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ON
PHTHISIS
AND THE
SUPPOSED INFLUENCE OF CLIMATE

BEING A

*Fourth Fasciculus of Statistics of Consumption
in this part of Australia*

BY

WILLIAM THOMSON, F.R.C.S. EDIN.

"We must search out the causes after we have collected the facts."

H. A. TAINE.

MELBOURNE :
STILLWELL & KNIGHT, 78 COLLINS STREET EAST.
1877.



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ON PHTHISIS

AND THE

SUPPOSED INFLUENCE OF CLIMATE

WHILE disclaiming all idea of creating fear or alarm, I yet think it a fair act of duty to again point out a notable error of medical theory and practice. After repeatedly demonstrating the now very obvious fact that the climate of Melbourne, and, indeed, what have been finically defined as the "*climates*" of Victoria, afford no immunity from, nor ameliorating power over, phthisis, it would be pitiable to hear a body that ought to occupy an attitude for being deferentially heard when speaking with authority, reiterate by mere dictum views that every impartial critic

of the medical press all over the world, acknowledges to be utterly untenable.

At the meeting of the Medical Society of Victoria, September, 1877, the subject of Phthisis and climate was revived, as will be observed by the appended notice from the *Argus*, with a further intimation that the matter is to be again brought up for debate and official report at another meeting. This is very requisite, because nothing less than irrefutable arguments can justify the very emphatic language.

In *The Argus* of September 6, appeared the following report:—"The Medical Society of
" Victoria held their ordinary monthly meeting
" last night at their rooms in Collins-street,
" east. The president, Dr. M'Millan, occupied
" the chair. Dr. Singleton read a paper 'On
" 'the Influence upon Phthisis in Victoria of
" 'Residence in high altitudes.' In the course
" of his remarks he drew attention to certain
" observations in a recent *Lancet*, in which
" some important misstatements in Mr. W.
" Thomson's last book on *Phthisis in Victoria*
" were given currency to. He thought it the

“duty of the Society to contest these
“disparaging slanders of the colony, for which
“there was no justification—that is to say, that
“there was no sufficient reason for assuming
“that phthisis in Victoria bore any sort of
“proportion to its prevalence in the old
“country. It was afterwards suggested that
“the Society should take up the matter,
“and report officially upon it.”

Again, reverting to the subject, *The Argus* of October 4, 1877, contained the further report:—“The ordinary monthly meeting of
“the Medical Society of Victoria was held
“last night in their rooms, Collins-street east.
“The President (Dr. M'Millan) occupied the
“chair. The discussion was resumed upon
“a paper read at a previous meeting by
“Dr. Singleton, on ‘The Influence upon
“‘Phthisis in Victoria of Residence in high
“‘altitudes.’ The discussion took the some-
“what larger shape of an inquiry into the
“prevalence of phthisis in this colony, as
“compared with its percentage in the old
“country. It was eventually determined to
“submit the investigation of the subject to

“a special committee, consisting of Dr. Singleton, Dr. Jamieson, Dr. Williams, and Mr. Girdlestone, who were desired to bring up a report at a future meeting of the Society.”

It is gratifying to find the Medical Society of Victoria thus resolve to go thoroughly and systematically into an inquiry as to the real bearings of a great question often brought prominently before members of the profession in other countries, who have naturally looked to some authoritative body to act as umpire in a strange conflict of opinion upon a matter apparently easy to determine, but which, when debated in a desultory way, leaves doubt altogether perplexing. The Society having assumed an attitude from which it cannot recede until it deliver an impartial judgment, it behoves every one to aid in the inquiry. To thus facilitate investigation, and bring the question to a final issue, I am enabled to avail myself of the complete statistics carried on to the end of the year 1876, in *The Victorian Year Book*, opportunely now just published. The

details embodied in this volume of facts and figures are as yet unchallenged for accuracy; their fidelity as public records were never impeached, nor their truthfulness impugned. And yet they bring most definite proof of the proposition initiating this discussion some ten or more years ago, with its accompanying prediction, that climate *per se* would be found to have no sort of influence whatever, causative or curative, over phthisis; but that, on the contrary, whenever the special and probably individual conditions of the dread malady came into play, whatever they may be (for they are still unknown), they would be found as active here as in any other part of the world. It will be instructive, for instance, to learn whether to climate, geological formation, immigrant invalids, or factory life, is attributable the rather severe phthisical death-rate in the sparsely peopled district of Ballarat, placed on a lofty plateau over fourteen hundred feet above sea level; or whether on that high land is again found that, "however excellent site, soil, "elevation, and climate may be, all can be

“neutralised;” and perhaps Mr. Haviland may now add of Victoria as of England, that “there probably is no exception to the rule “that, in every district which has a large “in-door industry, the increased mortality of “the work-people is such as to colour the “death-returns of the whole district with a “marked effect of lung disease.”*

It is, therefore, to be hoped that when the Medical Society of Victoria deign to renew the debate, redeem the promise from a wordy vaunt, and vindicate the title of a scientific body, the *State Year Book* may be admitted as valid testimony; and that whatever air of doubt may have been, in words conveying a charge more cogent than the wonted inuendo, thrown on the motive of an opponent, the Statist's public document, here re-printed *verbatim*, to avoid cavilling at quotation, will be held innocent of any deliberate intention of mendaciously maligning the fair colony.

The only additional extract that I shall at present make will be a short one from the *Government Gazette*, for September 21, 1877,

* *Geography of Phthisis*, p. 109.

from which we glean the fact that, in a total number of 453 deaths from all causes, in Melbourne and suburbs, during the month of August of the present year, 1877, 73 were set down to phthisis.

Commenting upon this fact, the Statist remarks, that "seventy-three deaths from "phthisis were recorded in August and 61 in "July. In no two previous months since these "reports were first published in 1860, has so "large a mortality been set down to this com- "plaint."

Now this very heavy mortality occurred during a period of protracted drought, in a singularly mild winter, when the air was not only dry but also the mean temperature nearly a degree above the average, with the barometer indicating the mean atmospheric pressure (30.075 inches) more than a tenth of an inch in excess of the average.

Here, then, were all the atmospheric or climatic conditions usually esteemed benign for phthisis extremely violated.

Nor was this any uncommon occurrence either, as I have already on several pre-

vious occasions indicated, in fatal argument against the "*ought to be*" climatic theory, unless indeed the usually supposed conditions of that theory are in this country reversed.

No wonder is it then to find our Victorian climatologists now fleeing with their craze for light air up to the mountains; although even on the altitudes they will find, as do the Swiss, that if they carry with them to the hills their indoor avocations the inevitable phthisis will still be found among them.

The following are the extracts and explanatory tables from *The Victorian Year Book* referred to:—

"During the twenty-three years and a half which have elapsed since deaths were first registered in Victoria, more deaths have been caused by accidents than by any regular disease. For a number of years, however, prior to 1875, more deaths were set down to phthisis than to accidents or to any other cause. But in 1875 the colony was visited by an epidemic of measles, which caused 1,541

deaths, as against 1,027 from phthisis; and in 1876 by an epidemic of scarlatina, which caused 2,240 deaths, as against 1,010 from phthisis. These are, however, exceptional instances, as such epidemics happily occur but seldom. As, moreover the liability to death from accidents is not now nearly so great as it was formerly, especially in the early days of the goldfields, it may fairly be stated that, taking one year with another, of all the circumstances which cause death, not one is so fatal in Victoria as phthisis.

“The uniform rate at which deaths from phthisis occur in Victoria, in proportion to the population, has been pointed out by me in previous *Year-Books*.* For many years past, this proportion has never been so low as 11, or so high as 13, per 10,000 persons living. During the last eleven years the number of deaths and the death rate from this complaint have been as follows:—

“* See my remarks upon the subject of phthisis in this colony in the *Victorian Year-Book*, 1873, paragraph 320 to paragraph 322; in the *Victorian Year-Book*, 1874, paragraphs 512 and 513; and in the *Victorian Year-Book*, 1875, paragraphs 362 and 363.”

See also *On Phthisis*, p. 44.

DEATHS FROM PHTHISIS, 1866 TO 1876.

Years.	Deaths from Phthisis.	
	Total Number.	Number per 10,000 Persons Living.
1866 - - -	782	12·33
1867 - - -	793	12·20
1868 - - -	746	11·11
1869 - - -	893	12·81
1870 - - -	888	12·51
1871 - - -	841	11·38
1872 - - -	876	11·51
1873 - - -	945	12·11
1874 - - -	1011	12·66
1875 - - -	1027	12·60
1876 - - -	1010	12·16
Total in 11 years	9812	12·13

NOTE.—Deaths registered as occurring from hæmoptysis are included in this table.

“The following table shows the sexes of those who died of phthisis in 1876, their ages, and the length of time they had lived in the Australasian colonies :—

DEATHS FROM PHTHISIS, 1876.—AGE, AND PERIOD OF RESIDENCE IN AUSTRALASIAN COLONIES.
MALES.

Period of Residence in Australasian Colonies.	Age at Death.										Total.
	Under 5 yrs.	5 to 10.	10 to 15.	15 to 25.	25 to 35.	35 to 45.	45 to 55.	55 to 65.	65 to 75.	75 and upwds.	
Under 1 month -	...	...	...	2	3	1	...	...	...	...	6
1 month to 6 months -	...	...	...	5	5	2	1	...	...	...	13
6 months to 12 months -	...	...	...	3	3	...	2	...	...	...	8
1 year to 2 years -	...	...	...	4	8	...	1	...	...	...	13
2 years to 3 " -	...	...	...	3	4	1	...	...	...	...	8
3 " 4 " -	...	...	...	2	3	1	...	...	...	...	6
4 " 5 " -	...	...	...	1	4	2	...	...	...	...	9
5 " 10 " -	...	...	...	1	16	13	4	3	1	...	38
10 " 15 " -	...	...	...	4	17	29	9	1	2	...	62
15 " 20 " -	...	...	...	5	12	37	22	3	1	...	80
20 " 25 " -	...	...	...	3	16	59	59	22	9	...	168
25 " and upwards -	...	...	...	...	5	11	15	26	4	2	63
Not known (not Australians)	...	...	...	1	3	10	6	4	1	...	25
Born here -	9	3	2	51	19	5	...	...	...	...	89
Not known (no information respecting birthplace) -	...	...	1	3	2	3	9	2	...	...	20
Total	9	3	3	88	120	174	130	61	18	2	608

DEATHS FROM PHTHISIS, 1876.—AGE, AND PERIOD OF RESIDENCE IN AUSTRALASIAN COLONIES.
FEMALES.

Period of Residence in Australasian Colonies.	Age at Death.										Total.
	Under 5 yrs.	5 to 10.	10 to 15.	15 to 25.	25 to 35.	35 to 45.	45 to 55.	55 to 65.	65 to 75.	75 and upwds.	
Under 1 month -	...	...	...	...	...	...	...	...	...	...	...
1 month to 6 months -	...	...	...	...	4	...	...	...	...	...	4
6 months to 12 months -	...	...	...	...	...	...	...	...	...	...	...
1 year to 2 years -	...	...	...	2	3	...	...	...	...	...	5
2 years to 3 " -	...	...	...	...	2	1	...	...	...	...	3
3 " 4 " -	...	...	...	1	...	2	...	...	...	...	3
4 " 5 " -	...	...	...	...	...	1	...	1	...	...	4
5 " 10 " -	...	...	...	...	2	...	...	...	...	...	...
10 " 15 " -	...	...	...	5	8	12	...	...	...	...	25
15 " 20 " -	...	...	...	7	18	11	5	2	...	...	43
20 " 25 " -	...	...	...	5	18	19	12	2	2	...	58
25 " and upwards -	...	...	...	6	17	31	25	7	3	...	89
Not known (not Australians)	...	...	...	1	12	14	11	6	1	1	46
Born here *	...	...	...	...	1	1	...	3	...	...	5
Not known (no information respecting birthplace) -	2	5	9	66	15	6	1	...	...	...	104
	...	...	...	1	5	5	1	1	...	...	13
Total -	2	5	9	94	105	103	55	22	6	1	402

* Two of the entries in this line refer to Aboriginal females, one of whom was between 25 and 35, and the other between 35 and 45 years of age.

“It is very commonly contended, not only that the climate of the Australasian colonies is particularly favourable to the cure of phthisis, but that the complaint is rarely, if ever, met with there, except in the case of persons who were affected with it before their arrival. For the sake of phthisical persons in the mother country and elsewhere, many of whom doubtless expect to obtain relief or cure by going to Australia, it is to be regretted that this theory is not borne out by facts, for of those who died of phthisis in Victoria during 1876, as shown by the above table, 20 per cent. were Australians by birth and of the remainder, the probability is greatly in favour of a large proportion having contracted the complaint in these colonies, since 89 per cent. had taken up their abode there for more than five years, and 81 per cent. for more than ten years prior to their death. It is thus evident that no immunity is enjoyed, at any rate by this portion of Australia, in regard to the development of phthisis.

“It is true that the death-rate from this

complaint is not so high in Victoria as it is in England, but there are many reasons why this should be the case, without allowing that the climate and circumstances of the former are any more favourable to consumptive patients than those of the latter; these I fully entered into last year,* when I also showed that, in respect to the mortality from phthisis, it was fairer to compare England and Wales with the district of Melbourne and suburbs, than with the whole of Victoria. In that district the deaths from phthisis, as shown by an average made up from the returns of the last four years, have borne a higher proportion to the mean population of the period than the deaths from phthisis in England and Wales during 1874 bore to the population of that country during the same year. The following are the figures:—

“* See *Victorian Year-Book*, 1875, paragraph 363.”

See also *Second Analysis*, p. 12. And especially *On Phthisis*, p. 52 and p. 45, where this comparison was first made, and the reasons for making it were fully explained.

DEATHS FROM PHTHISIS PER 10,000 PERSONS LIVING.

MELBOURNE AND SUBURBS.		ENGLAND AND WALES.	
Year.	Average.	Year.	Average.
1873	20.51	1874	21.04
1874	22.04		
1875	21.46		
1876	22.46		
Mean -	21.62		

“The table also shows that 86 per cent. of those who died of phthisis in Victoria during 1876 were between 15 and 55 years of age, that 11 per cent. were upwards of 55 years of age, but that only 3 per cent. were under 15 years of age. Of those at the last-mentioned age, all those whose nationality was known were natives of the Australasian colonies.

“It is further shown by the table that 608 of those who died of phthisis in 1876 were males, and 402 were females. These numbers furnish a proportion of 66 females to 100 males. Females in the whole

population were in the proportion of 84 females to 100 males. Thus more males and fewer females died of phthisis than might have been expected from their relative numbers in the population. It is probable, however, that males at the phthisical ages bore a higher proportion to the total number of males living in the colony, than females at those ages bore to the total number of females."*

By comparing the tables giving the age and period of residence in the Australasian colonies of those who died of phthisis, with corresponding tables printed in *The Second Analysis* (page 12) it will be found that now, as before, the vast majority had been upwards of ten years in the colonies, probably about eleven and a half years, or the old average; thus meeting the fallacy about the

* NOTE.—More probably a larger number of males come to the colony in an advanced state of disease only to die; for, while only 4·7 per cent. of females had been under five years in the colony, 10·36 per cent. of males had been the same length of time in it. Perhaps more males than females seek a sanatorium in the colony. Thus, 27 males died under a year's residence, but only 4 females; and the inference agrees with what is known fact in medical practice.

numbers being mainly of patients in the very last stage of the disease sent out here only to die.

It is to be regretted that no table is given in *The Year Book* of the duration of illness; a defect that may be repaired in future publications. At page 8 of *The Third Analysis*, the number of deaths from phthisis of persons born in Australia, among the total number of deaths from phthisis of persons from all nations, was given for the years 1865-74, showing how the proportion gradually rose, year by year, from 5.47 to 15.63 per cent., or trebled in nine years; and the same list on being continued on to the end of 1876, clearly enough shows that the yearly increment is steadily maintained, the ratio having risen to 17.24 per cent. in 1875, and now reached 19.1 per cent. in 1876, or exactly quadrupled in ten years. The exact proportion of these percentages to the numbers living at the same ages cannot be known till next census; but on referring to the table giving the age and period of residence in the Australasian colonies, it will be noted that,

of the numbers who died of phthisis between 15 and 25 years of age, the very great majority were native-born. Fewer were from 25 to 35 years of age, leaving it probable that, as natives of Australia grow into adult life, the proportion of deaths among them from phthisis to the total deaths from that disease will continue gradually increasing. Thus, of 182 deaths at the decennium, 15 to 25, there were 117 native-born, to 65 from all other countries; while, in the later decennium, from 25 to 35, there were only 34 native-born to 191 of all other countries. These various numbers correspond with the age of the colony, few of the native-born inhabitants of which have yet had time to grow into the second decennium, 25 to 35. It must also be borne in mind that this reversal of numbers accompanies cessation of immigration; but with that stoppage of foreign supply, the aggregate annual death-rate from phthisis does not diminish, and it must therefore be compensated by sacrifice of the native element.

DEATHS FROM PHTHISIS IN VICTORIA, 1871-1876.

Return showing the number of Deaths from Phthisis of persons born in the Australian Colonies, and the percentage of the same to the total number of Deaths from that Disease, during each of the four years ended with 1876.

Year.	Total number of Deaths from Phthisis.	Born in Australian Colonies.	
		Number.	Percentage to total number of Deaths.
1865	4,259	233	5.47
1866			
1867			
1868			
1869			
1870*			
1871	841	91	10.82
1872	876	112	12.79
1873	945	147	15.56
1874	1,011	158	15.63
1875	1,027	177	17.24
1876	1,010	193	19.1

* First half of.

Into this intricate part of the vital statistics of the colony the Government Statist has never yet fairly directed attention in any *Year Book*, beyond stating in the last one that 20 per cent. of the deaths from phthisis were of Australians by birth. The only

detailed information upon it yet available is that contained in the brief table prepared for my *Third Analysis* ;* and as that appears to have created great surprise, giving beyond doubt by far the most important fact determined for the future guidance of everybody, it will probably at some future time be more fully elaborated. Upon its revelation will depend a reply to the inquiry whether we are rearing a feeble race, or creating or transmitting a phthisical diathesis or "vulnerability," in defiance of *a priori* deduction of what ought to happen agreeably to theoretical thoughts on climate.

Till then matters must remain in abeyance. All that can now be known are the numbers showing a geometrical increase of deaths from phthisis among native-born Australians ; but whether they merely agree with a like geometrical increase in the numbers of the native-born living can not be denied or affirmed, and futile surmise is vain for either side. But while the numbers are only to be taken *quantum valeat* by sanatarians, thrifty Politicians, who

* See my *Third Analysis*, p. 9.

never pretend with a leer to see the things they do not, hesitate not to declare the lowered marriage rate, lately deplored, to arise from fewer marriageable young folk being about. But, the marriageable age is likewise the prone phthisical age, and with fewer weddings there ought to be fewer burials. Would it were so. The present disturbing movement of people of all ages going over the border leaves it impossible to compute how many remain behind in the colony to furnish the data for calculation, and we must all be content to wait and for three more years curb patiently scientific impetuosity.

From the foregoing list it will be at once observed that the total number of deaths from phthisis has remained nearly stationary for the last three years; but, it will be recollected that, as was before fully explained, a greatly reduced number of adults at the ages predisposed to phthisis were ascertained to be in the colony, nearly 49,000 below that of the previous census, leaving an actual proportion of phthisis largely increased.

For the accuracy of the numbers I am in

no way responsible. But, as every death-certificate must be given by a legally qualified medical man, stating the cause of death and duration of illness; and as the duty of the Statist is merely to enumerate the items so recorded, fabulous returns are simply impossible.

Having now laid the full statistics before the public, along with the few apt remarks which the Statist himself has made explanatory of his figures, I forbear from further comment for the present, leaving the facts as vouched for by an unimpeachable authority to tell their own tale, only trusting that they may be read, collated, and compared with what I have already published on the same important subject.

Continuations have never the charm of novelty, but are apt to be reiterative, argumentative, and dull. Yet they may vindicate where a first essay failed to convince. Had this one been met by fair debate the doubt would have been left untroubled till next census of 1881, when, if spared so long with that measure of health one would wish others

to enjoy, the question might be revived, and finally dealt with as a purely abstract problem, to find probably future, like past predictions verified. But ardent opponents would allow no respite nor quiet, provoking rejoinder, till, though "It was not my choice to impeach, "it became my duty to defend."

