, and whispering pectoriloquy. She had 'spat blood' five days before. She had been ailing for some time previously, but the symptoms had been looked upon as caused by irregularities in the catamenial function against which all treatment had been directed. At the commencement of February 1876 there was no marked dulness, but tubular breathing at both apices, with creaking on forced inspiration. On February 19 there were dulness under the left clavicle and tubular, almost cavernous, breathing under the right clavicle, with some small creaking there on coughing; no moist sounds anywhere. The temperature was 102 deg. By the end of the month the temperature was normal; moist sounds could be heard after coughing; the general condition was better. But the respite was a short one. At the end of March came an attack of hæmoptysis, the physical signs remaining unchanged. At the commencement of June she began to get worse, the temperature rising again on the 10th to 102 deg., and continuing above normal till the 24th. On July 4 there was no dulness anywhere, but large crepitation over the left back and both apices especially; more distant over the right back. The hot weather added to her difficulty of breathing; the signs became those of general bronchitis, and she died, much emaciated and exhausted, on the 24th of the month. There was no *post-mortem* examination.

These three cases of rapid galloping consumption differ only in the swiftness with which the disease advanced. The lad was carried off in nine months; one of the women in little over a year from the first definite commencement; the other, who seemed to have pretty well recovered from one apical attack, fell a victim in also little over a year to a second attack of disease at that same apex. The absolute confirmation of the pathological condition is certainly wanting in the last case, though I have no more doubt that it would have revealed precisely similar changes to those in the two preceding cases than I have that the minute change in all is that represented in the drawing taken from the first case. I would

observe also that, in each of these cases, the amount of expectoration was small, until in the last the rapid breaking down of the lungs was accompanied by a sharp and general bronchitis, with increased secretion: an instance of what Addison has laid down in speaking of cases of this affection:—‘The amount of expectoration depends upon the extent to which the bronchial tubes are affected.’¹ In all three cases there were during life signs of pleuritic inflammation; in the two cases examined, the amount and extent of the adhesion was in exact proportion to the period during which the affection to which it was secondary had existed. There was a time when pleurisy was looked upon as an evil complication of phthisis, whereas in many cases, if not in all, it is to be hailed, in spite of its painfulness, as one of Nature’s helps, certainly diminishing the danger of pneumothorax, and, it may be also, in its direct effects, analogous to the callus that makes a splint about the leg of the wounded rabbit, imposing on the affected lung that rest which some have attempted to bring about in these days by the use of bandages.²

It would be but waste of time to linger over cases of chronic phthisis. They differ only in point of slowness from the cases which I have described. The microscopical appearances found are almost identical, modified only by the larger amount of fibrous tissue present. The starting-point of the disease is still the same—the smaller bronchi and the alveoli.

II. FIBROID PHTHISIS (? SYPHILITIC).

The patient from whose lungs Plates VIII. and IX. were drawn was a man about middle age, the subject of earlier and well marked syphilis, whose symptoms, some years before death, has been looked upon as those of ordinary phthisis. But there were, in addition to the great emaciation and the clubbing of the fingers, the contradictory signs on percussion to which attention has been drawn in the text: there was but slight, if any, expectoration with the cough; there was the dyspnoea of emphysema rather than ordinary phthisis. There had been from time to time great hæmoptysis. Death came at last with a short and sharp attack of acute pneumonia. At the autopsy the emaciation was found to be extreme. The abdominal cavity and viscera were apparently healthy. The apex of the *right* lung was toughly fibrous with projecting bladders of emphysema, and cretaceous nodules, as represented in Plate VIII.; the upper part of the middle lobe was in the same fibroid condition with points of lobular catarrhal pneumonia and one chalky nodule the size of a pea. The lower portion of the upper lobe formed a large emphysematous bladder overlapping the heart to the left and the right lobe of the liver below. There was a little recent lymph on

¹ Guy’s Hospital Reports, series ii. vol. iii. p. 19.

² See Berkart, ‘Lancet,’ 1873, vol. ii. p. 552.

the pleura at the extreme apex. The *left lung* was shrunk, and firmly adherent at the upper back and lateral regions. The lower lobe was even more emphysematous than on the right side, containing at its upper portion solid nodules of catarrhal pneumonia and overlapped by the emphysematous upper lobe. The lower portion consisted of a chain of solid islets of fibrous tissue forming anteriorly a band which divided the emphysematous lung-tissue into equal lateral halves. The bronchi were intensely congested throughout.

III. TABLE OF CASES OF ORDINARY PHTHISIS OBSERVED AT VICTORIA PARK HOSPITAL.

Age .	Males.	Females.	Total.
5 and under	1	2	3
10 " "	9	7	16
15 " "	20	26	46
20 " "	54	51	105
25 " "	89	87	176
30 " "	92	64	156
35 " "	59	50	109
40 " "	65	46	111
45 " "	29	22	51
50 " "	21	16	37
55 " "	11	6	17
60 " "	10	5	15
65 " "	4	0	4
70 " "	1	2	3
	465	384	849

The statistics set forth in the table are taken out of a number of over 10,600 cases. Every case in which there was the slightest doubt as to the diagnosis has been omitted. Of the 849 cases thus tabulated it was possible to draw a very decided line in 421, or nearly one-half, in which one lung alone was affected. Of the other 428 in which both lungs were affected, the mischief was about equal in 314; in 114 it was more apparent on one side than on the other. Throughout, as in the statistical results of Dr. Hughes and others, the numerical preponderance is slightly on the side of the left lung. It must, at the same time, be remembered that the results obtained are only those of out-patient practice, in which large numbers of the worst cases would not appear, on account of inability to leave their homes; and the same remark applies to the comparatively larger number of men attacked as compared with women, a result, for many reasons, obviously untrue. One of those reasons is the well recognised fact of the influence of pregnancy in the early and rapid death from phthisis: and I cannot but think that this fact has been overlooked by various writers, who seem to take it to be almost demonstrated that males are affected in greater numbers than females.

The Drs. Williams are somewhat contradictory on the subject. Dr. Pollock's cases, like mine, were those of out-patient practice, and show a large preponderance on the side of the men. I can only offer that the comparatively large number of cases I have seen of death in women at so early an age as twenty, soon after their first confinement, coupled with the fact that more women, married or unmarried, die from phthisis under the age of thirty than men—though my experience, as the elder Dr. Williams says,¹ may rest only 'on the hazy tokens of vague memory'—lead me to a very different conclusion. This conclusion is also supported by the results obtained by Dr. Mayet in a paper published in the '*Lyon Médical*.'² He gives the numbers admitted into the Lyons hospitals for this disease in 1873 as 860 males and 596 females, or a proportion of the former to the latter of three to two; at the same time, he notices its occurrence between the ages of eleven and fifteen almost exclusively in female children. And, apart from the influence of pregnancy, this liability to early death from phthisis in women is not to be got rid of by such statistics as those of hospitals. In truth, the seekers of advice at hospitals have been to a very great extent sifted, as it were, unconsciously before they come; and, from statistics thus sifted in the first instance and then pared down, as my own have been, the conclusion reached is at best a guess.

Of statistical results less carefully reduced by elimination, I am compelled, from my own reasoning, to consider the conclusion even more misleading than a guess. Grisolle's repetition of Laennec's statements is carried much further to day, when it is argued by a German physician³ that, because destructive change has been found in the right middle lobe of the lungs in twenty-seven persons affected with syphilis, this condition is especially characteristic of syphilitic lung-affection.

¹ Pulmonary Consumption, 1871, Pref., p. xii.

² De la Phthisie Pulmonaire dans les Hôpitaux de Lyon. '*Lyon Méd.*,' October, 1876, tom. xxiii. p. 189.

³ Grandidier, Ueber Lungensyphilis und ihre Heilbarkeit durch die Schwefelquellen zu Nenndorf. '*Berl. Klin. Woch.*,' 1875, No. 15, p. 195.



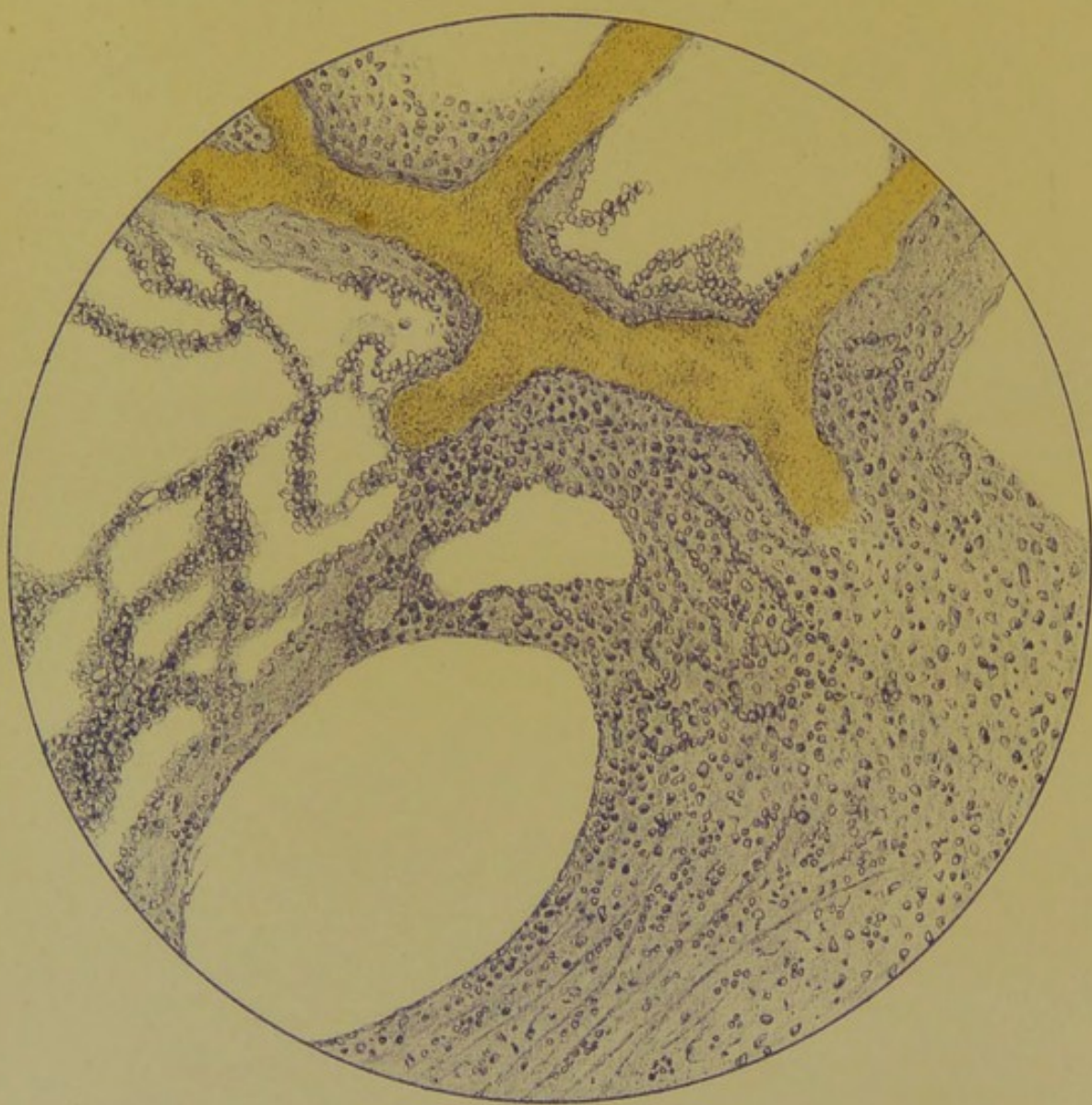


PLATE I.

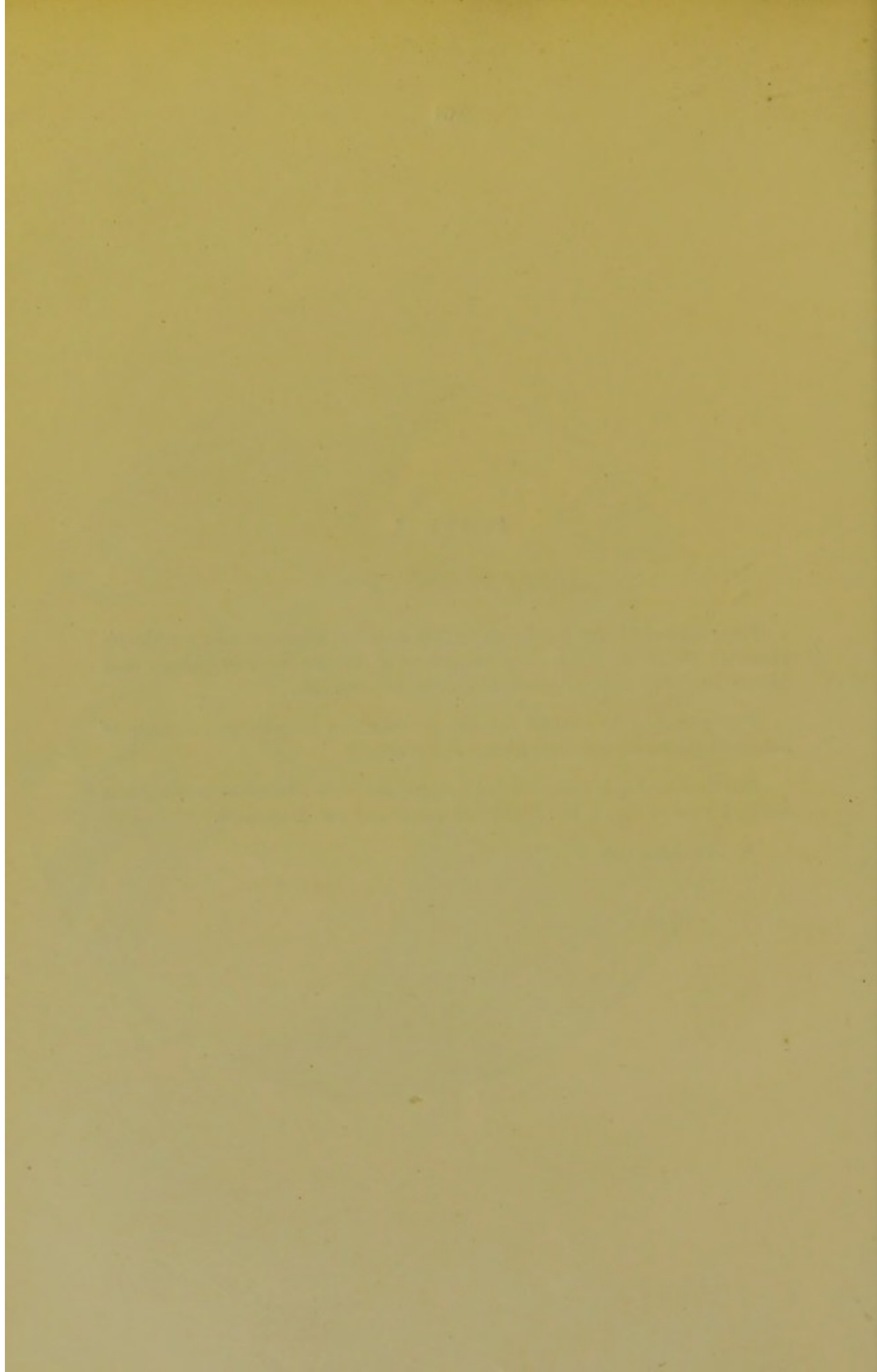
ACUTE TUBERCULOSIS.

From lung of Henry B—— æt. twelve months ; admitted into St. Mary's Hospital March 8, 1877, with symptoms of tubercular meningitis : died March 10. The autopsy revealed general tuberculosis.

The points to be noticed are the perivascular growth, the absence of catarrhal products, and the collapse of the alveoli.

For the use of this case, and the preparation from which the drawing was made, I have to thank Dr. Handfield Jones and Dr. Mahomed.

× 270 diameters.





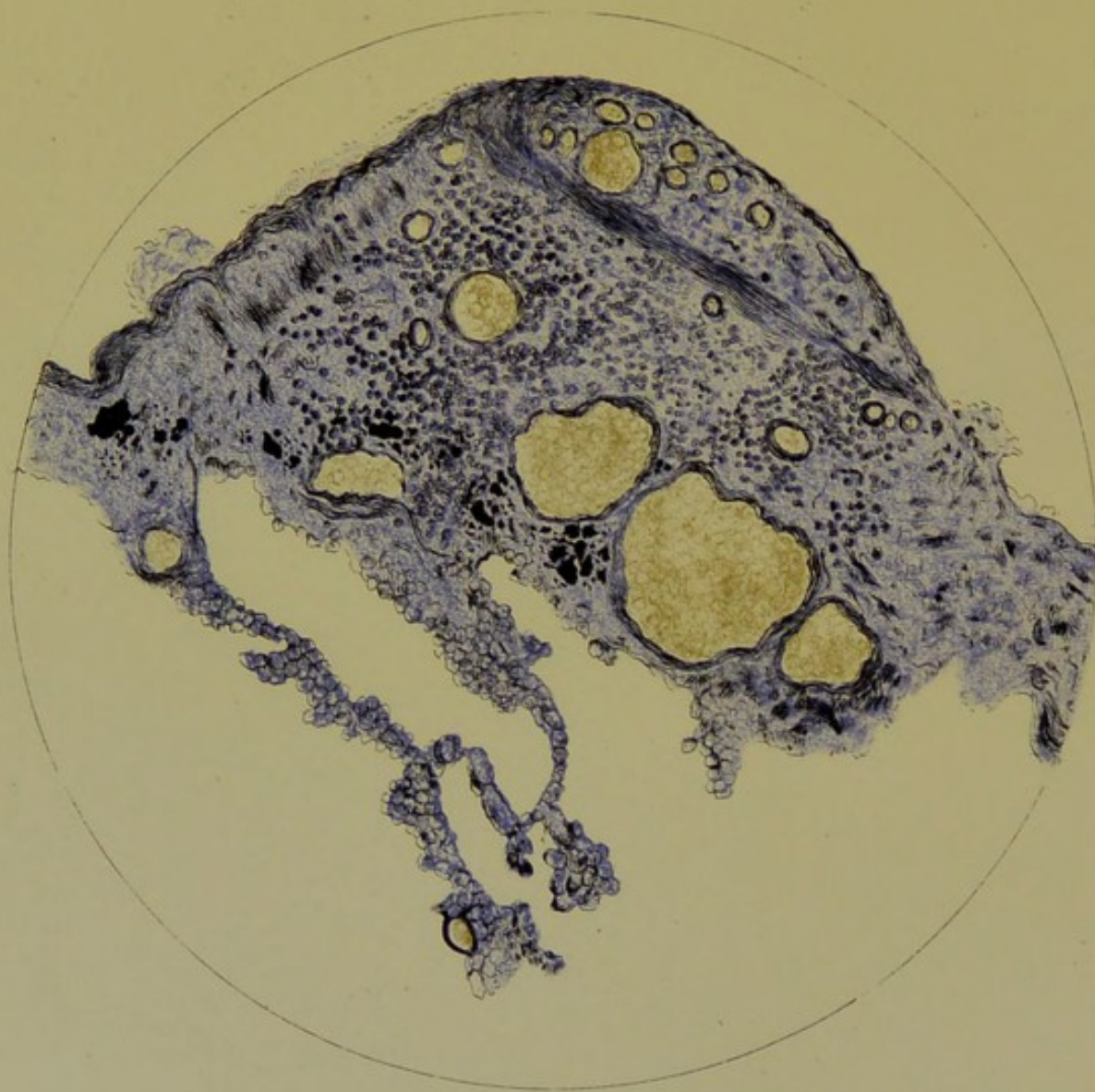


PLATE II.

ACUTE TUBERCULOSIS.

From lung of woman admitted into hospital for supposed delirium tremens. The perivascular growth is beautifully shown, as is also the intense congestion of the blood-vessels. The latter, and the collapse of the alveoli and the absence of alveolar products are well seen in Plate IV., taken from another part of the same preparation.

For procuring me this case I have to thank Mr. C. D. Bowdich Hale.

× 270 diameters.







PLATE III.

ACUTE TUBERCULOSIS.

From lung of same case as Plates II. and IV. The preparation has been magnified less than half as much as those plates, but still shows the well-marked peribronchial growth.

× 100 diameters.







PLATE IV.

ACUTE TUBERCULOSIS.

From same case. Congested blood-vessels : collapse of alveoli : no catarrhal product.

× 270 diameters.







PLATE V.

ACUTE TUBERCULOSIS.

Lung of Charles W——æet. thirteen months ; admitted into the Children's Infirmary May 8, 1871 ; died May 31. The congestion is perhaps rather too intensely marked. The 'tubercles' in this case consisted mainly of vesicular pneumonia.

For this case I have to thank Dr. Hartree.





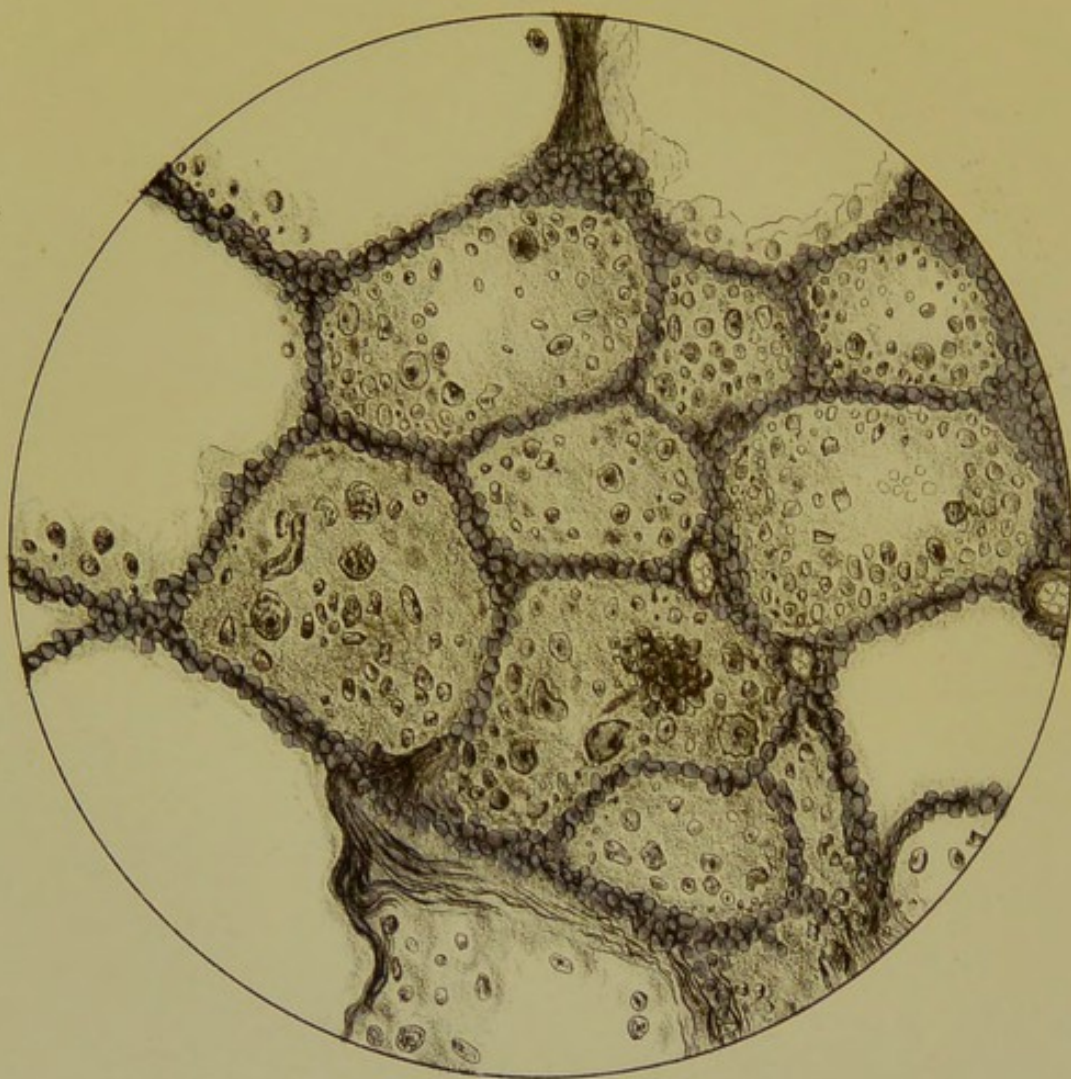


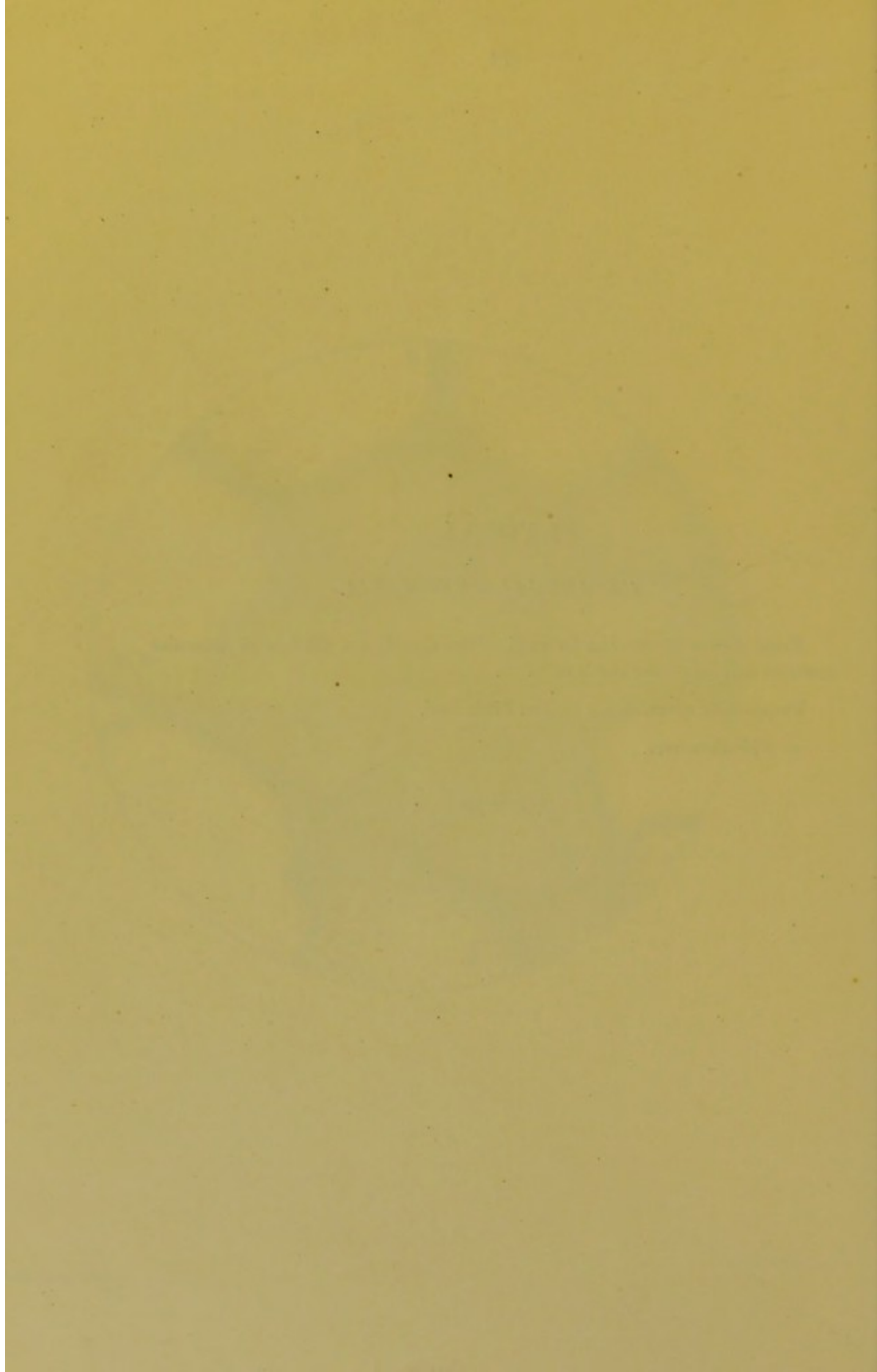
PLATE VI.

CATARRHAL PNEUMONIA.

From a case of Morbus Brightii. The alveoli are filled with granular material and large and small cells.

Preparation given to me by Dr. Mahomed.

× 270 diameters.





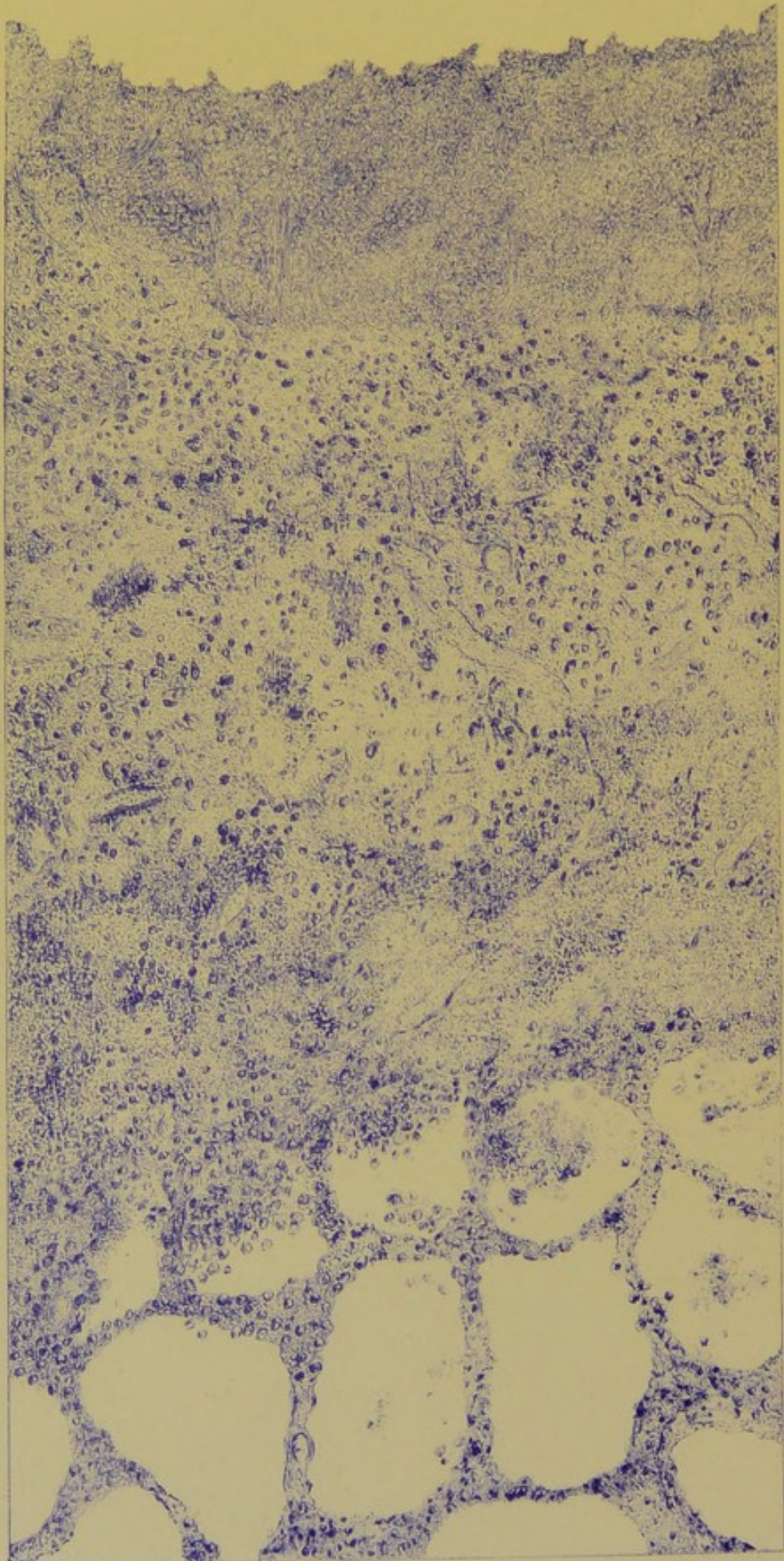


PLATE VII.

ACUTE PHTHISIS.

FROM LUNG OF M. C——, WHOSE CASE IS GIVEN IN THE APPENDIX.

The part of the preparation from which this drawing was taken occupies at least four times the field of a microscope magnifying 270 diameters, and has been obtained by moving the slide forwards or backwards under the objective, so as to include the whole portion of affected lung from the ragged wall of a cavity to the outskirts of perfectly normal lung-tissue. Here is no perivascular or peribronchial growth. Beyond the margin of the cavity there are fibrous structures in which are scattered cells which may be leucocytes, possibly lymphoid cells or pus-cells, most probably the latter. There are the remains of blood-vessels, almost diagrammatically marking out the limits of former alveoli; over the whole middle portion is a confused mass of cells and nuclei; but beyond the edge of confusion are alveoli in which catarrhal cell-development is more or less advanced or only commencing; nothing of the interstitial growth which it is easy to see in the drawings of acute tuberculosis. And outside all are the empty normal alveoli. Three different zones may thus be recognised; most internally, at the top of the drawing (*a*), the slightly thickened, probably pus-secreting wall of the cavity; (*b*) next a district of softening which extends backwards to (*c*) catarrhal mingling with unaffected lung-vesicles. In very truth, this drawing might serve as an illustration of the second case which Charcot gives in his treatise on 'Chronic Pneumonia;' ¹ that of an unmarried woman, aged 21, who died twenty-three days after admission into hospital, with the clinical signs and symptoms, and the *post-mortem* results of numerous small cavities in the right apex. Of this case he is compelled to allow (p. 41) that it is one 'où la maladie affecte les allures de la phthisie gallopante.' I have no doubt that it was so, or that the changes in the lungs were primarily pneumonic.

¹ De la Pneumonie Chronique. Paris, 1860, 68 pp. with plate.

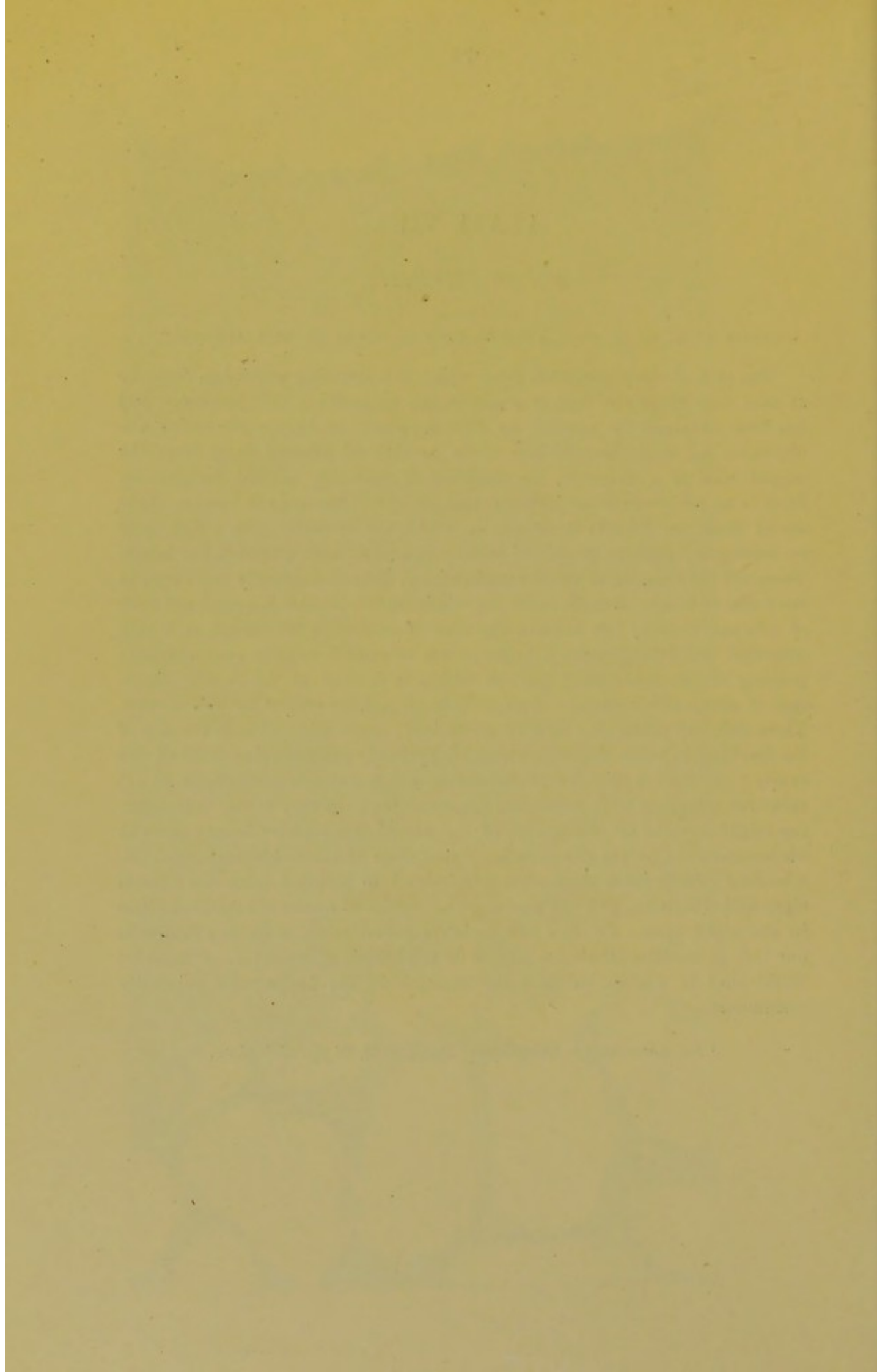






PLATE VIII.

FIBROID PHTHISIS (SYPHILITIC).

From lung of man about middle age, with well-marked history of Syphilis. This lung is described at p. 33 of the text. The autopsy is given in the Appendix.





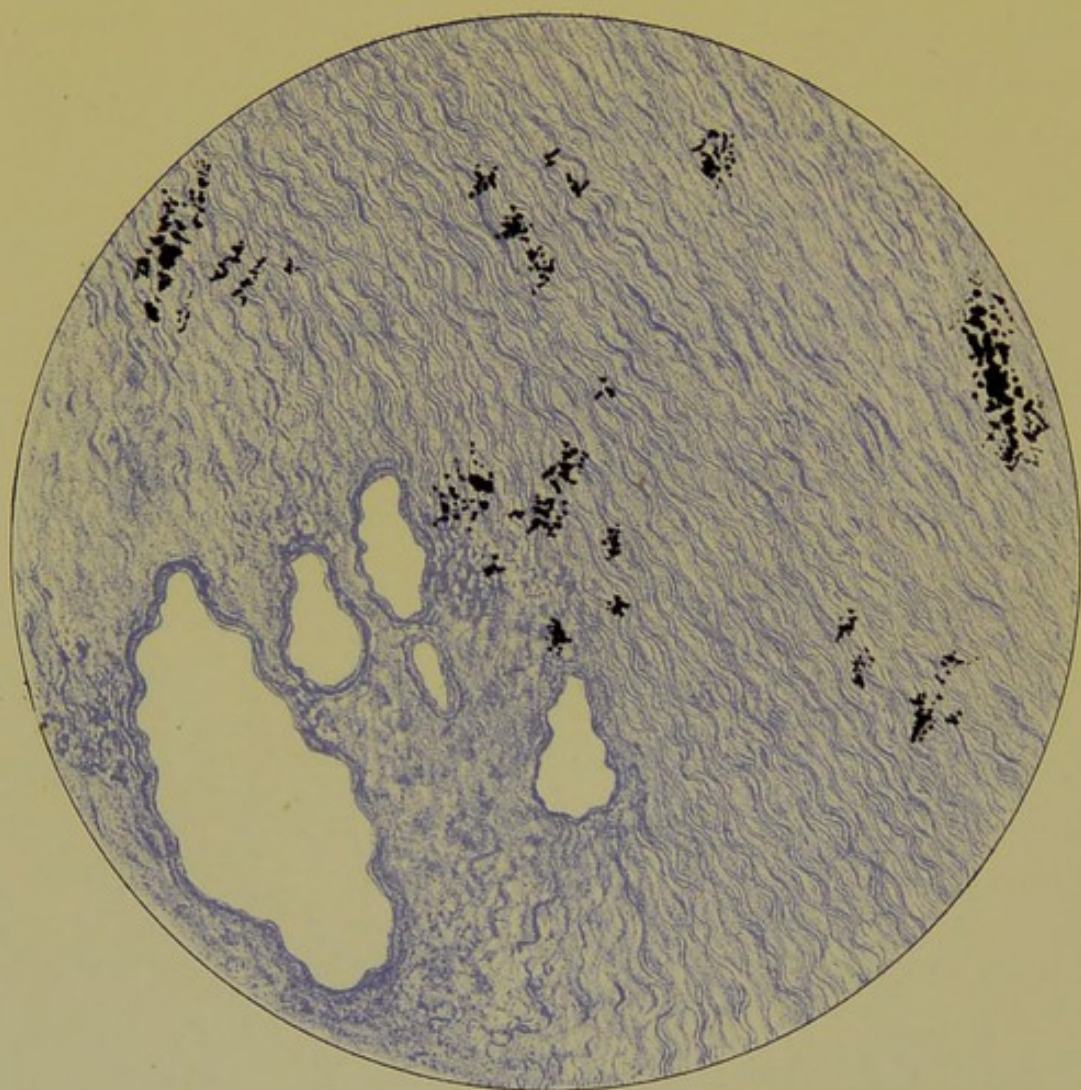


PLATE IX.

FIBROID PHTHISIS (SYPHILITIC).

From the lung drawn in Plate VIII. The whole of the lungs, except in the portions occupied by acute pneumonic products, showed this condition. There were nothing like gummata anywhere.

× 270 diameters.

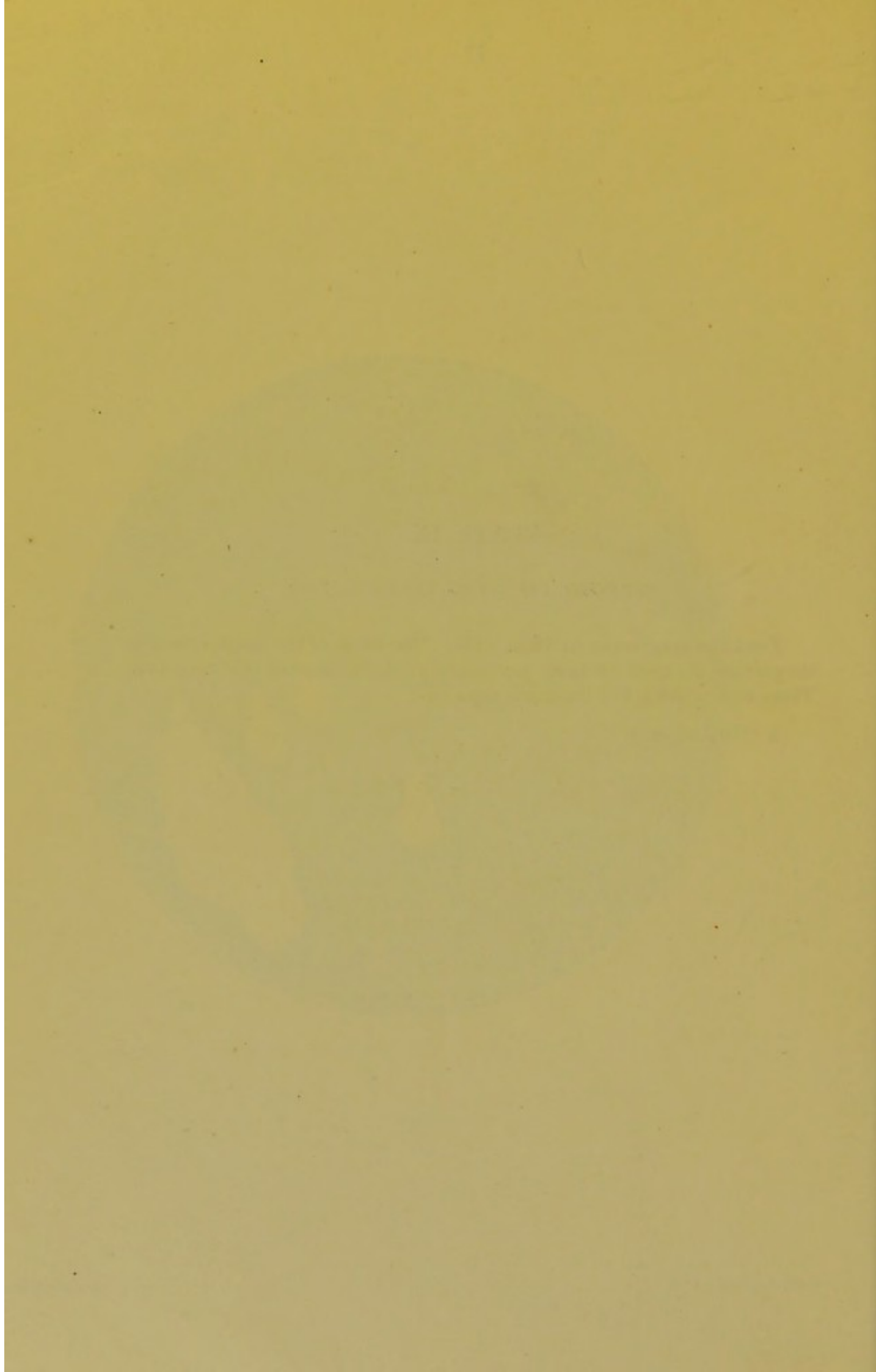






PLATE X.

FIBROID PHTHISIS (SYPHILITIC).

This woodcut, for the use of which I am indebted to Dr. Cheadle, is, I am afraid, the sole remnant of the two cases mentioned in the text as having been under the observation of Mr. Gascoyen. The patient was a woman admitted into the Lock Hospital with external signs, to use the words of my late colleague, of 'extreme syphilis.' After her admission she was supposed to have pneumonia; *post mortem* the only naked-eye changes in the lung were those of intense general fibrosis with recent pneumonia, and without any visible gummata. The microscopical preparation shows the presence of the latter, and in so far may support those who would argue that the fibroid condition attained, not only here but to a larger extent in Plates VIII. and IX., must necessarily have had its origin in the development of these growths; a view to which I am by no means disposed to assent.

× 270 diameters.

STATE

OF THE

LEGISLATURE

1912



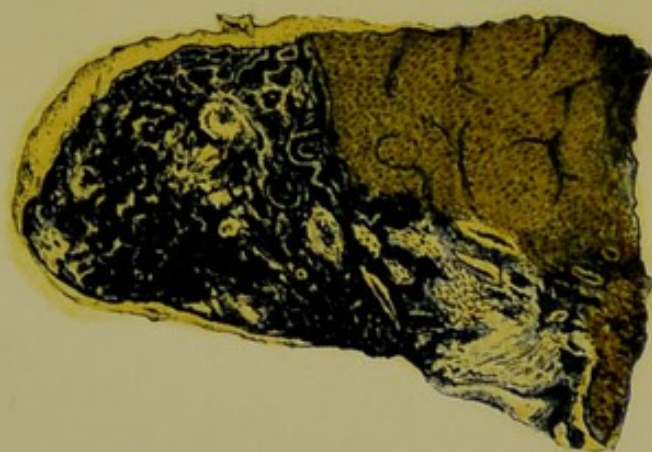


PLATE XI.

FIBROID PHTHISIS (ANTHRACOSIS).

From lung of French millstone grinder, æt. 45. See p. 36 of the text.





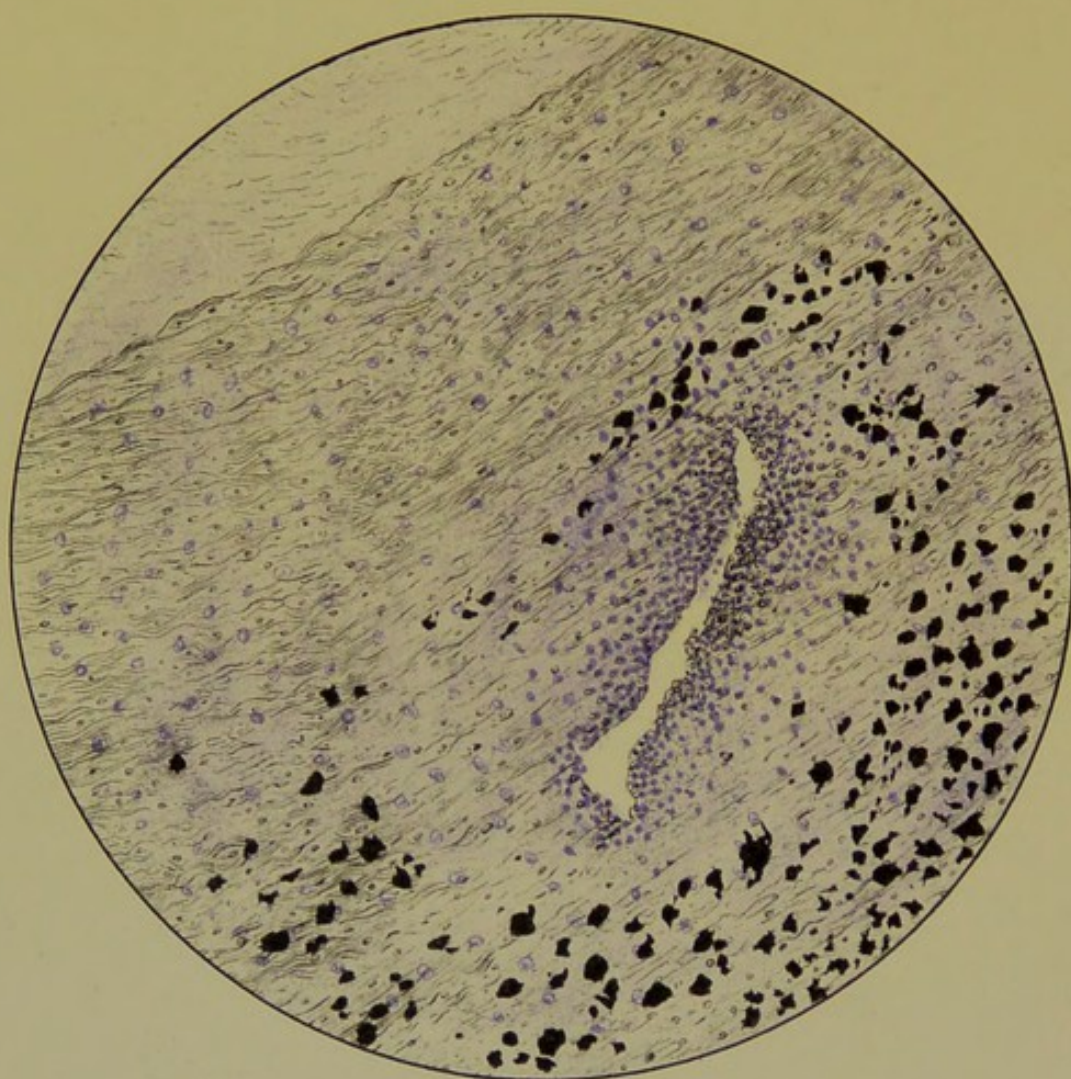


PLATE XII.

FIBROID PHTHISIS (ANTHRACOSIS).

From same lung. × 270 diameters.





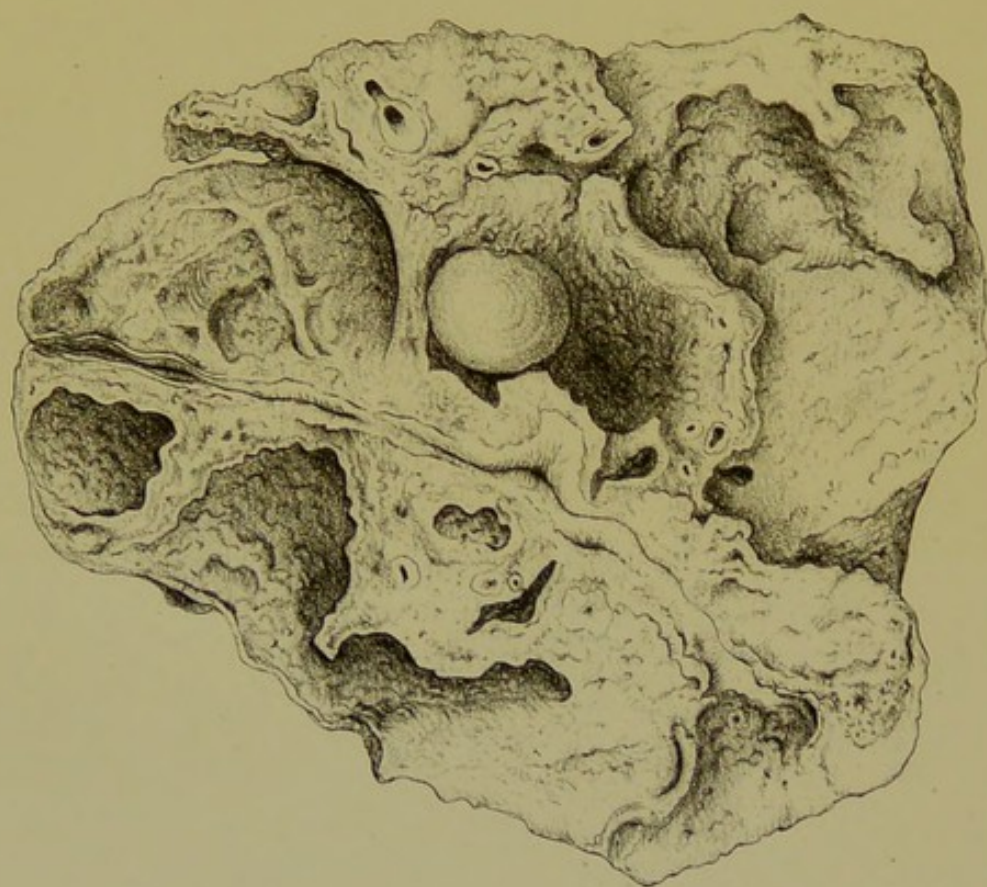


PLATE XIII.

ANEURISM OF A BRANCH OF THE PULMONARY ARTERY.

The man from whom the lung was removed died in the Victoria Park Hospital from suffocative hæmoptysis. Dr. Douglas Powell has tabulated, in the twenty-second volume of the 'Pathological Transactions' (p. 41), fifteen cases of fatal hæmoptysis of this kind, in twelve of which the source was found to be the rupture of either an aneurism or varicose dilatation. In two, the vessel was diminished or obliterated beyond. In this case the branch of the pulmonary artery runs along the wall of a moderately large cavity, and from the free side of the vessel bulges an aneurism which would hold an ordinary marble. The rupture has taken place in the sac just, as seen from the cavity, above and outside of what may be, for convenience sake, called the entrance of the artery into the sac. A bristle passed on-wards into the branch beyond the dilatation travels only a very little way, and the artery in this case also seems to be diminished in calibre or obliterated.

I am afraid such cases as this are but pathological curiosities, reminding us only of the importance of insisting, in cases of chronic phthisis, on the absolute necessity of avoiding all exertion which would increase the blood-pressure in the pulmonary artery, the degenerated and unsupported branches of which are an ever-present source of danger.

THE STATE

THE STATE OF NEW YORK, in SENATE,

January 15, 1891.

REPORT OF THE COMMISSIONERS OF THE LAND OFFICE, IN RESPONSE TO A RESOLUTION PASSED BY THE SENATE, APRIL 18, 1890.

ALBANY: J. B. LIPPINCOTT & CO., PRINTERS, 1891.

ALBANY: J. B. LIPPINCOTT & CO., PRINTERS, 1891.

INDEX OF AUTHORS.

- | | |
|---|--|
| <p>ADDISON, 1, 2, 8, 9, 19, 22, 23, 27, 38, 58
 Andral, 2, 4, 8, 10, 18, 20, 30
 Andrew, 36
 Aretæus, 20, 21
 Aufrecht, 25</p> <p>BARLOW, 1, 8, 42
 Barrow, 26
 Bastian, 19
 Baumes, 22
 Baumgarten, 51
 Bäumlcr, 32, 52
 Bayle, 2, 7, 8, 10, 14, 17, 18, 19, 21, 22,
 26, 36, 45, 49
 Bennett, Hughes, 26, 30
 Bock, 26
 Bristowe, 37
 Broussais, 2, 6, 24, 45
 Browicz, 51
 Buhl, 8, 11, 15, 20, 21, 22, 23, 28, 30</p> <p>CARSWELL, 2, 8, 25
 Charcot, 73
 Cheadle, 35
 Colberg, 10, 26
 Cornil, 35
 Coschwitz and Bubbe, 52
 Cotton, 44
 Cullen, 42, 45</p> | <p>DARWIN, 41, 53
 Deichler, 10
 Dittrich, 34, 35</p> <p>ELLIS, Colwin, 30
 Empis, 19</p> <p>FOURNIER, 52
 Fox, Wilson, 8, 11, 52</p> <p>GALEN, 5
 Gascoyen, 35, 79
 Goodhart, 52
 Goulston, 50
 Gull, 47</p> <p>HEBERDEN, 50
 Hippocrates, 5, 17, 20, 46
 Holland, 41
 Hughes, 44</p> <p>JÜRGENSEN, 30</p> <p>KLEIN, 9, 10, 11, 28, 32, 37
 Knauff, 37</p> <p>LAENNEC, 2, 5, 6, 7, 8, 15, 18, 19,
 30, 44, 45</p> |
|---|--|

- Lancéraux, 34
Louis, 2, 44
- METZQUER, 13, 14
Morgagni, 4, 20, 29
Morton, 2, 3, 4, 5, 17, 21, 22, 23, 24,
31, 36, 41, 45, 46, 50
Moxon, 34, 35
- NIEMEYER, 45
- PEACOCK, 12, 14, 23, 36, 37
Pollock, 45, 59
Portal, 2, 22, 45, 49
Powell, Douglas, 12, 85
Pye-Smith, 52
- RABL, 51
Reinhardt, 27
Reisseissen, 51
Riegel, 36
Rindfleisch, 10, 11, 30
Rokitansky, 2, 3, 10, 18, 29
- SANDERSON, Burdon, 11
Sauvages, 22
Schlesinger, 29
Sedgwick, 41
Seltmann, 36
Sikorsky, 37
Skoda, 29
Sturges, 35
Sutton, 32, 33
Sydenham, 20, 21, 24, 43
- THAON, 6, 14
- V. DER KOLK, 27
Vidal, 34, 35
Virchow, 8, 18, 27, 38
Volkmann, 3
- WALDENBURG, 20, 23
Watson, 26, 46
Weiss, 51
Wepfer, 36, 39, 46
Wilks, 34
Williams, 45, 48, 60
- ZENKER, 36

INDEX OF SUBJECTS.

- AGE in phthisis, 43, 59
 Aneurism of pulmonary artery, 85, and plate xiii.
 Anthracosis, 32, 36, 52, and plates xi., xii.
 CARMINE, injected into lungs, 37
 Cod-liver oil, 47
 Consumption (and see Phthisis), definition of, 4
 — cases of, 29, 31, 33, 34, 35, 37, 55
 — rapid, 13, 25, 55, and plate vii.
 — varieties of, 23, 40, 48
 DURATION of phthisis, 45
 GIANT-CELLS, 11, 51
 Granulia, 19, 25
 HÆMOPTYSIS, 42, 85, and plate xiii.
 Hereditariness of phthisis, 41, 53
 MILIARY Tubercle, see Tubercle
 PHTHISIS, definition of, 4
 — acute, 13, 25, 55
 — bronchitic, 30
 — fibroid, 32, 35, 52, 53
 — hereditary, 41
 — 'tubercular,' 1
 — 'ulcerous,' 7
 — duration of, 45
 — prognosis in, 45
 — statistics of, 44, 59
 Pneumonia, 7, 11, 15, 28
 Prognosis in phthisis, 45
 Pseudostomatous tissue, 38
 STAUBINHALATIONS-KRANKHEIT, 36, 52, and plates xi. xii.
 TUBERCLE, 2, 3, 5, 7, 14, 17, 29, 31, 38
 Tuberculosis, general, 2, 10, 12, 15, 21, and plates i.-v.
 — artificial, 9

Spottiswoode & Co., Printers, New-street Square, London.

H





SMITH, ELDER, & CO.'S PUBLICATIONS.

The **EXAMINER** in **ANATOMY**: A Course of Instruction on the Method of Answering Anatomical Questions. By ARTHUR TREHERN NORTON, F.R.C.S., Assistant-Surgeon, Surgeon in Charge of the Throat Department, Lecturer on Surgery, and late Lecturer on Anatomy at St. Mary's Hospital, &c. &c.

SPINAL DISEASE and **SPINAL CURVATURE**: their Treatment by Suspension and the Use of Plaster-of-Paris Bandage. By LEWIS A. SAYRE, M.D., of New York, Professor of Orthopaedic Surgery in Bellevue Hospital Medical College, New York, &c. &c. In One Volume, large crown 8vo. with 21 Photographs and numerous Woodcuts.

DISEASES of the **NERVOUS SYSTEM**: their Prevalence and Pathology. By JULIUS ALTHAUS, M.D., M.R.C.P. Lond.; Senior Physician to the Hospital for Epilepsy and Paralysis, Regent's Park; Fellow of the Royal Medical and Chirurgical Society, Statistical Society, and the Medical Society of London; Member of the Clinical Society; Corresponding Member of the Société d'Hydrologie Médicale de Paris, of the Electro-Therapeutical Society of New York, &c. &c.

A Second Edition of Dr. L. HERMANN'S **ELEMENTS** of **PHYSIOLOGY**. Entirely recast from the Sixth (yet unpublished) German Edition. With very copious Additions, and many Woodcuts. By ARTHUR GAMGER, M.D., F.R.S., Brackenbury Professor of Physiology in Owens College, Manchester. [Shortly.]

AUSCULTATION and **PERCUSSION**, together with other Methods of Physical Examination of the Chest. By SAMUEL GEE, M.D. New Edition, with Illustrations, fcp. 8vo.

The **QUESTION** of **REST** for **WOMEN** during **MENSTRUATION**. By MARY PUTNAM JACOBI, M.D., Professor of Materia Medica in the Woman's Medical College, New York. 8vo. 12s.

On **CHOREA** and **WHOOPIING COUGH**. By OCTAVIUS STURGES, M.D. Cantab., F.R.C.P., Physician to the Westminster Hospital.

CHAMBERS ON DIET.

A **MANUAL** of **DIET** in **HEALTH** and **DISEASE**. By THOMAS KING CHAMBERS, M.D. Oxon., F.R.C.P. Lond., Hon. Physician to the Prince of Wales. Second Edition, crown 8vo. 10s. 6d.

'Dr. Chambers's Manual deserves to take its place amidst our standard treatises, and will be welcomed by the profession. No more trustworthy or welcome book has been issued from the press for several years. The profession may congratulate itself as well as Dr. Chambers on the success of his rather difficult achievement.'—*British Medical Journal*.

'Dr. Chambers writes with the authority of a sound clinical teacher. . . . A readable account of all that is necessary to say in a practical manual on diet.'—*Doctor*.

'Throughout the work, in every page of it, there are evidences of a practical knowledge of the subject. This work of Dr. Chambers must be heartily welcomed by the profession.'—*Practitioner*.

PLAYFAIR ON MIDWIFERY.

A **TREATISE** on the **SCIENCE** and **PRACTICE** of **MIDWIFERY**. By W. S. PLAYFAIR, M.D., F.R.C.P., Professor of Obstetric Medicine in King's College; Physician for the Diseases of Women and Children to King's College Hospital; Examiner in Midwifery to the University of London, and lately to the Royal College of Physicians; Vice-President of the Obstetrical Society, &c. 2 vols. demy 8vo. with 166 Illustrations, price 28s.

'These volumes will at once take a position in the highest rank of obstetric works.'—*The Lancet*.

'We need scarcely say that we recommend it to practitioners, teachers, and students. It is second to no similar treatise in our language.'—*Edinburgh Medical Journal*.

HOLMES'S PRINCIPLES AND PRACTICE OF SURGERY.

SURGERY: its Principles and Practice. By TIMOTHY HOLMES, F.R.C.S., Surgeon to St. George's Hospital. With upwards of 400 Illustrations, royal 8vo. 36s.

'A most complete and accurate surgical text-book. It is an extremely fair exposition of British Surgery. We have no hesitation in recommending this work as by far the best of existing surgical text-books; it is well up to the time; it exhibits a thorough acquaintance with surgical literature and practice, is characterised by the most impartial fairness, and is written in excellent English.'—*Medical Times*.

A **PRACTICAL TREATISE** on **FRACTURES** and **DISLOCATIONS**. By FRANK HASTINGS HAMILTON, A.M., M.D., LL.D. Fifth Edition, Revised and Improved, with 322 Illustrations. 8vo. 28s.

A **COURSE** of **PRACTICAL HISTOLOGY**. By EDWARD ALBERT SCHAFER, Assistant-Professor of Physiology University College. With numerous Illustrations, crown 8vo. 10s. 6d.

COMPENDIUM of **HISTOLOGY**. Twenty-four Lectures. By HEINRICH PREY, Professor. Translated from the German, by permission of the Author, by GEORGE R. CUTTER, M.D. With 208 Illustrations, 8vo. 12s.

London: SMITH, ELDER, & CO., 15 Waterloo Place.

SMITH, ELDER, & CO.'S PUBLICATIONS.

- The **FUNCTIONS** of the **BRAIN**. By **DAVID FERRIER, M.D., F.R.S.**, Assistant-Physician to King's College Hospital; Professor of Forensic Medicine, King's College. With numerous Illustrations, 8vo. 15s.
- A **DIRECTORY** for the **DISSECTION** of the **HUMAN BODY**. By **JOHN CLELAND, M.D., F.R.S.**, Professor of Anatomy and Physiology in Queen's College, Galway. Fcp. 8vo. 3s. 6d.
- A **TREATISE** on the **THEORY** and **PRACTICE** of **MEDICINE**. By **JOHN SYER BRISTOW, M.D. Lond., F.R.C.P.**, Physician to St. Thomas's Hospital, Joint Lecturer in Medicine to the Royal College of Surgeons, formerly Examiner in Medicine to the University of London, and Lecturer on General Pathology and on Physiology at St. Thomas's Hospital. 8vo. 21s.
- MEDICAL DIAGNOSIS**, with Special Reference to Practical Medicine. A Guide to the Knowledge and Discrimination of Diseases. By **J. M. DA COSTA, M.D.** Third Edition. 8vo. 24s.
- ESSENTIALS** of the **PRINCIPLES** and **PRACTICE** of **MEDICINE**. A Handbook for Students and Practitioners. By **HENRY HARTSHORNE, A.M., M.D.** New Edition. 12s. 6d.
- A **GUIDE** to **URINARY ANALYSIS**, for the Use of Physicians and Students. By **HENRY G. PIFFARD, A.M., M.D.** 8vo. 7s. 6d.
- A **TEXT-BOOK** of **ELECTRICITY** in **MEDICINE** and **SURGERY**, for the Use of Students and Practitioners. By **GEORGE VIVIAN POORE, M.D. Lond., M.R.C.P., &c.**, Assistant-Physician to University College Hospital; Senior Physician to the Royal Infirmary for Children and Women. Crown 8vo. 8s. 6d.
- An **INTRODUCTION** to the **STUDY** of **CLINICAL MEDICINE**: being a Guide to the Investigation of Disease, for the Use of Students. By **OCTAVIUS STURGES, M.D. Cantab., F.R.C.P.**, Physician to Westminster Hospital. Crown 8vo. 4s. 6d.
- The **ESSENTIALS** of **BANDAGING**: with Directions for Managing Fractures and Dislocations, for Administering Ether and Chloroform, and for Using other Surgical Apparatus. With 128 Engravings. By **BERKELEY HILL, M.B., F.R.C.S.**, Professor of Clinical Surgery in University College, Surgeon to University College Hospital, and Surgeon to the Lock Hospital. Third Edition, Revised and Enlarged, with a new Chapter on Surgical Landmarks. Post 8vo. 4s. 6d.
- The **STUDENT'S MANUAL** of **VENEREAL DISEASES**. Being a concise Description of those Affections and their Treatment. By **BERKELEY HILL, M.B.**, Professor of Clinical Surgery in University College, London, Surgeon to University College, and Surgeon to the Lock Hospital; and by **ARTHUR COOPER**, Surgeon to the Male Lock Hospital. Post 8vo. 2s. 6d.
- A **TREATISE** on the **PNEUMATIC ASPIRATION** of **MORBID FLUIDS**; a Medico-Chirurgical Method of Diagnosis and Treatment of Cysts and Abscesses of the Liver, Strangulated Hernia, Retention of Urine, Pericarditis, Pleurisy, Hydrarthrosis, &c. By **Dr. GEORGES DIEULAFOY**, Gold Medalist of the Hospitals of Paris. Post 8vo. 12s. 6d.
- NOTES** of **DEMONSTRATIONS** on **PHYSIOLOGICAL CHEMISTRY**. By **S. W. MOORE**, Joint Demonstrator of Practical Physiology at St. George's Medical School. Crown 8vo. 3s. 6d.
- A **MANUAL** of **TOXICOLOGY**, including the Consideration of the Nature, Properties, Effects, and Means of Detection of Poisons, more especially in their Medico-Legal Relations. By **JOHN J. REECE, M.D.** 8vo. 12s. 6d.
- A **GUIDE** to **THERAPEUTICS**. By **ROBERT FARQUHARSON, M.D., F.R.C.P.**, Lecturer on Materia Medica at St. Mary's Hospital Medical School. Crown 8vo. 7s. 6d.
- A **TREATISE** on **THERAPEUTICS**: comprising Materia Medica and Toxicology, with especial reference to the Application of the Physiological Action of Drugs to Clinical Medicine. By **H. C. WOOD, Jun., M.D.** 8vo. New Edition. 14s.
- An **EPITOME** of **THERAPEUTICS**. Being a Comprehensive Summary of the Treatment of Disease as recommended by the leading British, American, and Continental Physicians. By **W. DOMMETT STONE, M.D., F.R.C.S.** Crown 8vo. 8s. 6d.
- COMMENTARY** on the **BRITISH PHARMACOPŒIA**. By **WALTER GEORGE SMITH, M.D.**, Fellow and Censor, King and Queen's College of Physicians in Ireland; Examiner in Materia Medica, Q.U.I.; Assistant-Physician to the Adelaide Hospital. Crown 8vo. 12s. 6d.
- A **PRACTICAL TREATISE** on the **DISEASES** of the **HEART** and **GREAT VESSELS**; including the Principles of their Physical Diagnosis. By **WALTER HAYLE WALSH, M.D.** Fourth Edition, thoroughly revised and greatly enlarged. Demy 8vo. 16s.
- A **PRACTICAL TREATISE** on **DISEASES** of the **LUNGS**: including the Principles of Physical Diagnosis, and Notes on Climate. By **WALTER HAYLE WALSH, M.D.** Fourth Edition, revised and much enlarged. Demy 8vo. 16s.

London: SMITH, ELDER, & CO., 15 Waterloo Place.







