

**An analysis of one hundred and thirty-six cases of phthisis / by Arthur Leared.**

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Leared, Arthur, 1822-1879.  
Royal College of Surgeons of England

**Publication/Creation**

[London] : [Reed and Pardon, printers], [1856]

**Persistent URL**

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6.

AN ANALYSIS  
OF  
ONE HUNDRED AND THIRTY-SIX CASES  
OF PHTHISIS.

By ARTHUR LEARED, L.R.C.P., M.R.I.A.,

Late Physician to the British Civil Hospital at Smyrna, etc.

[From the *Medical Times and Gazette*, October 11, 1856.]

The following results are derived from 136 cases of phthisis, observed at the Royal Infirmary for Diseases of the Chest; they occurred in a total number of 644, chiefly out-patients, admitted under my care (a), a large proportion of these cases being assignable to other diseases of the respiratory organs, diseases of the heart, dyspepsia, etc. as well as to a class of cases to be found at all Institutions for diseases of the chest; those in which the Physician is obliged to hesitate in his diagnosis of phthisis, but in which, if he keeps a register, the evidences are sufficient to induce him to enter them as doubtful.

Whenever, in such instances, I was enabled, as frequently happened, from the progress of the disease, to make a positive diagnosis, I invariably referred back to the original entry, and altered it accordingly (b).

(a) Between May 2nd, 1854, and Feb. 13th, 1855 inclusive.

(b) Of these doubtful cases there remained 92 in all; it would have been exceedingly difficult, if not impossible to ascertain the number of recoveries, because out-patients too often *discharge* themselves by merely ceasing their attendance, but a large proportion of them may be ranked as cured."

*Sex and Age.—Table to show the influence of sex and age in Phthisis and the position of Tubercle in relation to both.*

Periods of Life.	Males.	Per cent.	Females.	Per cent.	Males.		Females.	
					Right Lung.	Left Lung.	Right lung.	Left lung.
From 0 to 5 years.	2	1.47	1	0.73	—	1	—	
— 5 to 10 —	2	1.47	2	1.47	—	2	—	
— 10 to 20 —	7	5.14	10	7.35	2	5	7	
— 20 to 30 —	20	14.70	31	22.79	10	9	13	
— 30 to 40 —	21	15.44	20	14.70	12	9	10	
— 40 to 50 —	8	5.88	5	3.67	4	4	2	
— 50 to 60 —	3	2.20	1	0.73	1	1	1	
— 60 to 70 —	3	2.20	0	—	1	2	—	
	66	—	70	—	30	33	33	
					68	66	66	
					2	5	5	
					65	71	71	

In those instances, however, in which recoveries took place, for reasons to be stated hereafter, no change in the entries was made. I am aware that, in some respects, the number of cases

so limited for inferences of value to be drawn from them, on that account, there are some points of investigation which I have not treated statistically. There are, on the contrary, others, I believe, for the first time thus investigated. Great care has been taken throughout to ensure accuracy.

It will be observed that while the total number of females is but slightly greater than that of males, there is a great disparity in the relative proportion between them at different periods of life. More than a third of the whole that occurred between 20 and 30 years of age, were females; while of those between 30 and 40 more than half were males; the relative numbers of the latter increasing in each successive period. From this it would appear that the relative liability of the sexes to phthisis at given ages is much greater for women before, and for men after, 30 years of age.

In reference to the occurrence of tubercle in one or both lungs when, often happened, both lungs were affected, that which appeared to be in the most advanced stage was registered in preference to the other, on the presumption that the disease commenced in the former. I may also observe that the register was mainly in reference to diagnosis from infra-clavicular ramifications. When, however, the apex of one lung is found diseased anteriorly, the superior portion of the other will unfrequently be found similarly affected posteriorly. The occurrence of such diagonal cases, if I may call them so, do not, however, materially affect inferences to be drawn from the above table, which tend to corroborate the observations of others that the left lung is somewhat more liable to tubercle than the right. The influence of age and sex in the matter would, from the above table, appear to be unimportant.

*Hereditary Transmission.*—Table to show the number of Phthisical Sons and Daughters in reference to Phthisical Parents or Grandparents of both Sexes.

	Sons.	Per cent. in 66.	Daughters.	Per cent. in 70.
Father .. .. .	5	7·57	8	11·43
Mother .. .. .	6	9·09	12	17·14
Father and mother .. .. .	—	—	1	1·43
Paternal grandfather .. .. .	1	1·51	—	—
Maternal grandfather .. .. .	—	—	2	2·85
Paternal grandmother .. .. .	—	—	—	—
Maternal grandmother .. .. .	—	—	1	1·43
	12	—	24	—

The transmission of phthisis from father to daughter, by nearly one-third more frequently than by father to son as above, is not in accordance with the Brompton Hospital report, which gives a per centage of 43·5, and 59·4 respectively; while the transmission from mother to daughter in the proportion of nearly 2 to 1, is greater than that given in the same report, which is 56·5 to 40·6, respectively. The proportion of sons born of phthisical parents compared with daughters in the above table, 11 to 20, or nearly 2 to 1 is however closely in accordance with that given in the Brompton Hospital report, deduced from 246 cases, viz., 36·3 per cent. for females, and 18·2 per cent. for males. The investigation of the transmission of phthisis from the grandparents of patients is necessarily more uncertain; but the above is the result of careful inquiries. It is to be observed, that cases in which the parents were not affected with the disease are alone referred to. So far they tend to show that the transmission of phthisis by the maternal grandparents is more frequent in the case of granddaughters, and especially of grandmothers to granddaughters.

*Temperament.*—This, including notes of the colour of the hair and eyes of the patients, their habit of body in health, and their stature, I made the subject of careful investigation. I find, however, that the observations are too arbitrary to lead to definite results, and I have therefore omitted them. Tallness of stature does not stand out in my observations as a predisposing cause of phthisis, nor does it appear to me that persons of any one temperament are more secure from the disease than those of another.

*Occupation.*—It appears to me that observations upon the influence of occupation in the production of phthisis are worthless, unless made on the largest scale, and then with proper allowance for local circumstances. It is obvious that in a large city, where two institutions are devoted to the same disease, but separated by some distance, each will be more especially attended by the class of patients resident in its vicinity; and it is notorious that persons of special trades and occupations are, to a great extent, congregated in particular districts. Instead, therefore, of giving the aggregate results under this head, I shall refer, under a succeeding one, to those individual instances in which, according to the belief of the patients themselves, their occupations were the exciting causes of the disease.

*social Condition.*—Table showing the social condition as regards Marriage, when noted, of the Patients above 15 years of Age in 136 Cases of Phthisis.

	Single.	Married.	Widowed.	Not noted.	Total.
es .. ..	19	34	5	3	61
males .. ..	24	37	2	1	64
Total.. ..	43	71	7	4	125

*Contagion.*—An accurate investigation of this subject appeared to me a desideratum. The table given below shows the result:—

From this it is seen that only 3 males and 4 females, total 7 of 136 cases, or 5.14 per cent., afforded any evidence of the action of contagion. Moreover, it is precisely in the 4 cases in which contagion might be most forcibly maintained, on account of the time the disease commenced, that evidence of hereditary transmission appears. When in addition it is considered that persons living under the same roof are rendered liable to the same diseases from the same hygienic causes, the operation of contagion in the phthisis of this country must be regarded as altogether unimportant, if, indeed, it exists at all.

Nevertheless, whether we regard tubercle as the result of a specific blood-disorder, or as a parasitic cell-growth, air expired from lungs, in which it exists in the softened condition, can hardly fail to be impregnated with its particles; such particles, if inhaled by healthy lungs, would find easy access to their proper nidus for propagation, supposing tubercle to be a parasitic growth. If, on the other hand, we suppose, as is more probable, that, in phthisis, a blood-disorder precedes the local manifestation, the morbid product of tuberculous lungs, even in the form of an exhalation, would, in like manner, be easily transmitted through their lungs to the blood of a healthy person. The well-known belief in the contagion of phthisis, throughout the south of Europe, holds also in the Levant, as I can speak from my own experience. I may here mention some circumstances which, happening at the time when the experiment of congregating a large number of phthisical patients in a comparatively new, made a strong impression on my mind.



Table showing the evidence of Contagion in 7 Cases of Phthisis.

Number.	Sex.	Age.	Occupation.	Time from commencement of Attack to Admission.	Hereditary predisposition.	How exposed to Contagion
1	Male	4	—	“A long time.”	Mother dead of Phthisis 2 years.	Slept with mother up to time of death.
2	Female	9	—	1 year.	Mother dead of Phthisis, 6 weeks.	Slept in room with mother during her illness.
3	Female	32	Needlewoman.	1½ year.	—	Husband dead of Phthisis, 2 years; child that slept with her dead of Phthisis, one week.
4	Male	32	Shopman.	4 years.	Mother and three maternal aunts dead of Phthisis.	Wife dead of Phthisis 3 years and 3 months.
5	Female	33	Domestic.	2 years.	—	First husband dead of Phthisis 6 years.
6	Male	46	Jeweller.	1½ year.	Sister dead of Phthisis.	Wife dead of Phthisis 1½ year.
7	Female	52	Lodging-house Keeper.	1 year.	—	Husband dead of Phthisis 2 years.

Soon after the establishment of the Hospital for Consumption in its present locality at Brompton, I became resident in the Institution as one of two Physician's Assistants. Of the two gentlemen who had been first appointed, one left in bad health, and in a short time died of phthisis at Madeira. The other soon afterwards died of phthisis, apparently contracted during his residence in the Hospital. Both gentlemen were robust, and appeared to be free from disease up to the time of their appointment. After careful inquiry into the matter, it appears, however, that, during an interval of several years, some of the many persons not patients resident in the Hospital, with the exception of one elderly female, no other deaths from phthisis have occurred. It becomes a question, therefore, whether the proportion of phthisical cases that originated in Brompton Hospital has been greater than the average number originated in General Hospitals amongst the same number of a similar class of residents, and in the same period. The circumstances first mentioned, however remarkable, may have been merely coincidences.

*Cause alleged by patient.*—I have not thought this subject worthy of careful inquiry; and the information derived from it will be seen in the table in the following page.

It thus appears that in more than two-thirds of the whole number of cases a definite cause was assigned for the disorder. The statements were almost invariably made with great positiveness, and they are certainly entitled to consideration. Twenty-nine of the whole number assigning causes attributed to the onset of the disease to a "cold," or to "repeated colds," the cause of neither of the latter, however, being stated, while a particular cold has been itself traced to its source, or connected with something else in 26 other cases, and to the other class I wish to direct more especial attention. We have thus a total of 55 attributing their disease to "cold" or "catarrh"; making, therefore, every allowance for the liability to confound with it the earlier stages of phthisis itself, and admitting that a fair proportion of the first-named 29 cases are in reality involved in this error, it seems to me highly probable that the popular notion in this, as in many other instances, is founded upon fact. Whether certain forms of bronchitis were complications or not, is little to the purpose. The general fact seems to be that, in the predisposed habit, phthisis is not uncommonly developed by the operation of causes producing symptoms recognized as "cold." In regarding the explanation of the origin of the disease given by certain humoralists of a by-gone age, we have, it appears to me, gone too far in the opposite direction, since catarrh is by them quite ignored as an exciting cause.

Most of the other causes assigned are such as will readily be accepted as likely to excite the disease—as hooping-cough, scarlatina, measles, and typhus. Gout and rheumatism have been, however, regarded as antagonistic. Contagion was given as the cause in two cases, numbers 3 and 6 in the table on the subject.

*Table exhibiting the causes assigned for the disease by  
94 Phthysical patients.*

	Males.	Females.	Both.
“A cold” or “colds.” Without any cause assigned for .. ..	15	14	29
“A cold” connected with or assigned to one of the following causes—			
A wetting or damp feet .. ..	11	4	15
A damp bed .. ..	2	—	2
Sitting on grass .. ..	—	1	1
Riding outside omnibus in a fog	1	—	1
Leaving off clothes.. ..	—	1	1
Laundry work .. ..	—	2	2
Steam-heated workshop (paper-staining) .. ..	2	—	2
After miscarriage .. ..	—	1	1
During menstruation .. ..	—	1	1
Trade or occupation of—			
Cigar maker; dissipation also in one case .. ..	2	—	2
Butcher; overwork .. ..	1	—	1
Canedresser; exposure to coke fire	—	1	1
Mill sawyer; nightwork .. ..	1	—	1
Policeman; duty in snowyweather	1	—	1
Tailor; sedentariness .. ..	1	—	1
Smith; hard work .. ..	1	—	1
Servant; “heats and colds” ..	—	1	1
Coming from the country to live in London.. ..	1	3	4
Weakness of constitution .. ..	—	3	3
Contagion .. ..	1	1	2
Rupture of bloodvessel .. ..	—	2	2
Unfavourable accouchement ..	—	2	2
Derangement of catamenia by fright	—	1	1
Marrying too young .. ..	—	1	1
Disappointment in love .. ..	—	1	1
Hardship from bad husband.. ..	—	1	1
Fretting .. ..	—	1	1
Spirit drinking .. ..	1	—	1
Sore throat .. ..	1	—	1
Influenza.. ..	1	—	1
Hooping cough.. ..	1	1	2
Measles .. ..	2	—	2
Scarlatina .. ..	—	1	1
Typhus .. ..	—	1	1
Rheumatic fever .. ..	2	—	2
Gout .. ..	1	—	1
	49	45	94
No cause assigned by .. ..	—	—	42
	—	—	136

I have said, that no case that I considered in the least doubtful as to diagnosis was registered as phthisis. I shall here offer a few remarks on the considerable class of doubtful cases. That there is a stage of phthisis not to be detected by physical signs cannot be doubted; but I believe that physical signs, even when to some extent combined with constitutional symptoms, cannot be always relied on in the diagnosis of incipient phthisis. In the very combination spoken of there is an element sometimes productive of error. As this element appears to have been overlooked, I shall endeavour to illustrate it. I have long observed that the results yielded by the spirometer are not merely influenced by the actual capacity of the lungs for air, but notably also by the state of health and strength of the individual experimented on. Not only is the "vital capacity" impaired by obstructions in the lungs themselves, but a weak man will "blow" less than a strong man, and the meter less when debilitated *by any cause* than when in the hour of health. The respiratory murmur is, in like manner, affected by the same causes, independently of essential changes in the lungs. Let us take, then, the case of a patient suffering from the debilitating but latent influence of either gout, rheumatism, chlorosis, hysteria, or dyspepsia, known to give rise to symptoms closely resembling, or identical with those of, incipient phthisis. Changes in the respiratory murmur result from the accompanying debility, and it is possible that these changes do not always occur in both lungs or in the same degree in both. We know, however, that a difference in the amount of respiratory murmur between the right and the left lung is often in the normal condition, and I have reason to believe that this difference, of itself tending to mislead, is sometimes thus apparently augmented.

Even the results of percussion are not to be implicitly relied on.

It is known that, occasionally, from causes not well explained, percussion under the same clavicle, even within short intervals of time, is found to yield different results. So much for the application of the signs often regarded as conclusive in the early diagnosis of phthisis. Such are some of the sources of fallacy which, besides errors of observation, have induced the present tendency, to attribute, on so large a scale, the cure of phthisis to treatment. An investigation of these sources is the more necessary because the tendency has been evinced by gentlemen whose statements are otherwise above suspicion.

It should be proved, on the most incontrovertible physical evidence, that the organic changes effected by phthisis have fully taken place, before we assert that they have been eradicated. This incontrovertible proof I do not believe to be

always attained, either by sounds differing merely in slight degrees of intensity, or by the results of the spirometer. It need not be regarded as contradictory, however, when I express my belief in the reality of a fair proportion of alleged recoveries from the early stage of phthisis. It may be inferred, *à fortiori*, from the instances of recovery from even the more advanced stages of the disease. Fortunately, the treatment most generally useful in incipient phthisis is that most generally applicable in doubtful cases. With curing them as such, in the present state of knowledge, we should be content.

14, Finsbury-place, South.









