Statistics of consumption in Roxbury : read before the Norfolk District Medical Society of Massachusetts, at the Annual Meeting, May 17th, 1854 / (printed by vote of the Society) ; by B. E. Cotting ; with an appendix.

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OF

CONSUMPTION IN ROXBURY;

By B. E. COTTING, M.D.

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OF

MASSACHUSETTS,

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WITH AN APPENDIX.

BOSTON:
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[CIRCULAR.]

The Norfolk District Medical Society will hold its annual meeting at Dedham, on the Third Wednesday, the 17th, of May next, at the Phœnix House in Dedham, at 11 o'clock, A. M.

There will be no address on the occasion.

There will be a general discussion upon Consumption.

The attention of the fellows is especially requested to the following questions, in respect to this disease.

I.—Is it increasing in a more rapid ratio than the population?
II.—Is there any tendency to its production in some years more than in others?
III.—Is it more prevalent along water courses, or near to mill-ponds that are alternately raised and drained off?
IV.—Has any effect been observed of any other kind of locality?
V.—Is it hereditary, and to what extent?
VI.—Are the children of intemperate parents more liable to it than others?
VII.—Are children who were nursed by consumptive females more predisposed to it?
VIII.—What effect has the free use of alcoholic liquors upon the production of this disease?
IX.—What influence has sex in producing it?
X.—What influence have factory labors or any other employments or trades in producing, or accelerating, or retarding it?
XI.—How far is it influenced by the seasons?
XII.—How far influenced by change of climate?
XIII.—What climate is the most favorable?
XIV.—When is a change of climate most favorable?
XV.—Does sleeping with a tuberculous patient tend to produce it?
XVI.—Is the disease communicable from one to another in any way?
XVII.—What is the best treatment?
XVIII.—What is the effect of cod-liver oil?

By order of the President,

EDWARD JARVIS, *Sec'y.*

Dorchester, April 29, 1854.

N. B.—It is proper to state that the following paper was prepared without a knowledge of the extensive investigations, still progressing, of a respected colleague, and therefore has the value of independent testimony, if nothing more.

B. E. C.

STATISTICS OF CONSUMPTION.

Mr. President, and Gentlemen of the Society;

The circular of the Secretary, containing the questions for discussion at this meeting, was received on the 5th of this month. Acknowledging the right of the Society to the services of its members, and thinking that I could most satisfactorily perform my part by collecting such statistical information as the place of my residence afforded, I offer for your consideration the results of my effort, though they are not so perfect as could be desired.

The bills of mortality in the city of Roxbury have been kept with much accuracy for the last four years. For the previous three years and eight months the records, though respectable, were not so full or so reliable. Before that time they were very imperfect. The tables, therefore, which follow, have been constructed chiefly, and almost necessarily, from the records of the last four years; and the remarks accompanying the tables relate also to this period. No attempt is made to go beyond the record for the sake of giving more general or more extended answers to the several questions than its cases warrant. To have done this would have been a work of supererogation, and defeated the object in view.

Were an apology necessary for the imperfections of this essay, it might with truth be stated that it was compiled literally *inter tædia et labores* —most of it having been written in the later midnight hours, and a large portion at the bedside and during the intervals of ease of expectant patients.

To any who may complain that too long a story has been made of so small a matter, it can only be answered that there was not time to make it shorter.

STATISTICS.

The city of Roxbury originally extended from Boston-Neck to Dedham, a distance of seven miles or more by the Dedham Turnpike which nearly bisected the town; and had an irregular parallelogramic form. It was bounded on the north-eastern side by the tide waters of Back Bay, and South Cove, and by Boston-Neck which is dovetailed into its territory nearly a mile's length and three quarters of a mile's width. On the north-west lay Brookline and Newton; to the south-west, Dedham; and Dorchester extended along its south-eastern line. Its greatest length was about eight miles; its narrowest width not far from two miles. Its area was about ten thousand and six hundred acres.

In the spring of 1851, the city was divided, and about three quarters of its territory set off to constitute the new town of West Roxbury.

It is to the present city of Roxbury that our investigations will chiefly relate; though from the impossibility of making a separation in all cases we must sometimes take the statistics of the two places together. This, however, will not materially alter the numbers, nor have any very sensible effect on the results deduced from them.

The city of Roxbury now contains about thirty-five hundred acres, of which eight hundred are marsh lands, unoccupied except on their borders. On the twelve hundred acres adjoining the marshes and running from the marshes inland, it has been calculated that there are from twelve to thirteen hundred houses. It should be stated, however, that many of these houses are huddled together, and contain an excessively-crowded population. Nearly the whole city, exclusive of the eight hundred acres of salt marshes, may be generally considered as high ground. The church of the first Parish stands about seventy feet, and the highest point of the Highlands is about one hundred and twenty-five feet, above high-water mark. The surface is very uneven; the soil rocky, but under a high state of cultivation. Two brooks girt its northern and southern boundaries; and two pass through its central portion—one of which turns a grist mill, and is bordered by many manufacturing establishments.

By the United States' census of 1850, the population of the city was 18,373; of which West Roxbury contained about 3000. That of the whole county was 79,000.

At the present time the city of Roxbury is estimated to contain more than twice as many inhabitants as the largest of the other twenty-two towns in the county, and nearly a quarter of its whole population.

I.—"*Is consumption increasing in a more rapid ratio than the population?*"

The average *annual increase* in the population of Roxbury from 1845 to 1850, as shown by the census taken in those years, was 875 a year, or 62½ for every thousand inhabitants.

From the best estimates that can be formed, from rolls and other documents kept since 1850, it is inferred by those most conversant with these matters, that the average annual increase from 1850 to 1854 was from 1000 to 1100 a year. If we assume the larger number, the increase was at the rate of 60; but if we accept the former, which is probably more correct, the rate was only 54½ for every thousand inhabitants.

The *births* averaged 572 a year from 1845 to 1850, or about 41 for every thousand inhabitants; and from 1850 to 1854 they averaged 687 a year, or about 37½ for every thousand inhabitants.

The *deaths* from all causes, for the three years and eight months from May 1st, 1846, to Jan. 1st, 1850, averaged 403 a year, or 28½ for every thousand inhabitants; and for the four years from 1850 to 1854, they averaged 338 a year, or 18½ for every thousand inhabitants.

The *deaths from consumption* from May, 1846, to Jan. 1850, averaged 64 a year, or 4½ for every thousand inhabitants, and 1 in 6.289 of all deaths. During the last four years, from 1850 to 1854, the deaths from consumption have again averaged 64 a year, or 3½ for every thousand inhabitants; and 1 in 5.264 of the deaths from all causes.

These statements may be condensed into the following tables.

Years.	Whole increase in a year.	Increase for every 1000 Inhabitants.	Births. Yearly Average.	Births for every 1000 inhabitants.
1845—1850	875	62½	572	41
1850—1854	1000	54½	687	37½

Years.	Deaths. Yearly average from all causes.	Deaths for every 1000 Inhabitants.	Consumption. Average yearly deaths.	Ratio to the deaths from all causes.	Consumption. Deaths for every 1000 inhabitants.
1845—1850	403	28½	64	1 in 6.289	4.590
1850—1854	338	18½	64	1 in 5.264	3.493

During the ten years from 1840 to 1850, the population of Roxbury doubled, having been 9089 by the census of the former, and 18,373 by that of the latter year. Such a rate of increase could not be expected to continue, and the following tables show that it has not. In the last four years it has fallen from 62½ to 54½ for every thousand inhabitants.

Now the deaths from consumption, to have followed the same rate of decrease, should have fallen from 4.590 to 3.920, but they actually fell to 3.493, in every thousand inhabitants. This is a gain of .427.

But if we compare the proportion of deaths from consumption to that of births for every thousand inhabitants, we find that instead of being 4.116 it is 3.493, or a loss of .623 ; or if to that of the deaths from all causes, we find that instead of being 2.421 it is 3.493, or a loss of 1.072.

Moreover, the deaths from consumption from 1845 to 1850 were 1 in every 6.289 ; and, from 1850 to 1854, have increased to 1 in every 5.264 of the deaths from all causes.

So that we may conclude that in Roxbury consumption, during the periods passed in review, has not increased in quite so rapid a ratio as the population ; but that it has much increased in proportion to the number of deaths from all causes.

II.—"*Is there any tendency to its production in some years more than in others?*"

The following table exhibits the whole number of *deaths* yearly from all causes, and from consumption alone, from May 1st, 1846, to Jan. 1st, 1854.

Years.	Whole number.	Average.	From Consumption.	Average.
May 1st, 1846, to May 1st, 1847	236		43	
" 1847, to " 1848	376		60	
" 1848, to " 1849	564		87	
" 1849, to Jan. 1st, 1850	302		45	
Jan. 1st, 1850, to " 1851	333	361	59	64
" 1851, to " 1852	375		73	
" 1852, to " 1853	297		74	
" 1853, to " 1854	348		51	

The smallest number from all causes was 236 in 1846–7
The smallest number from consumption, 43 " "
The largest number from all causes was 564 " 1848–9
The largest number from consumption, 87 " "

According to the above table, consumption seems to have followed the laws which influenced disease and death in this community ; since in the year of fewest deaths from all causes we find the fewest from consumption, and in the year of greatest mortality from all causes we find the largest number from consumption also.

In the year 1848–9, when dysentery alone caused seventy-five deaths, and when many were left enfeebled from ship fever and dysentery, which together had carried off one hundred in the year previous, we find the number of deaths from consumption to be 87, or 23 over the yearly average from this cause. And in other subsequent years, when deaths from consumption seem to have exceeded their usual proportion to those from all causes, it may hereafter appear that those who thus fell victims

were such as might have been expected to succumb to this, or to any disease.

Hence we may infer that those causes which ordinarily reduce the general health of a community, and epidemics, though usually supposed to swallow up other diseases, have had, for the place and time we are considering, a direct tendency to the production of consumption.

III.—"*Is it more prevalent along water courses or near to mill-ponds that are alternately raised and drained off?*"

We have been at some considerable pains-taking to mark, on a plan of the city, the localities of the deaths from consumption for the last four years; and have thus with tolerable accuracy indicated as many as could be ascertained, or 208 out of 257 the whole number.

By reference to this plan, it appears that along the only fresh water *mill-pond* (that near Lowell st.) which is alternately raised and drained off, and where is often left exposed a large muddy surface, and on whose margins, with those of its inlet, are the principal low grounds bordering on fresh water, there have been but *three* deaths from consumption during the past four years; and these, so far as can be ascertained, originating clearly from causes not connected with the locality. Along the ridge of land between the full and empty basins of salt water of the "Boston Mill Company," in that part within the limits of Roxbury, but *two* deaths from consumption have been recorded during the same time.

IV.—"*Has any effect been observed of any other kind of locality?*"

On the borders of the marsh land, and the ridges immediately adjoining, there have been many deaths; but in these localities the population is most dense and of the most destitute classes. And even here the native population and the best and most comfortably housed of the foreigners seem to be as exempt from consumption as in other localities.

In such neighborhoods, from the comparative cheapness of land, the new emigrants erect their miserable tenements, and fill them to overflowing with such as either desire or are able to procure no better abodes. Crowded apartments (sometimes ten or a dozen persons, frequently half that number occupying for all purposes a room, say, fifteen feet square); filthiness to an incredible degree in person and raiment; coarse and ill-cooked food, eaten in ravenous haste; intolerably oppressive and offensive atmospheres; excessive use of tobacco, and perhaps other bad habits; all these are prevalent among the denizens of such places, and are in a

common-sense view of the matter as likely to be productive of disease, even the disease in question, as the resting of their habitations on low and damp foundations.*

This view seems to be sustained in the following tables, constructed for the purpose of throwing some light on these points.

Descent of those Dead from all Diseases.

Year.	Roxbury Born.	Other Americans.	Foreign Immigrants.	Total.
1850—51	145	93	95	333
1851—52	139	115	121	375
1852—53	118	96	83	297
1853—54	161	96	91	348

Descent of those Dead from Consumption.

Year.	Roxbury Born.	Other Americans.	Foreign Immigrants.	Total.
1850—51	11	21	27	59
1851—52	10	29	34	73
1852—53	12	25	37	74
1853—54	6	21	24	51

According to the State Census, taken in 1850, the proportion of Americans to foreigners and children of foreign parents, in the five lower wards, now constituting the city of Roxbury, was as follows:

	Americans.	Children of Foreign Parents.	Foreigners.	Total.
	8347	1921	4882	15150

Thus it is evident that while the proportion of immigrant foreigners to Americans and the children born here of foreign parents, is as 48 to 102,

* Since the above went to press, through the kindness of Drs. Harris and Weld, of Jamaica Plain, I have been furnished with a transcript from the Church Records of sixty-seven cases of death from consumption, which occurred in that Parish (embracing the middle third part of the area of the original city of Roxbury), from Feb. 7, 1793, to Jan. 7, 1847—a period of fifty-four years. These cases I have carefully examined and classed as follows.

Deaths from Consumption at Jamaica Plain, from 1793 *to* 1847.

High and Dry Ground.	High near Low Ground.	Low Ground.	Salt Marsh.	Came in Last Stages.	Location not known.	Total.
26	12	4	1	10	14	67

Of these cases, twenty-six occurred on high and dry ground; twelve on high land, within an eighth or a quarter of a mile of a meadow, brook or pond; four on low grounds; one near a narrow strip of salt marsh which touches the Parish at one of its corners; ten came into the place in the last stages of the disease; and the locations of fourteen are not stated, and are not now known. Ten of the dead are spoken of in the records as having been of consumptive families; of which four were on high ground, two near low, two on low, and two on locations not stated.

or less than one third, and while the deaths from all causes to the immigrants amount to only one in three or four of the whole number; nearly, and in some instances quite, half of all the deaths from consumption occur amongst the immigrants.

Furthermore, it may be seen by the following table that the number of those who died from consumption, and who were known to have dwelt on low, wet, or made lands where many of the immigrant population reside, amount to 78 out of 257, or a little less than one third—while those who died of consumption on high and dry lands, amount to 170, or two thirds of the whole number.

Localities of the Deaths from Consumption.

Year.	High.	Low.	Not known.	Total.
1850—51	33	11	15	59
1851—52	31	25	17	73
1852—53	42	23	9	74
1853—54	24	19	8	51
1850—1854	170	78	49	257

V.—"*Is it hereditary, and to what extent?*"

There is great difficulty in ascertaining satisfactorily the health and habits of the parents of those who are recorded to have died of consumption. The following table exhibits the results of an effort for this end. It is necessarily imperfect, although all the cases recorded were examined in this regard.

Year.	Father Consumptive.	Mother Consumptive.	Both Consumptive.	Total.
1850—51	2	1		3
1851—52		3	1	4
1852—53	2	1	1	4
1853—54	2	1		3
1850—1854	6	6	2	14

The Irish immigrants, amongst whom the largest proportion of the deaths from consumption have occurred, generally represent their parentage to have been healthy, and many point to the presence of their "old folks" in proof of these assertions. The general impressions of those conversant with this class also confirm this statement.

The record of one American family is rather remarkable. In May, 1851, the father died of consumption, aged 40 years. The next September an infant son, aged six months, died of the same disease. In

January following (1852), the mother, aged 38 years, died of consumption also. And on the 25th of the same month another son, 3 1-2 years of age, died, of what is recorded "scrofula," but which the relatives say resembled, so far as they could judge, the disease of the parents. Of this family there remained three girls and one boy; the oldest 18 years, in appearance a remarkably healthy and robust young woman; and the youngest, 5 years, in poor health, but improving. The remaining girl and boy are apparently healthy. One grandfather died of colic, suddenly—a grandmother and an aunt, of consumption.

VI.—"*Are the children of intemperate parents more liable to it than others?*"

Although all the cases were subjected to inquiry on this point, the following table exhibits all that could be ascertained respecting the habits of the subjects themselves or of their parents, so far as regards intemperance:—

Year.	Grandfather, Father & Mother Intemperate.	Father Intemperate.	Mother and herself Intemperate.	Intemperate themselves. Males.	Females.	TOTAL. 19
1850—51	1			4	1	6
1851—52				4	1	5
1852—53				4		4
1853—54		1	1	2		4

VII.—"*Are children who were nursed by consumptive females more predisposed to it?*"

Very little information can be obtained from the records respecting the fate of the children of consumptive parents. A few instances can be cited where the children who have been nursed by consumptive mothers have become plump and healthy, to the great exhaustion and more rapid sinking of the parent. With regard to some others who have been transferred to the care of healthy wet nurses, the change has not been sufficient to restore health or to prolong their existence for any considerable period.

VIII.—"*What effect has the free use of alcoholic liquors upon the production of this disease?*"

In a community where tubercle exists in so large a portion of those who die of other diseases, it will always remain a very difficult question to determine whether the free use of alcohol tends to produce, or actually produces, tubercles in any instance.

The impression, however, prevails to a considerable extent, among the best-informed and observant physicians, that when tubercles have once

become developed, the free—not the excessive—use of ardent spirits, particularly of the coarser kinds, has a decided influence in arresting or retarding the progress of the disease.

One or two, perhaps three, instances apparently sustaining this view occurred among the subjects of our observations.

IX.—"*What influence has sex in producing it?*"

The comparative frequency of consumption in the two sexes may be seen in the following table.

SEX.				MARRIED OR SINGLE.			
Year.	Males.	Females.	Total. Males and Females.	Married. Males.	Married. Females.	Not Married.	Total.
1850—51	27	32	59	5	21	33	59
1851—52	29	44	73	21	20	32	73
1852—53	36	38	74	18	26	30	74
1853—54	19	32	51	10	20	21	51
1850—1854	111	146	257	54	87	116	257
				141			

The influence of *age*, always an interesting point of investigation, has not been overlooked in our cases. The following table exhibits the results of our inquiries on this head.

Year.	Under 10	10—20	20—30	30—40	40—50	50—60	60—70	70—80	80—90	Total.
1850—51	4	5	19	13	10	5	2	1		59
1851—52	7	6	23	14	8	5	7	2	1	73
1852—53	4	7	22	18	9	7	5	2		74
1853—54	4	5	12	18	9	2			1	51
1850—1854	19	23	76	63	36	19	14	5	2	257

It will be observed from this table that one hundred and thirty-nine of all who died of consumption, or eleven more than half the whole number, were between the ages of twenty and forty years.

X.—"*What influence have factory labors or any other employments or trades in producing, accelerating or retarding it?*"

Of the males there were—laborers 42, "gentlemen" 7, mechanics 7, farmers, clerks, curriers, shoemakers, 3 each. Inn-holders, tailors, soap-makers, brewers, 2 each. Morocco dresser, candle-maker, blacksmith, stone-cutter, turner, painter, plasterer, carver, cabinet-maker, carpenter, gardener, messenger, clergyman, ship-master, merchant, trader, ice dealer, hostler, 1 each. But nothing definite or satisfactory could be ascertained

as to the effect of these employments, in producing, accelerating or retarding the disease; especially without a knowledge of the whole number engaged in the several vocations.

XI.—"*How far is it influenced by the seasons?*"

How far the cases under examination were influenced by the seasons, may be gathered from the following tables:—

Year.	Jan.		Feb.		March.		April.		May.		June.		Totals for Six Months.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
1850—51	1	1	2	1	3	3	1		1	8	4	3	12	16
1851—52	4	3	3	1	1	5	1	2	3	7	2	4	14	22
1852—53	3	6	5	2	5	2	2	3	4	3	2	1	21	17
1853—54	1	3		3	1	3	2	3	2	3	2	3	8	18
	9	13	10	7	10	13	6	8	10	21	10	11	55	73
1850—1854	22		17		23		14		31		21		128	

Year.	July.		Aug.		Sept.		Oct.		Nov.		Dec.		Totals for Six Months.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
1850—51	4	3	2	2	3	3	2	3	3	1	1	4	15	16
1851—52	1	4	1	2	1	5	3	2	4	6	5	3	15	22
1852—53	2	4	3	4	1	5	2	2	4	3	3	3	15	21
1853—54	1	1	2	3	3	2		1	3	3	2	4	11	14
	8	12	8	11	8	15	7	8	14	13	11	14	56	73
1850—1854	20		19		23		15		27		25		129	

Whole number—males 111, females 146; total 257.

The greatest number of deaths from consumption occurred in the month of May; and the smallest in April and October.

If we take the years by quarters, the following results appear:—

Year.	1st Quarter.	2d Quarter.	3d Quarter.	4th Quarter.	Total.
1850—51	11	17	17	14	59
1851—52	17	19	14	23	73
1852—53	23	15	19	17	74
1853—54	11	15	12	13	51
1850—1854	62	66	62	67	257

Thus the number of deaths in the first and third quarters is exactly alike, amounting to 62; and that in the second and fourth nearly so,

amounting to 66 and 67 respectively. In the winter months, from October 1st to April 1st, there occurred 129 deaths; while in the *summer* months, from April 1st to October 1st, there were 128.

We may infer, therefore, that on the whole, consumptive patients have less to fear from any particular season than has been generally supposed either by the community or by physicians. In the table, the month of the greatest mortality immediately follows that of the least. This meeting of two extremes is probably owing to accidental circumstances affecting these cases, rather than to any great difference between the months of April and May as to their effect upon consumption.

XII.—"*How far influenced by change of climate?*"

A reference to the tables (page 8) will show that nearly half the deaths from consumption occurred among foreign immigrants; and that more than half of the remainder were among Americans, not natives, but only residents of Roxbury. Hence we may infer that, in these cases, neither the removal from another country to this, nor from another section to this part of our own country, has had any beneficial influence. On the contrary, migration seems to have been prejudicial, and to have increased the tendency in the masses to consumption as well as to other diseases.

Nor have we from these cases any assurances that a change of climate has been of decided benefit to individuals. Some of them sought relief within the tropics; some westward; some northward, into New Hampshire and Canada. But they all failed in obtaining the desired end, and some, after privations whose recital makes even the stranger's heart to ache, have expired far from country, kindred and home.

XIII.—"*What climate is the most favorable?*"

The history of these few individuals, in respect to change of climate, is but a repetition of that of all persons, in all times, who, when affected with consumption, have sought relief and safety in foreign lands. Every year brings accounts of some new and peculiarly-favored locality; and every year brings, also, statistics proving that any boasted exemption will not bear the test of careful investigation. From the East Indies and the West, from "the isles of the ocean" and those of the Mediterranean, from western prairies and from Italian skies, we hear the same story of the universal existence, prevalence, and inexorable progress of pulmonary consumption.

XIV.—" *When is a change of climate most favorable ?*"

To the foregoing remarks it need only be added that a change of climate appears to be most favorable when little or no disease exists ; or at least before it has so far advanced as to injure materially the general health. When the fatigues, annoyances, and even the hardships of travel can be borne with impunity and without repining ; when the comforts and attendants of home can be transported also ; then, and perhaps then only, will a change of climate in itself be most favorable. If physically or pecuniarily unable to secure all this, no change of climate yet known can with any certainty be promised as an equivalent for the labors, dangers and sufferings incident to a distant removal.

XV.—" *Does sleeping with a tuberculous patient tend to produce it ?*"

It is not easy to obtain reliable facts in answer to this question. A name on the records brings to mind a case, which may be cited as more perfect in details and more pertinent than any other now remembered.

A young woman, born in Ireland, from infancy lived and slept with her mother until ten years of age, at which time the mother died of consumption after four years' illness. She then took care of, and slept with, a younger child, for two years more, until its death from " wasting palsy," as it was called, or tuberculosis according to the description. A year subsequently the father died of fever, after a short illness. She had the fever, with some others of the family. A year later, when 14 years old, she went out to service. At 19, she left Ireland for America with an elder sister, who had gone to service before the mother became sick, and had never returned home. After living at service, together and apart, in various places, the elder sister sickened in Roxbury in the fall of 1850, and shortly after the subject of our story, being then about 26 years of age, went to take care of her. The sister was sick of consumption about two years. During this time the sisters lived together, and for more than a year and a quarter occupied for all purposes the same room, a small ill-ventilated apartment, and slept together in the same bed. The neighbors supplied them at times with food and other necessaries. For the last four months an additional room was obtained for them, but they had only one bed. In general appearance, neatness, cleanliness, &c., they surpassed the average of their country people. The elder sister died in November, 1852.

Since her sister's death, the younger has served as a nursery maid, a situation for which she is well qualified. She is well-formed, of medium size, and has a very slightly scrofuloid aspect. She has had no illness

since, except a mild inflammation of one of the wrists, which has not quite departed. A thorough examination of her chest, while writing this account, gives no indication whatever of tubercular or other disease of the lungs. She assures us that she has never had anything of the kind.

XVI.—"*Is the disease communicable from one to another in any way?*"

The records fail us on this point. As far as can be ascertained, the circumstances generally relied on to prove a disease communicable or really infectious, are wanting, or so equivocal in these cases that any deduction from them would be unsafe.

XVII.—"*What is the best treatment?*"

There is probably no fact in medicine more thoroughly established than the occasional suspension of actual tubercular development, and even the perfect cicatrization of the diseased surfaces after the softening process has supervened. That such instances are more common than is generally credited, is also very probable. We occasionally meet with them in our limited experience; and morbid anatomists make frequent mention of their occurrence. Rokitansky, the celebrated pathologist of Vienna, asserts, without qualification, that "tuberculous pulmonary consumption is unquestionably *curable*, as we may infer from the appearances not unfrequently observed in the dead bodies of persons who formerly had more or less thoracic affections, and subsequently recovered."—Vol. IV., p. 116.

The question of treatment, therefore, is not always what will best smooth the downward passage to the grave, but what course will be most probably followed by recovery or a prolongation of life.

It should be borne in mind that there are possibly two forms of tubercle (the gray and the yellow, "interstitial granulations and infiltrated tubercle"), having different origins, different methods of development, and distinct sites or points of departure. The former has its location in the parenchyma of the lungs; the latter in the cavities of the air-cells. The one in its development has a greater affinity to an inflammatory process; the other to a specific affection. This distinction, the history, external characteristics, and symptoms (both physical and rational), may sometimes differentially indicate, but not always. Indeed, the mooted question of the specific or inflammatory origin of tubercle, though less bruited than formerly, has not yet been decided. The former now finds

one of its most able advocates in the celebrated Hassè of Zurich; while Rokitansky strongly inclines to maintain the latter—at least in the yellow variety. On this point he is quoted with apparent approval by Paget, in a work which surpasses anything of its kind since the days of John Hunter. Moreover, the doctrine of the inflammatory origin of tubercle has a most able advocate in our distinguished New-England pathologist, who "has long been disposed to consider it a form of inflammation"; and who goes a step farther in saying, "that all the forms of tubercular disease of the lungs are essentially the same."

Bearing these hints in mind, the best treatment will be that, which on the one hand tends to build up and strengthen, while on the other it least promotes any supposed inflammatory action that may be at the foundation, or in connection with the disease. Leaving the various and daily exigencies of the sufferer to be as tenderly dealt with as the best judgment of the rational practitioner will permit of, and merely intimating that medicinal agents should be very sparingly used until their actual value has been more accurately ascertained—the more important considerations may be briefly alluded to.

Clothing, food and exercise, the great essentials in any prophylactic or remedial treatment, must receive the chief attention. *Clothing*—warm, woolen, and to an amount rarely worn in this region, summer as well as winter; *food*—generous, nutritious, including meat from fatted animals, and not unfrequently stimulants; *exercise*—in the open air, both active and passive, *every* day, wet or dry, in storm or shine, winter or summer. The winds and storms, if sufficiently guarded against by abundant and suitable clothing (even the much-abused east winds), can be more safely encountered than physicians have always been willing to admit. There is seldom a day throughout the year when, if suitable for the well, it may not be better for consumptives, at least in the incipient stages of disease, to take the air, than to remain within doors.

The efforts of the profession heretofore seem to have exhausted themselves in the almost hopeless endeavor to discover some specific, which should destroy the diseased action considered in itself *sui generis*; but should it turn out, as later microscopic investigations strongly indicate, that the disease has no such character, all future labors in that direction will necessarily be abandoned.

Multitudes have suffered and died from consumption; and multitudes are following daily, and to follow. But not all the agonies of the disease, and they are neither few nor small, have exceeded those, self-imposed or commanded, with advice or against advice, which have arisen

from the swallowing of "poor compounds," of any of which one would think might truly be said—

"If you had the strength
Of twenty men, it would despatch you straight."

Some of the more useless and more repulsive are now just going out of fashion—to be replaced, it is to be hoped, by others of at least equal virtues and milder characteristics.

XVIII.—"*What is the effect of cod-liver oil?*"

Nothing is more difficult than to form a just estimate of the real value of any given medical agent—a truism which it would be hazardous to repeat, did not medical teachers constantly promulgate, and medical journals (domestic and foreign) daily teem with scores of cases "cured" by favorite drugs; cases, too, wherein so many means have been resorted to, so many medicines administered, that, were it not for the general heading under which the alleged triumphant result is announced, it would be difficult if not impossible for an impartial examiner to indicate which of the articles used was supposed to be the actual restorative, or to have specially conduced to the recovery. Doubtless there are many phenomena, noticed by the attentive observer at the bed-side, indicative of the good or other effects of the medicines used, which cannot be made to appear in the spoken or the written word; still it is but too evident that in a very large proportion of such reported cases, a single element, and that perhaps an unimportant one, has been allowed to reap the entire credit of the successful issue. The history of the rise and fall in public and professional estimation of many of the drugs enumerated in our catalogues, would form an interesting subject for a chapter, were that our purpose. Suffice it to say, that neither the number and weight of the names in approbation, nor the alleged remedial or even chemical antagonism to the disease in question, nor an array of minutely-described and well-certified cases in attestation, have been able to prevent the drugs of one day and generation from falling into discredit and disuse in another, and perhaps within the next lustrum.

When, after many years of oblivion as a medical agent, the cod-liver oil, which had been used to the extent of nearly a hogshead a year in one of the provincial hospitals, was again, in 1840, brought to the notice of the English faculty by a translation of Dr. Taufflied's wonderful cases, the translator added that "it is difficult to procure the oil in England"! The same journals which announced these cases to the American public, also brought assurances from high authorities that con-

sumption, in its incipient and even in its later stages when cavities already existed, could be cured by inhalations of conium and iodine ; could be prevented by the eating of ferruginous bread ; could be averted by malarious atmospheres ; " a perfect recovery made at the end of a few months, after the disease had gone so far that there was distinct cavernous rattle with pectoriloquy, muco-purulent and purulent expectoration streaked with blood, great emaciation, hectic fever, &c. ; chloride of sodium having been given uninterruptedly for sixty days ;" and I know not how many other similar statements. At the time alluded to, and for a few years subsequently, it was not a difficult thing to obtain *pure* cod-liver oil in this neighborhood, but it was very difficult indeed to persuade patients to swallow the nauseous draught. We had faithfully tried to administer the article in the hope of obtaining in some humble measure the success of Dr. Taufflied, but had nearly abandoned the attempt in despair, when the " mighty engine of the press," guided by the enterprise of dealers, began to arouse the people to a livelier sense of the affirmed virtues of the *oleum jecoris aselli.* Thick as autumnal leaves, by the wayside and on the threshold, fell the indubitable testimonials. Soon a whole army of invalids sought relief by consuming vast quantities of the promulgated remedy ; and before long it became quite as difficult to administer it rationally, or to prevent its being taken at all hazards, as it had previously been to induce patients to take it at all. Whether as great sales continue to be made as heretofore, it is not in our power to say ; but the quantity taken in this vicinity is apparently much lessened, and still on the decrease.

If we now have recourse to the records of the four years we have previously been considering, they afford us no definite conclusions on this question ; and it is with much diffidence that we advance our own individual experience. Of the fifty-two of these cases which came under our own observation and treatment, not one can now be cited in which cod-liver oil was not taken at some period of the disease. In many instances it was taken at the patient's own option, or by the advice of friends, before any professional opinion was sought for. The amount taken ranged from a few ounces, to gallons ; and the time of its continuance, from a few days, to many months. All manner of experiences were ascribed to the effects of the oil by the patients themselves, and an impartial discrimination was often very difficult. The oils used were the best that could be obtained, and generally taken unmixed. In some instances phosphate of lime was added, or other substances to render the draught more palatable. A very few patients had no objection to its

use, or became indifferent to it; but to most it was from the first unpleasant in any form, and became, after a while, intolerably disgusting.

In some cases it seemed to be assimilated, and to furnish a deposit of fat and corporeal volume, greatly to the encouragement of the patient; but in the larger portion it deranged the digestive organs, created nausea and impaired the appetite. A few seemed to thrive under its administration; but an exploration of the lungs showed that the amendment was only apparent and partial. In this respect it did not differ from other articles employed in the course of the disease, nor were the changes different from such as sometimes spontaneously occur in patients who abstain from all drugs. So far as a truly impartial endeavor could discern, its only useful purpose was as an article of food in the few cases where any benefit seemed to be clearly derived from it. In no single instance could an absolute arrest of the disease, for even a limited time, be unmistakably attributed to the effects of the oil. Nor can we now, among the numbers of the living who are known to have consumed quantities of the oil, point out a solitary case of undoubted tuberculosis "cured" by the use of it. Moreover, a strong argument for its uselessness as a remedy to prevent the development of consumption may be found in the fact that the ratio of deaths from that disease to the whole number from all causes among us, where more oil has been taken than perhaps in any other locality, has increased during the period of the greatest devouring of the oil, from 1 in 6.289 to 1 in 5.264.

In concluding our remarks on this question, we cannot forbear quoting the language of a well-known authority, published some years since on the alleged efficacy in consumption of another much-vaunted drug. With the single exception in the last sentence of the imputation which we would unequivocally disclaim, we could hardly imagine fitter words for the article now under consideration. It is merely necessary to change the name of the medicine there spoken of to cod-liver oil, and the application is complete;

Mutato nomine, de te
Fabula narratur.

"We may be allowed to state, that in common with many others we have endeavored to form an independent opinion of the merits of *cod-liver oil*, and, moreover, have been at some pains to obtain *the* cod-liver oil. The result of a very considerable number of trials is this—that in advanced cases of phthisis it has not the slightest effect in retarding the progress of the disease, or even in mitigating any of the symptoms. In some few instances, it appears to impart a fictitious feeling of improve-

ment for the first few days, in this respect operating as a simple stimulant; but in the majority it is borne with difficulty, exciting nausea, vomiting, or a feeling of gastrodynia. In some cases of incipient phthisis we at first were inclined to anticipate benefit, but the lapse of a few weeks or months invariably dissipated our hopes. In cases of chronic bronchitis, and in catarrhs of relaxed habits, in which stimulant expectorants might be expected to be beneficial, it has certain advantages, and these we are constrained to believe are the forms of disease which have been either ignorantly or designedly called phthisis in many of the reputed cures of that malady."

APPENDIX.*

The examination of the statistics of consumption in Roxbury naturally led to a comparison of that city with other places, more or less remote, whose bills of mortality were readily accessible.

Taking three years for which there are full official returns, we have compiled the following table:—

Deaths for three years—1850, '51 *and* '52.

Place.	Whole Numbers.	From Consumption.	Proportion.
Boston,	11,258	1,936	1 in 5.809
Roxbury,	1,105	206	1 in 5.364
Norfolk County,	3,908	812	1 in 4.859
do. without Roxbury,	2,803	606	1 in 4.625
State of Mass.	55,361	11,664	1 in 4.823
do. without Boston,	44,103	9,728	1 in 4.533

This table shows that in Boston, as compared with Roxbury, during these three years, there was a slight excess in the proportion of deaths from consumption to the deaths from all causes; while in Roxbury during the same period there has been a decided improvement shown in a similar comparison with Norfolk County, and the State, either taken as a whole or after deducting the city of Boston.

Whether these facts ought to modify in any degree the general notion that the sea-board, with its execrated east winds, has a greater tendency to produce consumption than the interior country, we leave to others to decide.

While Boston has thus enjoyed a greater proportionate freedom from deaths from consumption than its rural suburbs, or the rest of the State, the deaths from consumption within its own limits have latterly considerably increased.

For the period of ten years, from 1830 to 1840, the proportion of deaths from consumption in Boston was less than for any similar period before or since, being 1 in 7.587. A comparison of Boston with New York and Philadelphia, cities farther south, was also favorable to Boston. In Philadelphia and New York, the proportions for the same period were severally 1 in 5.952 and one in 7.482.

The following tables were constructed from official documents, for the purpose of showing the increase in Boston and Roxbury; and for a comparison of these cities with other cities and places generally supposed to enjoy a much greater exemption from consumption.

* From a paper read before the Boston Society for Medical Improvement, by B. E. Cotting, M.D., Associate Member of the Society.

Deaths in Roxbury, Mass.

Years.	Whole Number.	From Consumption.	Proportion.
May. Jan. 1846—1850	1,478	235	1 in 6.289
Jan. Jan. 1850—1854	1,353	257	1 in 5.264

Deaths in Boston, Mass.

Years.	Whole Number.	From Consumption.	Proportion.
1810—1820	8,741	1,896	1 in 4.622
1820—1830	12,379	2,046	1 in 6.050
1830—1840	17,406	2,396	1 in 7.587
1840—1850	30,717	4,381	1 in 7.011
Jan. Jan. 1850—1854	11,875	2,089	1 in 5.684

Deaths in New York City.

Years.	Whole Number.	From Consumption.	Proportion.
1810—1820	27,080	6,061	1 in 4.451
1820—1830	45,552	8,010	1 in 5.686
1830—1840	79,853	13,415	1 in 5.952
1840—1850	130,618	16,896	1 in 7.730
Jan. Jan. 1850—1854	66,327	7,600	1 in 8.727

Deaths in Philadelphia, Pa.

Years.	Whole Number.	From Consumption.	Proportion.
1810—1820	23,582	3,629	1 in 6.498
1820—1830	37,114	5,522	1 in 6.721
1830—1840	52,900	7,070	1 in 7.482
1840—1850	68,386	9,463	1 in 7.226
Jan. Jan. 1850—1854	27,196*	3,309*	1 in 8.220

* Trans. Col. Phys., Phil., 1854.

Deaths in Washington, D. C.

Years.	Whole Number.	From Consumption.	Proportion.
1849—1850	828	94	1 in 8.810
1850—1851	866	110	1 in 7.872
1851—1852	914	121	1 in 7.553
1852—1853	1,003	110	1 in 9.118
1853—1854	1,115	145	1 in 7.682
1849—1854	4,726	580	1 in 8.148

Deaths in Charleston, S. C.

Years.	Whole Number.	From Consumption.	Proportion.
1830—1840	7,663	968	1 in 7.916
1840—1850	6,645	963	1 in 6.645
1851	922	120	1 in 7.683

Deaths in the State of Kentucky.

Years.	Whole Number.	From Consumption.	Proportion.
1852	10,411	957	1 in 10.878

Deaths in Memphis, Tenn.

Years.	Whole Number.	From Consumption.	Proportion.
1852	594	57	1 in 10.421
1853	376	49	1 in 7.673

Deaths in New Orleans, La.

Years.	Whole Number.	From Consumption.	Proportion.
1850–51	8,086	681	1 in 11.668

These tables show that, for the periods last mentioned therein, the proportion of deaths from consumption to the deaths from all causes has increased in Roxbury and Boston, and that New York has steadily improved in this respect; from having the greatest proportion, 1 in 4.451 during the period from 1810 to 1820, it had from 1851 to 1854 only 1 in 8.727.

It is evident, also, that Philadelphia, Charleston, and other southern and western places, have had, for certain periods, a larger proportion of deaths from consumption, than even Boston or Roxbury. If, however, we take several years together, especially if they include some in which peculiar epidemics of these sections may have prevailed to swell the "grand total" of deaths, the average proportion is less than for the northern cities. If a ratio prevails between these cities and the country around them similar to that which exists between Boston and its vicinity, any one may judge of the expediency of removing thither to avert or to arrest consumption.

The amount of consumption exhibited in these tables for Philadelphia, Washington, Charleston, Kentucky, Memphis and New Orleans, may surprise some who have been led to consider these and similar locations as almost exempt from that disease. What becomes of the frequent boast that no consumption exists there except in those from the North who sought relief, or went to die, in such more favored climes! especially when in many of these places a very large proportion of the deaths occur in that season of the year when, if our northern people do not fly from the South, they certainly never visit it for health.

The tables also show that the amount of consumption is constantly varying—being affected by causes yet undiscovered, and perhaps undiscoverable. If while the disease is on the decrease for a few years, we ascribe this result to the especial efficacy of any peculiar sanitary measures, or the general use of any drug, a few years more will very probably show the folly of such conclusions. Since reading our paper before the Norfolk Society, we have seen an attempt to prove that a supposed recent decrease of consumption in Philadelphia was due to the use in that city of the cod-liver oil. By a singular coincidence, we had in that essay made use of the increase of the disease in this neighborhood as an argument to show the uselessness of that agent. We see no cause as yet to change our argument or opinion. According to tables published in Philadelphia, ten years ago the proportion of deaths from consumption there was less than that of the last year. Six and seven years ago the proportion was less than for the last two years. And the actual number of deaths from this cause has increased quite uniformly for the last forty years—the last year having the largest number. The disease has been on the increase in Boston during the great employment of the oil. There was a decrease from 1830 to 1840, before its introduction. Therefore if there has been a similar improvement recently in any other city, it cannot of course follow that such is the consequence of the use of cod-liver oil. If there has been no improvement, the article has been useless.

Statistics could be adduced without great difficulty to show that consumption is more generally distributed over every country and climate than has been, and perhaps is now, generally believed. It is not our purpose, however, at the present time to enter upon the discussion of this topic. Our remarks have already extended too far, and should be brought to a close.

We are aware that to draw general conclusions from observations over limited portions of space and time, as well as from other partial premises, is a very common error. We shall therefore only venture to express the opinion that the causes of consumption are infinitely various, that the disease may arise wherever any vice exists in the individual system, originating from ancestry, external circumstances, or internal derangements—from any cause, in short, which depresses the system below a natural, healthy or normal standard, despite of, or in conjunction with, the influences emanating from the locality. The peculiar condition of the soil beneath, of the air above, the prevalence of vapors, or the absence of them, may seem at one time greatly to influence the disease; but in another and different period they appear to have no effect whatever upon it. No place which is now exempt, or for a few years past has been comparatively free from this disease, can boast of its exemption with any certainty that the boast, even as it passes the lips, may not prove empty and in vain.

In the present state of our knowledge, consumption appears to be a method designed to remove those whose mortal bodies have, from whatever cause, fallen below the normal condition: and, as such, however much it may be ameliorated, is not likely ever to be extinguished while the same nature is continued to the human race.