BANKRUPTCY.

An Analysis of the Bankruptcies in England and Wales, gazetted in each Month of the Quarter ended March 31, 1844; *showing the Counties and Branches of Industry in which they have occurred.*
(*Continued from p.* 96.)

COUNTIES.	January.	February.	March.
Metropolis	23	27	28
Bedford	..	1	..
Berks	..	1	2
Bucks	..	..	..
Cambridge	..	..	..
Chester	..	1	1
Cornwall	..	1	..
Cumberland	..	..	2
Derby	..	..	1
Devon	..	2	..
Dorset	..	..	..
Durham	1	3	2
Essex	5	1	2
Gloucester	2	..	1
Hants	4	2	4
Hereford	..	..	..
Hertford	1	2	1
Huntingdon	..	..	..
Kent	1	1	2
Lancaster	8	7	15
Leicester	1	..	..
Lincoln	..	1	..
Middlesex (exclusive of the Metropolis)	2	1	..
Monmouth	..	..	..
Norfolk	1	..	1
Northampton	3	..	1
Northumberland	4	4	4
Nottingham	2	2	2
Oxford	1	1	1
Rutland	..	..	..
Salop	1	..	2
Somerset (including Bristol)	2	3	2
Stafford	3	3	2
Suffolk	..	2	1
Surrey (exclusive of the Metropolis)	1	..	1
Sussex	..	..	2
Warwick	1	6	4
Westmoreland	..	..	..
Wilts	..	1	..
Worcester	1	1	1
York (East Riding)	..	..	1
,, (North Riding)	..	1	..
,, (West Riding)	2	5	6
Wales	4	1	4
Total	75	81	96

TRADES.	January.	February.	March.
Agriculture and connected Trades.			
Farmers	..	..	..
Agricultural Implement Makers and Wheelwrights	..	..	..
Corn Factors	..	..	..
Millers and Malsters	3	4	1
Hop Merchants	..	..	..
Brewers	..	..	1
Horse and Cattle Dealers, and Woolstaplers	..	..	1
Mining and connected Trades.			
Mining Firms	..	..	..
Blasting Works	..	..	..
Manufactures.			
Woollen Manufactures	1	2	2
Cotton ,,	2	..	1
Linen ,,	1	1	..
Silk ,,	..	..	1
Printers and Dyers	..	..	..
Lace Manufacturers	..	..	..
Hosiery ,,	1	..	..
Hardware ,,	1	..	1
Earthenware ,,	..	..	..
Glass ,,	..	..	..
Paper ,,	..	..	2
Builders	2	2	3
Miscellaneous Manufactures	8	5	13
Commerce.			
Bankers and Merchants	2	3	5
Shipowners, Warehousemen, Brokers, and Wholesale Dealers generally	13	11	15
Retail and Handicraft Trades.			
Bakers	1	2	..
Butchers	..	3	1
Corn and Hay Dealers	1	..	1
Innkeepers and Victuallers	7	6	8
Dealers in Grocery, Drugs, and Spices	2	5	6
Makers of, and Dealers in, Clothing	8	5	9
Makers of, and Dealers in, Furniture	3	2	4
Coach Builders	..	..	..
Miscellaneous	19	30	21
Total	75	81	96

QUARTERLY JOURNAL

OF THE

STATISTICAL SOCIETY OF LONDON.

SEPTEMBER, 1844.

Contributions to Vital Statistics, obtained by means of a Pneumatic Apparatus for valuing the Respiratory Powers with relation to Health. By John Hutchinson, Esq., Surgeon, F.S.S.

[*Read before the Statistical Society of London, June 17th*, 1844.]

If in the present day there is one subject pre-eminently engaging the public mind, it appears to be, the best means of preserving the public health. And if any one among the various divisions of that subject can be ranked before another on the score of utility, it should seem to be, that regarding the effects produced on individual health by particular occupations.

The earliest original contribution to this branch of knowledge which has come under my notice, is that by Ramazzini, of Padua, published in English in 1705, and which much redounds to the credit of the author. The only other book of which I am aware, is that written in the present time by our countryman Thackrah, whose labour in this cause has far surpassed that of all others. Many journals have bestowed praise on this author, but it appears to me they have all come short of the commendation which is due to his industry and accuracy.

It is generally the custom to estimate the healthiness of a trade by the mortality among the individuals employed in it; but, however correct this system may be, it is an expensive method of coming to the conclusion; since, in this way, we do not count the effect of a certain trade upon health until so many per cent. *have* fallen victims to it. Deducting from these a given number of cases as uncertain, this *fatal* list is still of little value until compared with other fatal lists. The object of the present paper is to make known some researches, the result of which induces me to venture a new method of determining the effect of trades upon health, by ascertaining the *presence* of disease, and the extent of deterioration in the health of a living individual.

The pathologist, in the present day, not only weighs and measures the dead subject as a whole, but carefully weighs every internal organ, and often ascertains the cubic measurement of the heart also, that he may inform himself as to the seat of disease. Here we see that *measurement* is made one of his guides in thus inquiring into the seat of disease; for after he has determined by numerous observations the natural weight or dimensions of an organ, he justly concludes that all similar organs, if differing from this standard, differ so on account of disease. Such is the grand harmony of our structure, that proportion and symmetry are as much displayed amidst the internal organs as in the external form.

And again, the physician, when inquiring into the state of his patient,

desires to know whether the natural secreting organs are acting in excess or in deficiency, and upon this he grounds his opinion as to the healthiness of the particular organs. Every organ, then, has its appropriate action, which cannot be altered to any material amount without the presence of disease; and surely this argument applies with some force to an organ whose action is of such vital importance that its suspension for a very brief period terminates our life. I mean, the "*respiratory functions*," the investigation of the different states of which in various conditions of life forms the subject of the present paper.

With the instruments I have constructed, and which are now before the Society, I have measured the *volume* of air that a man can force out of his chest, together with his *power* of inspiration and expiration; these observations I have connected with the state of his health, because I find this to vary according to his volume and power of expiration and inspiration.

Simple as this method appears to be, it is extraordinary that up to this time very few have been the physical experiments made upon the lungs, so as to determine with any accuracy even their absolute capacity; and we are perfectly ignorant as to how much air is necessary for our well-being; nevertheless, this knowledge is perfectly accessible, and the present observations will assist in forming that chain of inquiry.

Physiologists generally divide respiration into three or four different stages, and these again will admit of numerous subdivisions.

My object has been, first of all, to determine *what quantity of air we are able to expel from the lungs by the greatest voluntary effort* we are capable of exercising. Owing to the various terms used to designate the different divisions of respiration, I have found it difficult to separate this division from the chaos of physical experiments hitherto made upon the lungs. And what I have gathered from them is of little value, not being connected with any other observations upon the human frame. Another object of my inquiry has been, to determine the *power* of the *inspiratory* and *expiratory* muscles; so that observations upon the *volume* of the lungs, and the *power* of these two classes of muscles, form the foundation of the present research, combined with certain external measurements.

I may here mention that, for brevity's sake, I have used the term "*capacity*" to signify that quantity of air which an individual can force out of his chest by the greatest voluntary expiration, after the greatest voluntary inspiration.

With these introductory remarks, I now proceed to the matter of this paper.

One thousand one hundred and fifty-one individuals, of different occupations, have been carefully examined; and, by Table C, now suspended before the Society, the various classes, also the numbers composing those classes, are thus arranged:—

TABLE C.

Sailors	121	Pressmen	30
Fire Brigade	82	Compositors	43
Police, Metropolitan	144	Draymen	20
Police, Thames	76	Gentlemen	98
Paupers	129	Diseased cases	60
Mixed Class (Artisans)	162	Miscellaneous cases	13
First Battalion Grenadier Guards	87		
Royal Horse Guards (Blue)	59	Total	1,151
Pugilists, &c.	24		
Anomalous cases	3		

I must here pause a moment to express my thanks to certain gentlemen, who with the greatest liberality and politeness have rendered me every assistance in their power to obtain these cases, and any other facility I might require towards my object: viz., Mr. Farr; Dr. Balfour; Surgeon-Major Johnston, and Assistant Surgeon Mr. Hurthwaite, of the first battalion Grenadier Guards; Mr. Gulliver, of the Royal Horse Guards; Mr. Fisher, for the police force; Dr. Boyd, for the paupers in the Mary-le-bone infirmary; Captain Bazalgette, for the sailors; Mr. Braidwood, who twice summoned his whole brigade force for my examination; Mr. Taylor, for the printers; Dr. Taylor and Dr. Williams for the diseased cases; also to Mr. Tibson; and last, though not least, for the liberal assistance of Mr. Brent, whose acquaintance with the physical proportions of man I believe to surpass that of all other men in Europe.

Each of these 1151 individuals was submitted to the observations given in Table B, here suspended, viz.:—

Number of cubic inches given by a full expiration.
Power of inspiration.
Power of expiration.
Height.
} Height.

Circumference of the chest over the nipples.
Weight.
Pulse.
Number of respirations per minute.
Age.
Temperature of the air expired into the receiver.

The detailed accounts of these observations upon this multitude are given in full in the MS. table, where it will be seen that upwards of 10,000 facts have been gathered together.

Each individual breathed three times into the machine, because, either from timidity or inexperience, the first observation was frequently not a correct experiment, but by three observations it is possible to ascertain the point exactly. But if more observations than three be made at the same time, the number of cubic inches of air will, from fatigue, be found to decrease. Moreover, so constant is the quantity of air in the lungs, that I have frequently examined men 18 months or two years afterwards, and have never found a variation exceeding two cubic inches: and although I have blown into this instrument not less than 2000 times, I cannot exceed 247 cubic inches at 60°. The operator in a little time becomes so well acquainted with the process of taking an observation, that he can readily tell when the individual under examination has done his utmost, and also determine the correctness of the experiment. The time required to pass a person through the whole of these observations, is three minutes.

A minute description of the mechanical construction of the two principal instruments, I have already read before the Society of Arts (29th May); therefore I will not detain the present meeting upon this branch of the subject; different sections of the instruments are represented by diagrams here exhibited, and may be referred to if required. Yet I may briefly state that the three observations, viz., those of the capacity, power of inspiration, and power of expiration, are determined by two instru-

ments;—the *capacity* by the large brass machine, now before the Society; the *power* of the two classes of muscles by the other instrument on the right. The breathing machine is principally constructed as an ordinary gasometer, one vessel inverted within the other; the outer cylinder contains water, the inner receives the breath, by which it is elevated, assisted by counterbalance weights. This receiver is graduated into cubic inches; therefore to whatever height the receiver is raised by the breath, the cubic inches are determined. Fig. 1* is a front section of this instrument with the receiver partly elevated. Fig. 2 is a ground plan of the same. Figures 4 and 5 are lateral sections of the same. The instrument for valuing the respiratory power is represented by Fig. 6; the resistance is a column of mercury in a tube which, upon being elevated or depressed, moves the index on the dial, which is divided into inches and tenths, with certain words differing in meaning, fixed opposite certain figures, their position having been determined by 1200 experiments. The words and figures are given on Table A; on the left side are the figures for *inspiratory* power; on the right those for *expiratory* power.

Power of Inspiratory Muscles. Inches.		Power of Expiratory Muscles. Inches.
1·5	Weak	2·0
2·0	Ordinary	2·5
2·5	Strong	3·5
3·5	Very Strong	4·5
4·5	Remarkable	5·8
5·5	Very Remarkable	7·0
6·0	Extraordinary	8·5
7·0	Very Extraordinary	10·0

It will be observed that the power of expiration is nearly one third *stronger* than that of inspiration. This power is taken by the nostrils; I first used the mouth; but the tongue and cheeks possessing a strength six or seven times greater than that of the true inspiratory muscles, and the difficulty of separating these two powers, compelled me to make all the experiments by the nostrils.

The *order* of taking the observations enumerated on Table B was as follows. The hand of the person to be examined was placed over the abdomen, in the sitting posture; the pulse was numbered, and also the respirations per minute; this twofold operation was kept secret from the individual, or the number of his respirations would have been modified. I next took his height, weight, and circumference of his chest; then three forced and full expirations were made into the spirometer; and, lastly, his power of inspiration and of expiration was tested. I cannot here give time to explain how errors may be detected; they sometimes arise from simple mistake; sometimes from an intention to deceive; but with a little skill on the part of the operator, *no* deception can be successfully practised. When the two experiments, upon the inspiratory and expiratory muscles, are properly made, there is a peculiar look in the eyes and over the whole countenance. There is not the least danger to be apprehended in this operation. I have found nothing injurious occur, out of 1200 persons submitted to this test, including the diseased cases.

The whole matter of the present research may be divided into the

* All the "*Figures*" thus referred to, are coloured diagrams exhibited before the Society, but not here introduced.

consideration, first of the healthy cases, and secondly of the diseased cases.

It will be self-evident that until a healthy standard be determined, I have no means of detecting by measurement the inroads made upon the organs by disease: therefore I have collected as many classes of men as possible, and submitted them carefully to the test of these instruments; and I believe that I have made experiments enough to point out what is the *healthy standard*, and hence to deduce what may be considered as an indication of disease.

My first object was, to discover whether any relation existed between this capacity of the lungs, inspiratory and expiratory power, and any other external and physical sign; therefore I submitted the whole number of subjects to all the observations enumerated in Table B (page 195), and to my gratification I *did discover* a relation *intimately existing* between this capacity and power, and the *height* of the individual, as I have indicated by the bracket on that table. I shall demonstrate most clearly to this Society, that so uniform is this relation, that if I be allowed to take a man's height, I can tell what the capacity of his lungs, and his inspiratory and expiratory powers, should be, to constitute him a healthy individual.

Therefore, as height can with ease be definitely determined, and is less changeable than any other of the physical observations taken, we have at *all* times a simple method of ascertaining the presence of disease, first in the chest, and secondly in the head and abdomen, or trunk, of the body.

These two tables, C and B, admit of numerous interesting calculations, many of which have been gone through, and remarks will be made upon them as may be required.

The first *grand point* I wish *especially* to draw attention to, is the capacity of the lungs of what may be considered healthy individuals. Let us turn to Diag. 1, where I have drawn fourteen perpendicular lines, which are to indicate different heights: the first line on the left is to indicate all heights up to and including 5 feet: the second line includes all FROM 5 feet to and including 5 feet 1 inch; the next, FROM 5 feet 1 inch to and including 5 feet 2 inches; and so on, increasing inch by inch, up to 6 feet; all above 6 feet come under 6 feet +. The horizontal line or curve indicates the capacity or quantity of air that 1088 individuals manifested by this "breath-meter," the difference of quantity being denoted by the elevation or depression of this curve, as it passes over the perpendicular lines. The number of cases examined under each height is given in the bottom row of figures, a point most necessary to be acquainted with, as that stamps the value of the curve as it passes over the lines for indicating heights. The row of figures above this, are the number of cubic inches obtained from the mean of so many cases as are marked in the bottom row of figures: thus, under the height 5 feet 8 inches, 172 persons have blown, and the *mean* of these men will be seen as 220 cubic inches: 32 of these men out of 172 were below 200 cubic inches, the rest above; so that I expect every man between 5 feet 7 inches and 5 feet 8 inches, if healthy, to blow out of his lungs *about* 220 cubic inches of air at 60°; but if he cannot throw out of his lungs *more* than 185 cubic inches, I should most decidedly suspect disease to be present; and again, if a 6 foot man,

whose capacity is marked as 255 cubic inches, could only blow 200 or 220, the healthy mark for the 5 foot 8 man, I should in like manner suspect disease. The exceptions to be made, are for *very stout* and *corpulent* individuals, whose capacity I find to stand the lowest. Very fat men of any stature, therefore, may blow 40 or 50 cubic inches less than the mean, and yet not be diseased in the chest. It simply requires more observations upon the corpulent than I have had an opportunity of making, to determine their capacity. So beautifully regular is the increasing capacity with the height, that the curve on Diag. 1 is nearly a perfect ascending line; and I have no doubt that if I had examined twice the number, the line would have been elevated in a perfect arithmetical progression. In confirmation of this, I will call the attention of the Society to the following table, *singularly gratifying* to me, and which I feel fully to reward my labour in working out this subject.

The three columns of figures exhibit the relation between height and "*capacity*." The first column contains the various heights between 5 feet and 6 feet; the second column, the series of cubic inches derived from observation under each height; and the third column, the series of cubic inches in arithmetical progression: thus—

Heights.				Series derived from Observation.	Series in Arithmetical Progression.
		Mean.			
Ft.	In.	Ft.	In.	Cubic Inches.	Cubic Inches.
5	0	5	1	175·0	174·
5	2				
5	2	5	3	188·5	190·
5	4				
5	4	5	5	206·	206·
5	6				
5	6	5	7	222·	222·
5	8				
5	8	5	9	237·5	238·
5	10				
5	10	5	11	254·5	254·
6	0				

Hence I deduce a rule, viz. that "FOR EVERY INCH OF HEIGHT (FROM 5 FEET TO 6) 8 ADDITIONAL CUBIC INCHES OF AIR AT 60° ARE GIVEN OUT BY A FORCED EXPIRATION." Here at once is a guide for the operator, and a rule given that will enable us to compare men of different stature and different trades one with another, which may be done by referring to a table (I., page 207), where the mean capacity from whence I deduced this rule will be seen, and any comparison among thirteen classes of men may be made. In the preceding table, the similarity is remarkable between the second and third columns: if we mark out the unit figures in each, the numbers become, with one exception only, quite the same; and where this exception occurs, viz. at 5 feet 3 inches, 188·5 instead of 190, the number of persons here examined are so few compared with the numbers examined under the heights following, that this may account for the trifling difference here apparent.

The mechanical act of respiration depends essentially upon increasing the cavity of the thorax; this is accomplished principally by flattening

the arched floor of the chest (the diaphragm). It is attempted to illustrate this by Fig. 7.* C is the space allotted to the organs of respiration; the black outline is to represent the chest filled to its maximum with air after the deepest inspiration; the black line E may be considered as the floor or diaphragm; the inner and red line is to represent the chest after a forced and full expiration has been made, when, it will be observed, the arch of the diaphragm E is considerably increased, and the red line G is considerably depressed. Thus we may liken the act of respiration to the operation of a pair of common bellows. It follows, that the space existing between the red and black line, marked B B, is measured by the spirometer; hence it is certain that whatsoever disease impedes this mobility of the walls and floor of the chest, the amount of impediment will be manifested by this machine; moreover, it is *self-evident*, that as the lungs are the sole receptacle for the air we breathe, whatever disease there may be which affects their permeability for air, it will be manifested by the spirometer; and I believe that *no* disease can be detected in the chest that will not be found attended by a change in the bulk of air in the lungs.

If this be granted, how important is it to examine the *capacity*, as an *adjunct* to the other means of *detecting* disease amidst these vital organs.

I will now draw attention to the observations I have made upon diseased cases, which confirm me in this last assertion. On Diag. 1, I compare the diseased with the healthy cases. The upper line is the same as already noticed, to which is affixed the word "*good*:" the lower line contains the diseased cases. The difference between the two classes is very marked, and must forcibly impress us that this method of detection deserves the most attentive consideration.

I am sorry that the number of diseased cases is so small: but this even speaks more favourably for the distinction between the healthy and diseased cases; for had there been more cases, the curved line would have been much less curved; whereas, with few cases, *one* disturbing observation is clearly seen. We here see that the mean capacity of the diseased scarcely exceeds one half of that of the healthy, if it be so much.

The full particulars of the diseased cases have been taken down in the table of observations; amongst which there will be seen 20 cases of consumption in various stages. There are 12 cases in the earliest stage of this disease. I shall here give the capacity of these as observed, compared with the mean of the healthy cases of the same stature.

Early Stage of Consumption.

Capacity of Diseased. Cubic Inches.	Capacity of Healthy. Cubic Inches.
113	220
105	173
128	220
100	193
100	204
136	229
115	173
130	204
120	229
140	246
110	220
135	204

* Exhibited before the Society.

In the more advanced stage of the disease, the difference is much more considerable: thus,—

Advanced Stage of Consumption.

Capacity of Diseased. Cubic Inches.	Capacity of Healthy. Cubic Inches.
59	135
89	224
108	254
72	135
80	229
75	254
34·5	246
18	183

It is truly interesting to remark the broad difference here exhibited.

Not only does disease in the chest limit the natural capacity; but also an enlargement of any of the visceral organs, acting so as to prevent the arch of the diaphragm freely alternating in its curve. A moderate meal reduces the "capacity" from 4 to 6 cubic inches, and a plentiful dinner from 9 to 14 inches, according to the powers of the individual at table. The capacity of those who suffer from curvature of the spine is most remarkably small. One person was so low as 27 cubic inches, being the utmost quantity he could throw out of his chest by one full expiration.

The greatest capacity I have ever observed was that of Freeman and Randall, both measuring upwards of 6 feet 11½ inches. Freeman's capacity was 432 cubic inches, and Randall's 464 cubic inches. The lowest healthy capacity I have examined is that of Robertson, height 3 feet 9 inches, being 80 cubic inches. And it is worthy of mention that when, by arithmetical process, we reduce the capacity of Randall the giant in exact proportion to the difference of bulk between him and Robertson the dwarf, we bring it down to 79·56 cubic inches, which is *within* half an inch of the actual quantity blown by the latter.

The capacity of all the classes examined may be compared by referring to a table here suspended. (See Table I., p. 207.)

The relation between the capacity of the lungs and circumference of the chest appears as yet so feeble, that it is no guide to me.

I have combined this calculation of circumference and capacity, which will be seen amongst the other tables handed round; where it may be observed, that the mean of 11 men of 5 feet 8 inches, whose chests measure 35 inches in circumference, has a capacity of 235 cubic inches; while that of 10 men of the same height, whose chests are 38 inches, is only 226, being 9 cubic inches less. I may here mention, that it was in consequence of so often witnessing tall, narrow-chested men blowing so much more than broad-chested men, that I was induced to combine the height of the individual with the capacity. The only parallel remark I have seen in physiological writers upon respiration is that by Müller, who says (1st ed., vol. i., page 294)—"Herbst found that adults of large stature, when breathing tranquilly, inspired and expired from 20 to 25 cubic inches; persons of smaller stature 16 or 18 cubic inches."

I must now pass on to the other *grand* series of observations, upon the "*power*" of the inspiratory and expiratory muscles of the healthy in different classes, and of the diseased.

By the power of inspiration and expiration, I mean the greatest

effort that can be employed by all those muscles used in performing that function; and it will be found that if this observation be connected with the "*capacity*," we possess a *sure method* of detecting disease in the most important part of the human frame. The instrument with the dial face is that with which the observations have been made.

The resistance afforded to test these muscles was that of mercury; and according to the inches elevated by the respiratory muscles, in proportion was the index hand moved opposite certain figures, by which figures I denominate a certain power either of inspiration or expiration, so that, according to the value of the figure, such is the relative power required to elevate the index to that figure. Hence the resistance is perfectly the same, whether we draw out of or blow into this tube, and *must* therefore measure the relative difference between inspiration and expiration. By a comparison of these efforts in different classes, I estimate the health of men employed in different trades, as will be shown. Certain words are affixed to these figures, as exhibited on Table A. (page 196); the figures on the right side denote the powers of inspiration; those on the left, those of expiration. It will be observed that the figures on the right are much higher than those on the left, because the power of *expiration* is greater than the power of *inspiration*: thus a "*remarkable*" inspiration is rated at 4·5 inches, while the corresponding expiration is 5·8 inches. These words are engraved on the dial, and are so fixed according to the result of 1100 observations. Diag. 2 is given to illustrate, upon the same principle as Diag. 1, the *power* of inspiration of 13 different classes; the perpendicular lines indicate the gradation of heights from 5 feet to 6 feet. The direction of the black curve marks the power of these 13 different classes; it will be seen to ascend gradually up to 5 feet 9 inches, from thence as gradually to descend; therefore the power of all these classes is greatest at 5 feet 9 inches. This line must not be taken as the true line of health. The line which I mark immediately above it is the one I term the "standard of health," because this dotted line is calculated from four classes of men, selected by surgeons as healthy, viz. Firemen, Metropolitan Police, Thames Police, and Royal Horse Guards (Blue).* In this standard line, the men of 5 feet 7 inches elevate 3·07 inches of mercury; and those of 5 feet 8 inches, 2·96 (nearly 3 inches); whereas in the black line, the course of the mixed multitude, the men of 5 feet 7 inches and 5 feet 8 inches elevate only 2·65; and the 5 feet 9 inches men, 2·75. This depression of the black curve is in consequence of the weakness of the paupers, the gentlemen, the mixed class, and the printers, being here included. According to the dotted line, the most powerful men are found at the height of between 5 feet 7 inches and 5 feet 8 inches.

For the convenience of the members present, I have reduced the height between 5 feet and 6 feet into four divisions, with the powers of inspiration and expiration of all the 13 classes, so that any combination of comparison between the different bodies of men may be made. (For the complete table see page 208.) The conclusion to be drawn as to inspiratory power is, that a man of 5 feet 7 inches or 5 feet 8 inches, if healthy, should elevate 3 inches of mercury. The gentlemen, we may observe, stand very much below this mark, at only 2·15 inches; so

* Their powers are given in Table II. (p. 208–9), as the "mean of four healthiest classes."

that I am compelled to call a gentleman a *tolerably good* gentleman of the middle stature, who can elevate 2·5 inches by his inspiratory muscles; but it is curious to remark, that at 5 feet 9 inches, 5 feet 10 inches, and 5 feet 11 inches, they stand better than the Thames police, and nearly as good as the fire brigade—the two best classes of men which have been submitted to this test. It will be seen that in this table the Grenadier Guards stand very high between 5 feet 3 inches and 5 feet 6 inches; but it must be observed, there are only four examined under this height; and the fact of their being *fifers*, whose vocation is the constant use of the respiratory muscles, causes this class to stand high at this particular height.

Let us now turn to Diag. 2, where the expiratory power is compared with the inspiratory power. The upper black curve is the expiratory power of the 13 classes; the broken highest line is the expiratory power of the four healthiest classes. There will be seen a vast difference between these two classes of muscles, which must be interesting to the physiologist. Here is exhibited the result of upwards of 1000 cases, which demonstrate that expiration is about one-third stronger than inspiration. And moreover, I confidently affirm that wherever the expiratory muscles are not stronger than the inspiratory muscles, disease is the cause of such variation.

The test upon the expiratory muscles peculiarly tries the abdomina viscera. I have frequently detected hernia (rupture) by this means: but where persons have a hernia, well supported by a truss, and have no *fear*, they may pass detection; this, however, has seldom occurred during the observations I have made. I have often detected those who are subject to severe head-aches and fits by these means, and frequently rupture of the drum of the ear. It is also worthy of remark, that I have found rupture of the drum of the ear manifested only in one direction; hence the expiratory force may detect it, and not the inspiratory; or the contrary may occur. Sometimes the rupture is detected by both experiments, but this is rare. I mentioned this fact to Mr. Gulliver, who said it perfectly corresponded with what he was induced to believe through other means.

I may cite a case in point, of a strong drayman, whose power of expiration naturally was manifested at ·55 of an inch; but when, at my request, he stopped his ears with his fingers, his expiratory power was increased to 5·50 inches; while his inspiratory power in both cases, *i. e.* with his ears open or shut, remained at 3·70. When I thus found his *expiratory* power nearly 10 times less than his *inspiratory*, it was evident that something was disordered.

This, together with other facts, may be seen upon referring to the manuscript table of diseased cases, which I here hand round to the members.

The crossed line at the termination of the expiratory curve (Diag. 2.) marks the direction the cases would take were the Horse Guards omitted. These men being enlisted under the superintendence of Mr. Gulliver, the curve exhibits the skill of selection, mounting considerably at its termination. Had I not examined this regiment, I should, from past experience, have considered 6 feet men much weaker; I do not believe any other regiment of 6 feet men to possess such power. The inspiratory power of twelve 6 feet men in the first battalion Grenadier Guards

was only 1·92 inches, while that of 31 of the same height of the Blues was 2·71 inches.

I am induced to believe that the test upon the inspiratory muscles is a sure guide to the state of a man's health. The expiratory muscles, owing to a man's vocation, may be trained to an enormous extent, as I noticed in the fifers. I have remarked the same in jewellers, who use the blow-pipe much. Therefore, when a man's occupation is such as to call these muscles much into use, we must rate his expiratory power at a higher figure. I shall show this shortly by the tables here suspended.

We have seen the *capacity* of the lungs in the healthy and diseased cases compared; now I will exhibit, by Diag. 3, the like comparison of the *inspiratory power* between the same.

The upper line to which is affixed the word *good*, is the same noticed as the lower broken line in Diag. 2; the lower black line is the curve of the diseased. The weakness induced by disease in the trunk of the body is here as *broadly* indicated as that of the capacity, being about one-half: had the cases been more numerous, this curve would have been more regular, and I believe lower than it appears at present; therefore the few cases test the comparison the better. When we combine the capacity and power together, there is a certain harmony which must pervade the three observations, *provided* the individual is *healthy*. Hence, I venture to say, the instruments for estimating *capacity* and *power* will clearly test the presence of disease.

I shall now pass on to exhibit the effect of occupations upon the inspiratory power: as I believe the inspiratory power to indicate the state of the general health, the comparison will be interesting; and if it be found to agree with what other observers have mentioned, this will prove its correctness also.

Diag. 4 shows the comparison of four classes—the pugilists, the Thames police, the paupers, and the gentlemen. The black continuous line at the bottom is the path of the gentlemen; the next above, that of the paupers it will be seen, these two classes struggle in company up to 5 feet 9 inches, from which point that of the gentlemen rapidly ascends.

The waved line represents the Thames police, a remarkably fine class of men. The sudden fall, observed at 5 feet 10 inches, and 5 feet 11 inches, is owing to the comparatively small number examined at this height. A slight cold in the head (as it is termed) of one individual, may have occasioned this.

Above all these are the pugilists, without exception the finest class of men I have examined: in fact we may consider each man of this class as a series of men; for we know not how many fall down the ladder of their fame, before they arrive at that step where I examined these. I may mention, it was not a little difficult for me to examine these people; since the correctness of the observation depends upon the air passage in the nostrils being free, and I have not unfrequently found that passage impeded by the consequences of their professional *engagements*: I therefore had recourse to testing with the mouth, a method always liable to error, from the power of the cheeks and tongue interfering.

According to the elevation of these lines I estimate the vital powers.

I here exhibit a similar table of comparison between the standard line

of health, and that of the paupers. How far poor-house diet may be connected with this lowering of the line, I must leave for others to determine. Age, doubtless, must be taken into account; but, it appears to me, not until after fifty.

In Diag. 5, I compare three very unhealthy classes with the standard line. The continuous line at the bottom, represents the compositors, the very *worst* men I have examined; they even stand below the paupers, except at the heights of 5 feet 8 inches and 5 feet 9 inches. The broken line are the pressmen, a better class of men altogether, with the exception of one dip between 5 feet 8 inches and 5 feet 9 inches, but this was caused by one solitary instance, and that was at the height of 5 feet 9 inches. Nearly between these two classes will be seen the waved line indicating the course of the artizans, a very poor set of men. The double line is the standard line, above all.

Numerous other comparisons of the inspiratory powers may be made between different classes, by referring to the table (II. p. 208). I shall now pass on to the expiratory power.

Diag. 6, gives the expiratory power, and exhibits by the bottom line the diseased cases: the dotted line above that, is the curve for the gentlemen; the double line above, is for the paupers; and these two, for the most part, are closely mingled together, up to 5 feet 10 inches. It cannot be said that the paupers here are the worst. The broken line above that, are the sailors; and above them, again, the crossed line are the Thames police.

As an illustration of employment increasing the expiratory power over the inspiratory, I would just refer to the table (II. p. 208), wherein the inspiratory power of the Thames police, and that of the Metropolitan, appear as nearly equal as possible; but if we look at another of these tables, we see the expiratory power of the Thames police greatly exceeding that of the Metropolitan police. This minute distinction of power between these two classes is very satisfactory, exhibiting that the one class of men use their upper extremities more than the other. The Metropolitan, policeman deters the thief by the activity of his lower extremities; the Thames policeman, by that of his upper extremities.

Many other interesting combinations might be made from the 10,000 facts I have gathered: thus, for instance, we see, the prevalent weight of the 1151 individuals, is from $10\frac{1}{2}$ to 11 stone; the next in frequency, 12 stone; the next, $12\frac{1}{2}$ stone; the next, $9\frac{1}{2}$ stone; the next, 13 stone; the next, $13\frac{1}{2}$ and 14 stone; and the last, $7\frac{1}{2}$ and 15 stone.

Table V. (p. 212) shows the number of ordinary respirations per minute, observed when in the sitting posture. It will be seen that the greatest number of individuals breathe 20 times a minute; next to this, is 16 times per minute; then, 24: these, it will be seen, are the prevailing numbers; the lowest was 9 respirations, and the highest 40 respirations, per minute. It is worthy of mention that by this table the respirations appear more generally an *even* number of times per minute than otherwise.

Table VI. (same page) exhibits in like manner the beats or pulsations of the heart per minute: 80 is the prevailing number; next to this, 84; next, 100; next, 92, &c.: the lowest pulsation was 48, and the highest 180, per minute. These were all taken in the sitting posture. Care was taken never to note the pulse when excited by physical exertion; but if by any other stimulant through the medium of the mind, then it was taken exactly as it appeared. I believe it always best in statistical research, to note the cases, whatever they may be, exactly as they present themselves, and not to wait until the case *comes* to what we *wish* it to be. That we may be kept steady in a research, we must note and believe what we see—not see what we believe. By these two last tables the prevailing numbers run as four beats of the heart to one respiration.

In another table* I illustrate the circumference of the chest, both of the total numbers examined, and of the several classes, by distinguishing colours. The figures at the left hand, are to signify the increasing dimensions of the chest, from above downwards, increasing by half inches; the length of the lateral lines, is to represent the different numbers under each of these measurements of the chest. It will first be seen that 37-inch chest is the prevailing size; next to this, 35-inch; and in detail it will be seen that the colouring indicates the measurement of the different classes. Thus K, the gentlemen, measure from 34 to 35 inches as their average; A, the sailors, from 37 to $37\frac{1}{2}$ inches in circumference; the fire brigade, B, from 38 to $39\frac{1}{2}$ inches; C, the metropolitan police, from 34 to 36 inches, and at 37 are most numerous; D, the paupers, are mostly placed between 31 and 34 inches; E, the artizans, are most numerous from 30 to 36 inches; and so on.

I must next turn to another diagram,* which, on the same plan, exhibits the heights; and as the relation between height, capacity, and power, is shown to be so close, a table of heights will almost give us a table of power also. The prevailing heights are 5 feet 8 inches and 5 feet 9 inches. B, the firemen, are well selected, principally measuring from 5 feet 6 inches to 5 feet 9 inches. The Metropolitan police are a taller set of men, therefore of less physical strength. On the other hand, D, the paupers, are low of stature, ranging chiefly between 5 feet 2 inches and 5 feet 6 inches. L, are the Horse Guards, which do not commence until all the rest have nearly disappeared, *i. e.* at 6 feet; they terminate at the indefinite height of 6 feet +.

I now draw the attention of the members to a table (IV., page 210) of the capacity compared with weight. Where height and weight correspond, there will be found a relation between weight and capacity; but, as height and weight do not always correspond, the disturbing cases of fat men here account for the relation between weight and capacity of the lungs appearing feeble. I shall in future distinguish the weight of the corpulent and spare individuals, to determine this point more clearly.

With these remarks I conclude the subject of the tables, which still contain a vast quantity of matter not even hinted at, and no less valuable than what has been touched upon.

The tables of calculations which afforded me the matter for the diagrams here exhibited, may all be examined; not *one* case that I ever observed has been kept back, nor has one fictitious case been added. During the time of my research I examined every person I could possibly obtain, from the scavenger, the hawker, or the street mountebank, up to the affluent gentleman: all were requested to submit themselves to

* Exhibited before the Society.

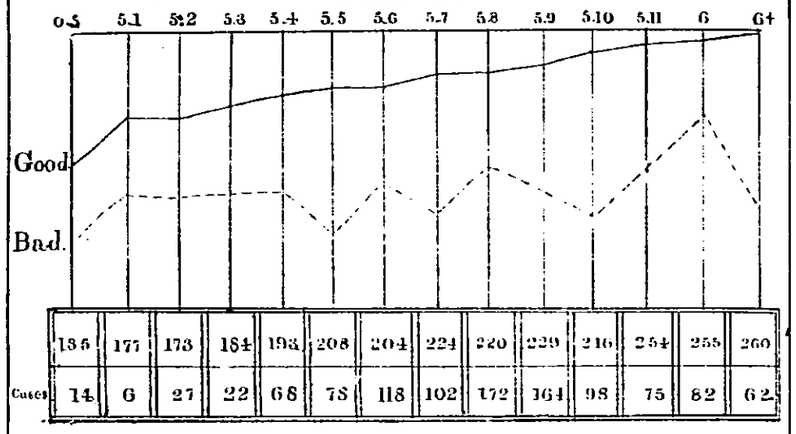
these tests. By so doing, I trust that a foundation sufficiently broad and firm has been laid for me to request the attention of all the gentlemen present to an examination of the utility of such a method for testing the vital powers (if I may be allowed the term) of men to be selected for any public service. I believe at present *no* such test is used in the army or any other organised force. By these means I have frequently detected men as diseased, that were considered not so. I may mention one case (though several might be cited), of a man 6 feet 4 inches, in the Queen's Company, Grenadier Guards, whose capacity was only 102 cubic inches instead of 300. This man was given to me as a healthy case; but I classed him among the diseased; and, upon inquiry, it was found that he had solicited to be relieved from certain physical duties. Others, again, who have considered their lungs to be in a bad state, have, by this test, been convinced that they were not so, to their great satisfaction, and improvement in health and spirits.

I would also respectfully invite the attention of prison inspectors to this apparatus. Let every man that enters a prison be tested on entering, and again on leaving; a comparison of the two observations will determine his loss or gain in health and strength. Also I solicit the attention of those who examine for insurance offices; since even non-professional men can make these experiments with certainty: by these means a vast amount of facts would be gathered together, so that the tables of heights might be graduated into decimal parts of an inch, instead of whole inches. And, lastly, I would recommend it to the consideration of all who inquire into the effect of employments upon health; for by it I have shown how low the printers and the artisans rank in that respect.

An idea of this kind occurred to a no less accurate observer than Thackrah, but of this I was not aware until I had completed all these observations. Thackrah mentions (page 21) that he inverted a glass jar, filled with water, and measured the quantity displaced by "one expiration." He submitted 19 individuals of the 14th Light Dragoon Guards to this test, whose average capacity was 217 cubic inches; therefore they must have been about 5 feet 8 inches high. He adds, "this test affords useful information in diseases of the lungs, as well as a ready index to the native power of the respiratory organs." "It would afford," continues our author, "an important assistance, I conceive, in examining recruits for the army." He also examined some shoemakers and tailors by this method; but he connected no other observation with this, but that of the circumference of the chest; therefore his observations would not be of much value. Until I connected the height with the capacity, I found all was confusion: after examining upwards of 100 persons, I was nearly giving up the research, when the idea fortunately occurred to me, of observing the capacity, &c., in connection with the height.

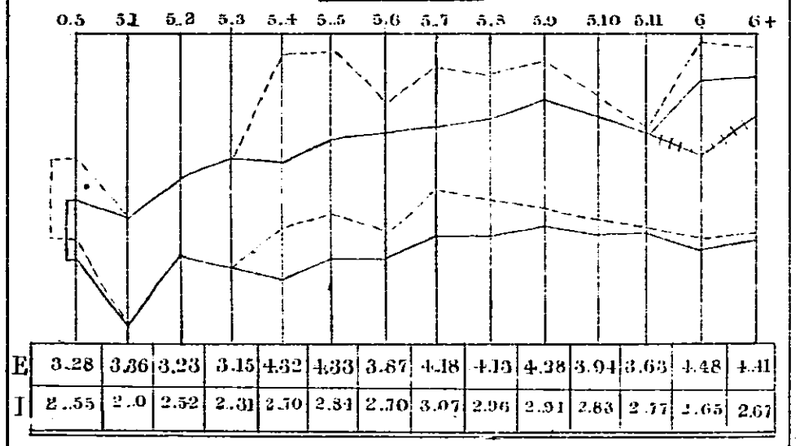
With these explanations, I now leave the subject for the discussion of the Society.

DIAG. 1.



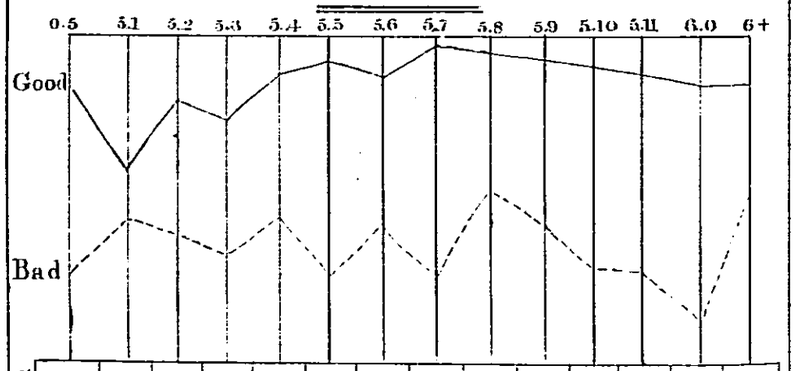
	135	177	173	184	193	208	204	224	220	229	216	254	255	260
Cases	14	6	27	22	68	78	118	102	172	164	98	75	82	62

DIAG. 2.



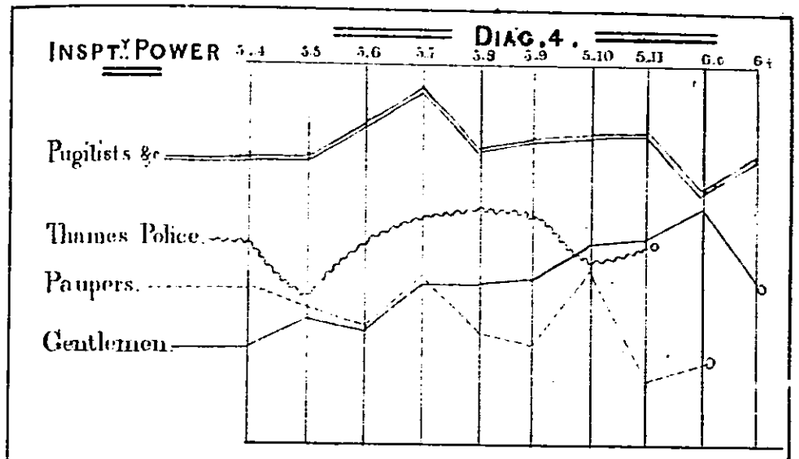
E	3.28	3.36	3.23	3.15	4.32	4.33	3.67	4.18	4.15	4.38	3.94	3.63	4.48	4.41
I	2.55	2.0	2.52	2.31	2.70	2.84	2.70	3.07	2.96	2.91	2.83	2.77	2.65	2.67

DIAG. 3.

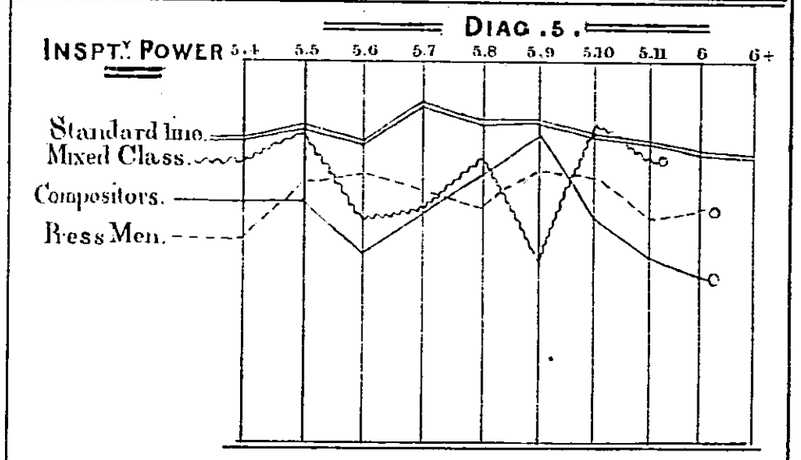


G	2.55	2.00	2.52	2.31	2.70	2.84	2.70	3.03	2.96	2.91	2.83	2.77	2.65	2.67
B	.82	1.30	1.16	1.0	1.54	.74	1.25	.70	1.67	1.32	.93	.88	.40	1.65

DIAG. 4.



DIAG. 5.



DIAG. 6.

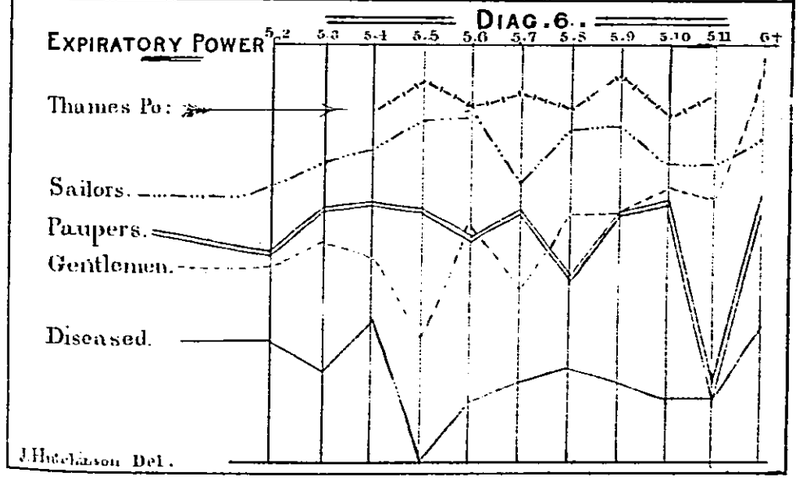


TABLE I.—*The Mean Capacity of the Lungs of* 13 *Classes, with the Total Mean of the Mean.*

Class.	0 to 5 ft.		5 ft. to 5 ft. 1 in.		5 ft. 1 in. to 5 ft. 2 in.		5 ft. 2 in. to 5 ft. 3 in.		5 ft. 3 in. to 5 ft. 4 in.		5 ft. 4 in. to 5 ft. 5 in.		5 ft. 5 in. to 5 ft. 6 in.	
	Cub. in.	No.	Cub. in.	No.	Cub. in.	No.	Cub. in.	No.	Cub. in.	No.	Cub. in.	No.	Cub. in.	No.
Seamen	151	5	206	1	192	7	219	1	218	10	213	9	217	15
Firemen	..	..	..	..	..	..	..	..	210	1	208	2	218	20
Metropolitan Police	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Thames Police	158	1	..	..	..	..	..	..	187	6	206	9	228	9
Paupers	151	7	166	3	162	10	180	10	174	21	191	20	189	19
Mixed Class (Artisans)	80	1	185	1	162	5	181	5	185	17	191	16	192	20
Grenadier Guards	..	..	..	..	..	..	168	1	..	..	218	1	199	2
Compositors	..	..	..	..	176	3	165	2	196	5	188	6	208	7
Pressmen	..	..	152	1	..	..	..	..	..	..	213	2	203	8
Draymen	..	..	..	..	..	..	..	..	..	..	..	..	192	1
Gentlemen	..	..	..	..	145	1	161	1	156	7	177	9	189	14
Pugilists, &c.	..	..	..	..	202	1	218	2	218	1	211	4	217	3
Horse Guards (Blue)	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total Mean	135	14	177	6	173	27	184	22	193	68	208	78	204	118

Class.	5 ft. 6 in. to 5 ft. 7 in.		5 ft. 7 in. to 5 ft. 8 in.		5 ft. 8 in. to 5 ft. 9 in.		5 ft. 9 in. to 5 ft. 10 in.		5 ft. 10 in. to 5 ft. 11 in.		5 ft. 11 in. to 6 ft.		6 ft. +	
	Cub. in.	No.	Cub. in.	No.	Cub. in.	No.	Cub. in.	No.	Cub. in.	No.	Cub. in.	No.	Cub. in.	No.
Seamen	226	14	229	15	239	11	258	18	273	12	270	6	246	2
Firemen	215	17	231	26	231	20	237	3	260	1	249	2	..	..
Metropolitan Police	234	4	228	33	226	46	248	22	234	13	262	12	281	11
Thames Police	222	15	246	17	259	10	240	5	257	3	..	..	..	..
Paupers	210	10	187	9	199	10	242	1	240	3	..	..	..	..
Mixed Class (Artisans)	210	20	222	28	238	16	246	14	238	7	269	9	..	..
Grenadier Guards	..	..	228	7	233	22	240	16	232	11	253	9	258	14
Compositors	227	5	215	8	214	6	231	3	..	..	253	1	..	..
Pressmen	204	3	223	7	245	1	239	4	247	2	..	..	..	..
Draymen	241	1	218	3	223	4	245	1	261	6	248	4	..	..
Gentlemen	208	10	208	18	208	16	236	8	254	12	250	5	262	5
Pugilists, &c	267	3	206	1	243	2	273	3	272	5	248	2	..	..
Horse Guards (Blue)	..	..	..	..	..	..	..	..	..	..	255	30	275	26
Total Mean	224	102	220	172	229	164	246	98	254	75	255	82	260	62

TABLE II.—*The Mean Power of Inspiration and Expiration of all the Cases presenting the ordinary*

Class.	0 to 5 ft.			5 ft. to 5 ft. 1 in.			5 ft. 1 in. to 5 ft. 2 in.		
	Insp.	Exp.	No.	Insp.	Exp.	No.	Insp.	Exp.	No.
Seamen	3·17	3·44	5	2·20	2·60	1	2·03	3·48	7
Firemen	..	..	..	..	..	..	..	..	..
Metropolitan Police .	..	..	..	..	..	..	..	..	..
Thames Police . .	2·55	3·28	1	..	..	..	..	..	..
Mixed Class . . .	3·00	3·74	1	2·00	3·36	1	2·52	3·25	5
Grenadier Guards .	..	..	..	..	..	..	..	..	..
Pugilists, &c. . .	..	..	..	..	..	..	3·80	4·75	1
Draymen	..	..	..	..	..	..	..	..	..
Gentlemen . . .	..	..	..	..	..	..	1·50	2·80	1
Horse Guards (Blue)	..	..	..	..	..	..	..	..	..
Total Mean . .	2·90	3·48	7	2·00	2·98	2	2·46	3·57	14
Mean of Diseased Cases . . .	0·82	1·37	5	1·30	3·00	1	1·16	2·14	4
Mean of four Healthiest Classes . . .	2·55	3·28	1	..	..	..	..	..	..

Class.	5 ft. 6 in. to 5ft. 7 in.			5 ft. 7 in. to 5 ft. 8 in.			5 ft. 8 in. to 5ft. 9 in.		
	Insp.	Exp.	No.	Insp.	Exp.	No.	Insp.	Exp.	No.
Seamen	2·63	3·56	15	2·87	4·15	14	3·11	4·19	9
Firemen	3·17	3·95	15	3·02	4·09	15	3·08	4·50	18
Metropolitan Police .	3·07	4·05	4	2·89	4·07	39	2·81	4·10	46
Thames Police . .	2·97	4·44	16	3·08	4·31	16	3·05	4·66	11
Mixed Class . . .	2·31	3·38	21	2·16	3·17	27	2·46	3·50	17
Grenadier Guards . .	..	..	..	2·68	3·83	8	2·94	3·89	19
Pugilists, &c. . . .	4·20	6·42	2	3·65	4·61	2	3·70	4·84	1
Draymen	2·80	3·55	1	2·73	4·59	3	2·37	4·16	3
Gentlemen . . .	2·35	2·62	12	2·35	3·30	16	2·40	3·30	16
Horse Guards (Blue)	..	..	..	..	..	..	..	..	..
Total Mean . .	2·93	3·99	86	2·82	4·12	140	2·88	4·12	140
Mean of Diseased Cases . . .	0·79	1·70	4	1·67	1·88	7	1·32	1·78	8
Mean of four Healthiest Classes. . .	3·07	4·18	35	2·96	4·13	70	2·91	4·28	75

examined in 10 different Classes, without any separation for disease; thus Average of Health or Power.

5 ft. 2 in. to 5 ft. 3 in.			5 ft. 3 in. to 5 ft. 4 in.			5 ft. 4 in. to 5 ft. 5 in.			5 ft. 5 in. to 5 ft. 6 in.		
Insp.	Exp.	No.	Insp.	Exp.	No.	Insp.	Exp.	No.	Insp.	Exp.	No.
2·40	3·74	1	2·48	3·89	9	2·68	4·23	8	2·84	4·25	15
..	..	..	2·70	4·51	2	2·21	3·82	3	2·80	3·84	19
..	..	..	..	..	..	..	..	..	..	..	..
..	..	..	2·70	4·26	6	3·05	4·50	9	2·58	4·34	9
2·31	3·15	5	1·85	2·69	17	2·30	3·05	18	2·40	3·37	16
4·50	5·36	1	..	..	..	4·50	5·10	1	2·70	2·90	2
2·40	2·41	2	3·50	3·74	1	3·53	5·29	3	3·86	4·75	3
..	..	..	..	..	..	..	..	..	1·30	1·70	1
2·55	3·00	1	1·77	2·92	6	2·01	2·10	7	1·94	3·21	11
..	..	..	..	..	..	..	..	..	..	..	..
2·83	3·53	10	2·50	3·66	41	2·89	4·01	49	2·55	3·54	76
1·00	1·81	4	1·34	2·30	4	0·74	1·00	1	1·25	1·52	9
..	..	..	2·70	4·32	8	2·84	4·33	12	2·70	3·87	29

5 ft. 9 in. to 5 ft. 10 in.			5 ft. 10 in. to 5 ft. 11 in.			5 ft. 11 in. to 6 ft.			6 ft. to 6 ft. +		
Insp.	Exp.	No.	Insp.	Exp.	No.	Insp.	Exp.	No.	Insp.	Exp.	No.
2·66	3·84	18	2·41	3·86	12	2·61	4·15	6	2·00	4·00	1
2·69	3·33	5	2·40	3·74	1	3·65	6·81	2	2·10	2·80	1
2·92	4·00	23	2·78	3·41	12	2·33	3·23	12	2·75	3·77	8
2·54	4·27	5	2·78	4·45	3	..	..	..	..	..	..
2·41	3·67	15	2·07	2·45	7	2·14	3·08	11	2·77	4·10	2
2·23	3·49	18	2·56	3·76	11	1·92	3·17	12	2·46	3·82	14
3·78	4·38	2	3·77	4·89	4	3·25	4·93	2	3·52	4·64	2
4·50	5·43	3	3·21	4·30	6	2·02	3·13	2	3·15	5·00	1
2·74	3·59	7	2·84	3·49	12	3·12	4·94	5	2·38	3·70	4
..	..	..	..	..	..	2·71	4·84	31	2·68	4·66	27
2·94	4·00	96	2·72	3·81	68	2·68	4·29	83	2·64	4·05	60
0·93	1·60	3	0·88	1·59	3	0·40	2·25	1	1·65	4·02	1
2·83	3·94	33	2·77	3·63	16	2·65	4·48	45	2·67	4·41	36

TABLE III.—*Mean of the Respiratory Power of the Paupers and the Printers, (Compositors and Pressmen).*

Class.	0 to 5 ft.			5 ft. to 5 ft. 1 in.			5 ft. 1 in. to 5 ft. 2 in.		
	Insp.	Exp.	No.	Insp.	Exp.	No.	Insp.	Exp.	No.
Paupers, Mean . .	1·79	2·45	7	1·46	1·93	3	2·52	2·96	9
Compositors, Mean .	..	..	..	..	..	..	2·32	2·96	3
Pressmen, Mean . .	..	..	..	2·20	5·00	1	..	..	..
Total Mean of Mean of Printers . . .	..	..	..	2·20	5·00	1	2·32	2·96	3

Class.	5 ft. 2 in. to 5 ft. 3 in.			5 ft. 3 in. to 5 ft. 4 in.			5 ft. 4 in. to 5 ft. 5 in.			5 ft. 5 in. to 5 ft. 6 in.		
	Insp.	Exp.	No.	Insp.	Exp.	No.	Insp.	Exp.	No.	Insp.	Exp.	No.
Paupers, Mean . .	2·08	3·30	10	2·30	3·38	21	2·17	3·30	20	1·93	3·13	19
Compositors, Mean .	1·65	2·52	1	2·13	3·23	5	2·17	2·91	4	1·65	2·85	7
Pressmen, Mean . .	3·35	4·20	1	..	..	..	2·81	4·17	3	2·04	3·27	8
Total Mean of Mean of Printers . . .	2·50	3·36	2	2·13	3·23	5	2·49	3·54	7	1·84	3·06	15

Class.	5 ft. 6 in. to 5 ft. 7 in.			5 ft. 7 in. to 5 ft. 8 in.			5 ft. 8 in. to 5 ft. 9 in.		
	Insp.	Exp.	No.	Insp.	Exp.	No.	Insp.	Exp.	No.
Paupers, Mean . .	2·45	3·33	10	1·96	2·71	8	1·87	3·33	9
Compositors, Mean .	2·05	3 10	5	2·43	3·22	7	2·83	3·41	8
Pressmen, Mean . .	2·10	2·95	3	2·62	3·58	8	1·65	2·05	1
Total Mean of Mean of Printers . . .	2·07	3·02	8	2·52	3·40	15	2·24	2·73	9

5 ft. 9 in. to 5 ft. 10 in.			5 ft. 10 in. to 5 ft. 11 in.			5 ft. 11 in. to 6 ft.			6 ft. +		
Insp.	Exp.	No.	Insp.	Exp.	No.	Insp.	Exp.	No.	Insp.	Exp.	No.
2·55	3·46	1	1·47	1·67	2	1·61	3·70	4	..	..	..
2·00	2·39	2	..	..	..	1·50	1·91	1	..	..	..
2·95	3·93	3	2·62	3·72	2	..	..	..	..	..	..
2·47	3·16	5	2·62	3·72	2	1·50	1·91	1	..	..	..

TABLE IV.—*The Mean capacity of the Chest, compared with the Weight of the Body (stone of 14 lb).*

Class.	7 to 7½	No.	7½ to 8	No.	8 to 8½	No.	8½ to 9	No.	9 to 9½	No.	9½ to 10	No.	10 to 10½	No.
Seamen . . .	208	8	132	1	196	4	203	2	206	11	232	7	234	26
Firemen . . .	..	..	..	..	..	..	..	..	206	2	199	4	213	5
MetropolitanPolice	..	..	..	..	..	..	..	..	198	5	212	10	227	24
Thames Police .	..	..	..	..	..	..	158	1	209	4	208	5	240	11
Paupers . . .	..	..	173	2	178	8	163	14	141	14	176	27	192	19
Mixed Class (Artisans) . . .	164	1	160	6	173	8	199	11	202	23	199	25	220	19
Grenadier Guards	..	..	..	..	..	..	186	2	..	..	209	4	234	4
Pugilists . . .	..	..	..	..	211	2	198	1	..	..	211	2	195	1
Pressmen. . .	..	..	..	..	..	..	199	5	210	1	194	5	213	7
Compositors . .	..	..	..	..	174	7	206	7	206	5	185	6	227	6
Draymen . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Horse Guards (Blue) . .	..	..	..	..	..	..	..	..	..	..	..	..	230	1
Gentlemen . .	149	1	171	3	184	3	193	4	192	11	199	10	220	16
Total Mean.	173	10	159	12	186	32	189	47	196	76	202	105	220	139

10½ to 11	No.	11 to 11½	No.	11½ to 12	No.	12 to 12½	No.	12½ to 13	No.	13 to 13½	No.	13½ to 14	No.	14 to 14½	No.	14½ to 15	No.
228	15	257	20	236	9	254	8	271	5	290	1	205	1	..	..	..	..
226	11	235	11	226	18	223	10	219	7	233	3	212	5	224	1	570	3
236	23	237	29	244	23	255	18	248	8	284	3	237	2	..	..	..	..
234	23	245	11	236	9	198	3	196	4	..	..	258	2	203	1	212	1
178	12	183	10	210	7	176	5	..	..	174	3	..	..	256	1	..	..
217	20	233	10	249	14	237	8	269	6	227	3	226	6	237	1	..	..
222	11	234	8	247	19	241	18	251	10	267	4	228	2	307	1	..	..
260	1	225	3	265	3	..	..	297	2	279	3	204	2	290	1	..	..
216	8	237	3	..	..	..	..	..	..	186	1	..	..	..	..	..	..
226	5	207	3	230	2	212	1	216	1	219	1	..	..	..	..	..	..
..	..	192	1	234	4	236	3	254	5	..	..	272	2	227	2	231	3
238	1	262	5	261	8	267	13	260	10	286	6	252	7	273	6	318	1
224	17	228	14	218	4	246	4	233	8	224	4	237	3	202	2	220	2
225	147	228	128	239	120	231	91	245	66	242	33	233	32	246	16	310	10

TABLE V.—*Number of Respirations per Minute, observed when in the Sitting Posture, in* 1,080 *Cases considered to be Healthy.*

No. of Respirations per Min.	No. of Cases.	No. of Respirations per Min.	No. of Cases.	No. of Respirations per Min.	No. of Cases.	No. of Respirations per Min.	No. of Cases.
9	1	18	81	27	2	36	1
10	2	19	11	28	26	37	..
11	1	20	384	29	2	38	..
12	16	21	31	30	5	39	..
13	10	22	67	31	..	40	1
14	12	23	11	32	6		
15	9	24	153	33	..	Total	1,080
16	157	25	15	34	1		
17	71	26	4	35	..		

TABLE VI.—*Number of Pulsations per Minute, taken in the Sitting Posture, in* 1,086 *Cases considered to be Healthy.*

Pulse per Min.	No. of Cases.	Pulse per Min.	No. of Cases.	Pulse per Min.	No. of Cases.	Pulse per Min.	No. of Cases.
48	1	69	3	87	1	108	9
52	1	70	14	88	71	110	1
53	2	72	74	89	15	112	15
56	2	73	50	90	19	113	3
57	2	74	2	92	66	116	10
58	1	75	2	93	3	118	2
59	1	76	72	94	3	120	16
60	22	78	12	95	9	124	2
61	1	79	2	96	47	128	2
62	3	80	226	97	1	130	1
64	15	81	..	98	2	132	1
65	2	82	6	100	103	133	1
66	6	84	118	102	2	140	1
67	2	85	1	104	27	144	1
68	3	86	4	106	1	180	1

Pulse per Min.	No. of Cases.	Pulse per Min.	No. of Cases.	Pulse per Min.	No. of Cases.
48	1	53	2	62	3
52		56		68	
58		57		69	
59		65		93	
61		67		94	
85		74		113	
87		75			
97		79			
130		98			4
132		102		86	
140		118			
144		124			
180		128			

Report on the Infant Industrial Schools of Tuscany. By Signor ENRICO MAYER, of Milan.

[*Read before the Statistical Section of the British Association at Cork, Aug.* 21*st*, 1843.]

THE first infant schools, or, as they are there called, asylums, established in Tuscany, were opened simultaneously in Leghorn and Pisa in 1833. A third was soon after opened in Florence, and the example then was generally followed. They are supported wholly by voluntary contributions, and consequently their increase soon reached its furthest limit. There are now twenty of those infant schools, with 2000 children. The annual expenditure comes to about 1*l.* sterling a child, house rent, servant's wages, teacher's salary, and soup, being all included. The management of these schools generally rests with committees of ladies, who take by turn the duty of inspection: the remarks written in the inspectors' book become the subject of deliberation at the monthly meetings of the committee. The infant asylums of Tuscany are intended for the poor, and are entirely gratuitous. They are generally divided into two classes, having each a separate room, and a separate mistress. The first class contains children from eighteen months or two years to four or five years old. The second class contains children from four or five to seven or eight. A play-ground is attached to every asylum, and the children perform easy gymnastic exercises, which, however, do not interfere with their own choice of amusements. The introduction of manual works in the infant asylums in Italy, constitutes one of the chief differences between them and similar institutions in France or England, and experiments are now making to continue the habits of early industry thus acquired, by procuring some work in the primary schools. A committee of tradesmen and artisans forms part of the society for infant schools at Florence, and they are to provide the children with some easy work, and facilitate afterwards their being employed in the exercise of different arts and trades. Linear drawing and the rudiments of geometry and mechanics are taught in the superior classes, but confining the instruction to that which can be of use in the exercise of every mechanical profession, without taking any one particularly in view. It is anxiously desired that the manual work of the children should be of a nature to be carried on individually, so that the social element of family life should continue undisturbed among them, and the infant population should be preserved as long as possible from the infection of factories. *Instruction* is much less than *education* the object of these infant asylums; these are made as much as possible conducive to moral training, and this by the most simple and gentle means of a maternal guidance. In the school room the children pass through a series of exercises calculated to develope their mental and bodily faculties without tiring them. They are never kept sitting for more than a quarter of an hour at a time. The religious instruction of the children is directed by the curate of the parish in which the asylum is established. The mistresses of the asylums keep a journal, in which the moral history of the institution may be said to be contained, and from which a number of most interesting facts have been extracted, elucidating the workings of human intelligence and human affection, at an age which has not, until now, been sufficiently studied by the moral philosopher. Though the Tuscan infant asylums are of so recent a date, yet their effects are already, and in a remarkable

degree, perceptible. The improvement in the health of the children received in the Tuscan asylums, is a most striking fact. The study of this fact on the part of our medical committees, has led to most important observations, not only with respect to the infants themselves, but extended to their families, and indeed to the whole of the poor population of our towns, and to the various districts of the towns themselves. The cases of death in our asylums is between 2 and 3 per cent., whilst the general mortality of children between two and six is in Florence 16 per cent. The same results have been observed in Lombardy, where infant asylums are more numerous than in Tuscany. A thorough reform of every system of education, going through every species of schools, will be necessary, in order to put them on a par with the high educational character of our infant schools. The moral results, likewise, are not confined to the infants themselves, but are extended to their families. A great proportion of the children received at the infant asylums in Florence, are found to come from the Foundling Hospital; indeed, out of 600 children *four hundred* belong to that class. They are children whose parents were forced by extreme destitution to abandon them; but as soon as our infant asylums were known to exist, parental affection resumed its rights in the hearts of those hundreds of parents, and a dishonouring brand was wiped away from the head of those hundreds of children, who found again the joy of their family, and were restored to their name and their civil condition. In the three years anterior to the opening of the infant asylums, the average number of children taken out of the Foundling Hospital was 176; but in 1833, when the asylums were first established, the number withdrawn was 214, and in 1837 it increased to 404. Few facts more pregnant than this with important consequences, have ever been brought to light in the moral statistics of any country. The author, in conclusion, pointed out the superior efficacy of the elevating and kindly treatment of men above the harsh and repressive. "Who," he observes, "has not seen, in the bad direction of public instruction, or in the mismanagement of public charities, a necessity for the increase of coercive institutions, which yet prove insufficient for the repression of crime; and has not learned to conclude that there may be a system of instruction which teaches no virtue, a system of charity which relieves no misery, and a system of punishment which puts a stop to no crime?"

Second Report of the Committee of the Statistical Society of London on Hospital Statistics.

In December, 1840, a committee was appointed by the Council of the Statistical Society "to consider the best means of obtaining periodical enumerations of the patients in the London Hospitals." The first step which the Committee took, on entering upon its duties, was to obtain an enumeration of the patients and other persons resident in the various hospitals of the metropolis during the first week of January, 1842. The results of this first enumeration, together with other tables of interest, will be found in the fifth volume of the Journal of the Statistical Society, p. 168. A second enumeration was made on the 9th of January, 1843, and returns were obtained from all the general hospitals.

The number of patients in these hospitals at the date of the second enumeration is shown in the following Table.

TABLE I.

	Males.	Females.	Total.
Bartholomew's	250	239	489
Guy's	257	193	450
St. Thomas's	253	163	416
London	211	111	322
St. George's	173	103	276
Middlesex	120	121	241
Westminster	62	62	124
University College	54	53	107
King's College	60	35	95
Charing Cross	51	63	114
Grand total	1,491	1,143	2,634

This number is somewhat in excess of that obtained by the Census Commissioners on the night of the 6—7th of June, 1841; when the patients enumerated were, males 1482, females 1081; total 2563.

The males and females are nearly in the same proportion in both returns, there being, in round numbers, about 15 males to 11 females. As might be anticipated, the mortality of males bears a much higher ratio to the mortality of females, than the hospital population of the one sex to that of the other. The hospital population being as 15 to 11, and the mortality as 13 to 7, (1260 to 708, see Table VII.)

The returns obtained from the ten general hospitals present a total of 2582 cases in which the name of the disease is specified, making with 52 unspecified cases the above total of 2634. The ages also are specified in all but 10 cases. The diseases and ages are jointly enumerated in Tables II., III., and IV., in the first two of which the sexes are given separately.

The returns obtained from the hospitals comprise some other particulars of interest. The average duration of a patient's stay in an hospital, for instance, may become an element in calculations of expense, and in the case of some diseases may even become a consideration of importance. A table, therefore, has been prepared, showing the length of time that the several patients had been in hospital at the time of the enumeration. (See Table V.)

If we assume that the actual stay in the hospital was the mean between the two extremes at the head of each column, we shall have, as the average stay in hospital of the 2626 patients whose stay is accurately stated, about 46 days, or six weeks and a-half.

In Table VI. the diseases and their duration up to the date of enumeration are stated. The table may furnish some useful elements of calculation, and of comparison with Table VII., in which the mortality of the London hospitals for the year 1842 is given in detail.

Table VII., which has been placed at the disposal of the Society by the kindness of the Registrar-General, possesses considerable interest. It comprises the deaths occurring in the general hospitals which have sent in their enumerations, and supplies important data for comparison with the preceding tables.

One of the most interesting facts displayed by this table is the great number of deaths from consumption that take place in the hospitals

of London in spite of the strict rules which in most of the subscription hospitals forbid their admission, and which are for the most part very rigidly enforced. Of 1968 deaths from all causes, no less than 322 were from consumption, being between one-sixth and one-seventh of the total mortality of hospitals, but less than 5 per cent. of the total mortality of the metropolis from that cause. It will be seen that the number of deaths of females from this disease in hospitals is less than half that of males, a fact which corresponds with the greater prevalence of consumption in the male inhabitants of large towns. It is necessary, however, to correct this statement as to the disproportionate mortality of men by the fact already alluded to; that the male population of hospitals is larger than the female in the proportion of 15 to 11. It is not a little remarkable, moreover, that in the face of this disproportion in the deaths from consumption, the enumerated cases of the disease amount to 28 males, and 34 females. At the time of the enumeration, therefore, there were more females in the London hospitals labouring under consumption than males, and yet the mortality of males is more than double that of females. The age of death in this as in other diseases is a very important and interesting heading in this table.

Mortality in the Hospitals at different Ages.

Ages . . .	0—3	3—5	5—10	10—15	15—20	20—30	30—40	40—50	50—60	60—70	70—
Deaths in the year 1842	37	29	84	64	100	364	376	369	256	136	81
Resident Patients according to one enumeration. .	10	28	93	135	371	799	488	365	206	95	29
Annual Mortality per cent.	370	109	86	47	27	46	74	101	124	144	279

To determine the average number of patients resident, more than one enumeration should be taken; but the relative numbers at the respective ages probably do not vary very much; and the facts before us bring out some interesting results, and may suggest others of still greater importance. If we assume that the London hospitals contained, through the year 1842, on an average, 799 patients aged 20 and under 30 years, then, as 376 deaths occurred at that age, the annual mortality must have been at the rate of 46 per cent. The deaths of patients between the ages 40—50, were 369; the average number of patients was 365; and the annual mortality 110 per cent. The mortality is highest in infancy, descends to 27 per cent. at the ages 15–20, and rises progressively again as age advances, to 279 per cent.

This is not the mortality of cases, but the mortality in a given time, out of a given number constantly sick. It will be rendered, perhaps, more intelligible, by supposing the patients lodged in eleven different hospitals, and that each hospital contains 100 beds always occupied, fresh patients taking the place of those removed by death, recovery, or discharge. The table shows that, in the hospital for 100 children under three years of age, 370 deaths would occur annually; that in the hospital for young persons between the ages 15—20, only 27 would die annually; that the hospital for persons aged 40—50 would have 101 annual deaths; and so on, for other ages. Admitting that the treatment was equally efficient at all ages, there are at the three periods of life,

20—30, 30—40, 40—50, differences caused by age alone in the mortality of the sick, expressed by the numbers, 46, 74, and 101. It is impossible, therefore, in a practical point of view, to determine the relative value of different methods of treatment without reference to the law of mortality at different ages.

The tables show also the influence of age on the rate of mortality, among persons labouring under the diseases distinguished in the returns. Compare, for instance, the number of consumptive patients, and the number of deaths from consumption at the several ages, with the same facts for heart disease.

Phthisis.

Ages . .	Under 20	20—30	30—40	40—50	50—70	All Ages.
Deaths in the Year 1842	32	91	88	62	48	321
Consumption Patients resident, according to the Society's enumeration	4	28	21	6	3	62

Heart Disease.

Ages . .	Under 20	20—30	30—40	40—50	50—70	All Ages.
Deaths in the Year 1842	9	29	25	34	22	120
Patients suffering from Heart Disease, according to the enumeration	10	17	12	11	5	48

Discrepancies of a trifling amount which appear in Tables II., III., IV., V., and VI., as regards the numbers assigned in each to the same diseases, are explained (in addition to the liability to error) by the uncertainty in classification which arises in a few instances from *complications* of disease, and in others from records which are vague or imperfect. Besides, the form which has been employed was drawn up for the *causes of death*, and is not equally adapted for *diseases of the living*.

The tables which are here brought together, must be regarded rather in the light of materials placed in a convenient relation to each other for the purposes of comparison, than as leading to any broad inference, or as being in themselves sufficient for the establishment of any important truths. Such materials often derive an unexpected value from some inquiry which does not spring directly out of them. It is in this way that the labours of the Hospital Statistic Committee may be expected to prove useful. In bringing those labours to a close, the Committee have to offer their best acknowledgments to those hospital physicians and surgeons who have assisted them; and they trust that, by showing the possibility of combining the valuable information afforded by the several public hospitals, they may have paved the way for some future arrangements by which the knowledge to be derived from these valuable schools of experience may be recorded, collected, and digested.

TABLE II.—*Classification according to Age and Disease.*

MALES.

DISEASES.	1	3	5	10	15	20	25	30	35	40	45	50	55	60	70	?	Total.
Small Pox	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Measles	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Scarlatina	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1
Hooping Cough	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Croup	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Thrush	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diarrhœa	..	..	..	1	..	..	1	2	..	1	..	..	..	..	..	..	3
Dysentery	..	..	..	..	..	..	1	2	..	..	..	..	..	..	..	..	3
Cholera	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Influenza	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ague	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..
Remittent Fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Typhus	..	..	1	4	6	4	4	..	1	4	..	1	..	..	..	1	26
Erysipelas	..	..	1	..	1	2	3	3	5	2	2	..	1	..	..	..	20
Syphilis	..	..	..	..	15	50	42	23	6	3	..	1	1	1	..	1	143
Hydrophobia	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	..	..	2	5	22	56	50	29	13	9	4	2	2	1	..	2	197
Cephalitis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hydrocephalus	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Apoplexy	..	..	..	..	..	..	..	1	..	..	3	2	..	1	..	..	7
Paralysis	..	1	..	..	1	..	2	4	4	6	6	3	..	1	..	1	29
Convulsions	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Delirium Tremens	..	..	..	..	..	1	..	..	2	..	..	1	..	..	..	..	4
Chorea	..	..	1	4	2	..	..	..	..	..	..	..	..	..	..	..	7
Epilepsy and Hysteria	..	..	..	..	2	3	1	..	1	2	..	..	..	1	..	..	10
Ear (disease of)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Eye (disease of)	..	..	..	4	6	10	9	5	5	2	2	2	1	2	..	..	48
Brain, &c. (disease of)	..	..	..	..	..	1	2	2	6	1	..	3	..	1	..	..	16
	..	1	1	8	11	15	14	12	18	11	11	11	1	6	..	1	121
Laryngitis	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	2
Quinsey	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	2
Bronchitis	..	..	..	1	3	..	6	4	8	6	6	3	2	3	1	..	43
Pleurisy	..	..	..	..	..	6	3	..	1	..	1	..	..	..	..	..	11
Pneumonia	..	..	..	1	..	2	2	1	2	..	3	3	..	..	..	..	14
Hydrothorax	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Asthma	..	..	..	..	..	3	2	2	..	2	1	1	1	1	..	..	13
Consumption	..	..	..	..	..	1	5	5	9	6	1	1	..	..	..	..	28
Lungs, &c. (disease of)	..	..	1	..	1	1	..	1	..	..	..	1	..	..	..	..	5
	..	..	1	2	5	18	19	17	17	10	12	9	3	4	1	..	118
Pericarditis	..	..	..	1	1	3	1	2	..	..	1	..	..	..	..	..	9
Aneurism	..	..	..	..	..	..	..	..	1	2	..	..	1	..	..	..	4
Heart, &c. (disease of)	..	..	..	2	1	3	1	5	..	3	2	1	2	1	..	..	21
	..	..	..	3	2	6	2	7	1	5	3	1	3	1	..	..	34
Teething	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gastritis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Enteritis	..	..	1	1	1	..	..	..	..	..	..	1	..	..	..	..	4
Peritonitis	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1
Tabes Mesenterica	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Worms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ascites	..	..	..	..	..	..	1	1	2	..	..	2	..	1	..	..	7
Ulceration	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hernia	..	..	..	..	..	1	.	..	..	1	1	..	1	..	..	..	4
Colic or Ileus	..	..	..	..	..	2	..	..	2	..	..	..	..	..	..	..	4
Intussusception	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Stricture	..	..	..	..	..	..	1	1	..	..	1	2	..	1	..	..	6
Hæmatemesis	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	2
Stomach, &c. (disease of)	..	..	..	..	1	6	1	1	5	4	1	..	2	2	..	..	23
Pancreas (disease of)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hæpatitis	..	..	..	..	1	..	..	..	..	..	1	..	..	..	..	..	2
Jaundice	..	..	..	..	.	..	..	..	1	..	1	..	..	..	..	..	2
Liver (disease of)	..	..	..	..	..	..	..	..	3	..	1	..	1	..	..	..	5
Spleen (disease of)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	..	..	1	2	4	10	3	3	13	5	6	5	4	4	..	..	60

TABLE II.—*continued.*

MALES.

DISEASES.	1	3	5	10	15	20	25	30	35	40	45	50	55	60	70	?	Total.
Nephritis	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1
Ischuria	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diabetes	..	..	..	..	1	1	1	3	2	1	..	..	..	..	..	..	9
Cystitis	1	2	1	2	..	..	..	..	..	..	..	..	..	1	..	..	1
Stone	..	..	..	..	..	1	..	..	..	..	1	1	1	3	..	..	14
Stricture	..	..	..	..	1	4	4	8	5	5	4	3	1	4	1	..	40
Kidneys, &c. (disease of)	..	..	..	..	3	4	3	1	4	3	1	2	..	3	1	..	25
	1	2	1	2	5	10	8	13	11	10	6	6	2	11	2	..	90
Testes, &c. (disease of)	..	..	..	2	2	..	4	2	2	..	2	1	..	2	2	..	19
Arthritis	..	..	..	..	1	2	..	2	2	2	1	..	..	..	..	..	10
Rheumatism	..	..	..	5	12	9	15	13	14	5	9	6	10	2	1	..	101
Joints, &c. (disease of)	..	2	16	16	25	17	10	9	14	9	7	12	3	6	1	..	147
	..	2	16	21	38	28	25	24	30	16	17	18	13	8	2	..	258
Carbuncle	..	..	..	..	..	..	1	..	..	..	..	..	..	1	..	..	2
Phlegmon	1	..	1	1	2	6	..	1	1	..	2	2	..	2	1	..	20
Ulcer	..	..	..	..	4	12	10	13	8	16	7	6	2	4	3	..	85
Fistula	..	..	..	..	1	..	1	1	1	1	1	1	1	..	..	..	7
Skin, &c. (disease of)	..	3	3	6	1	4	3	4	1	1	1	..	2	1	1	..	31
	1	3	4	7	8	22	15	19	11	17	11	9	5	8	5	..	145
Inflammation	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hæmorrhage	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1
Dropsy	..	..	1	..	..	2	1	2	1	1	4	2	..	..	..	..	12
Abscess	1	..	..	..	3	3	4	2	1	1	3	1	..	..	..	..	19
Mortification	..	..	..	..	..	..	1	1	1	..	..	..	..	2	..	..	3
Purpura	..	..	..	1	1	..	..	..	1	..	..	..	..	..	..	..	5
Scrofula	..	1	2	8	5	1	3	..	..	..	..	..	..	..	..	..	3
Carcinoma	..	..	1	1	..	..	..	..	..	4	1	1	1	2	..	..	20
Tumor	..	..	..	..	..	..	..	..	..	1	1	2	1	1	..	..	11
Gout	..	..	..	..	..	1	1	1	1	2	..	..	1	..	..	..	6
Atrophy	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7
Debility	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Malformations	..	..	1	1	2	..	..	..	..	..	..	..	..	..	..	..	1
Enlargement of the Glands	..	..	1	..	..	2	2	1	1	..	..	1	..	1	..	..	4
	1	1	6	11	11	8	13	5	6	11	9	7	3	6	..	..	9
Wounds	..	..	2	5	7	6	5	7	3	5	4	5	4	2	1	..	98
Burns and Scalds	1	4	4	1	4	2	2	1	..	..	..	..	..	..	1	..	61
Fractures, Contusions, and Dislocations	1	4	9	12	23	20	22	28	16	37	24	14	9	13	4	..	20
	2	8	15	18	34	28	29	36	24	42	28	19	13	15	6	..	236
Causes not specified	1	1	1	1	7	4	5	6	..	2	2	..	1	..	..	3	317
Total	6	18	48	82	149	205	187	173	146	138	111	88	50	66	18	6	34
																	1491

TABLE III.—*Classification according to Age and Disease.*

FEMALES.

DISEASES.	1	3	5	10	15	20	25	30	35	40	45	50	55	60	70	?	Total.
Small Pox	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Measles	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Scarlatina	..	..	..	1	..	..	2	..	..	..	..	..	..	..	..	..	3
Hooping Cough	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Croup	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Thrush	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Diarrhœa	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1
Dysentery	..	..	..	..	..	..	1	..	..	1	..	..	..	..	..	..	2
Cholera	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Influenza	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ague	..	..	..	..	1	1	1	..	..	..	..	..	..	..	..	..	3
Remittent Fever	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1
Typhus	..	..	..	2	6	6	5	1	1	1	..	..	..	..	..	..	22
Erysipelas	..	..	..	..	..	2	4	3	1	3	..	1	..	..	..	..	14
Syphilis	..	..	..	..	66	59	10	9	2	4	1	..	1	..	..	3	146
Hydrophobia	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	..	..	1	3	73	59	23	14	4	10	1	1	1	..	..	3	193
Cephalitis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hydrocephalus	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Apoplexy	..	..	..	..	..	..	..	..	3	..	..	..	..	..	..	..	3
Paralysis	..	..	1	1	1	..	1	2	5	5	..	4	1	..	1	..	22
Convulsions	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Delirium Tremens	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Chorea	..	1	6	9	7	..	1	..	..	..	..	..	..	..	..	..	24
Epilepsy and Hysteria	..	..	..	1	8	12	11	7	..	..	..	..	..	..	..	..	33
Ear (disease of)	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	2
Eye (disease of)	..	..	1	3	2	7	4	1	1	2	1	..	1	1	..	..	24
Brain, &c. (disease of)	..	..	..	..	3	3	1	..	..	1	..	..	..	1	1	..	10
	1	1	9	14	22	22	18	10	9	8	1	4	2	2	2	..	125
Laryngitis	1	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	3
Quinsey	..	..	1	..	1	1	1	..	..	..	..	..	..	..	..	..	4
Bronchitis	..	..	1	1	3	2	2	1	2	2	4	2	..	..	1	..	21
Pleurisy	..	..	..	..	2	..	1	..	1	..	..	..	1	..	..	..	4
Pneumonia	..	..	..	..	2	..	..	..	1	1	1	..	1	..	..	..	6
Hydrothorax	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Asthma	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	2
Consumption	..	..	..	2	1	9	9	4	2	3	1	1	1	1	..	..	34
Lungs, &c. (disease of)	..	..	..	..	..	2	1	..	..	..	..	..	..	..	..	..	3
	1	..	2	3	9	14	14	5	7	6	7	4	3	1	1	..	77
Pericarditis	..	..	..	1	1	2	1	..	..	..	..	..	..	..	..	..	5
Aneurism	..	..	..	..	..	..	..	1	..	..	1	..	..	..	..	..	2
Heart, &c. (disease of)	..	..	..	..	..	4	9	4	3	2	4	1	..	..	..	..	27
	..	..	..	1	1	6	10	5	3	2	5	1	..	..	..	..	34
Teething	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gastritis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Enteritis	..	..	..	1	1	1	2	..	..	1	1	..	..	..	..	..	7
Peritonitis	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1
Tabes Mesenterica	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Worms	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Ascites	..	..	..	..	..	..	..	..	1	..	..	1	..	..	..	..	2
Ulceration	..	..	.	..	..	.	..	..	..	1	..	..	..	..	..	..	..
Hernia	..	..	..	..	..	..	..	..	..	1	1	..	1	..	..	..	3
Colic or Ileus	..	..	..	..	2	..	..	2	..	..	..	..	..	..	..	..	4
Intussusception	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Stricture	..	..	..	..	..	1	..	..	..	1	..	..	..	..	..	..	2
Hæmatemesis	..	..	..	..	..	3	..	..	..	..	..	..	..	..	..	..	3
Stomach, &c. (disease of)	..	..	..	..	3	10	5	3	4	2	..	1	1	..	..	..	29
Pancreas (disease of)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hepatitis	..	..	..	..	2	1	..	..	..	..	..	..	..	..	..	..	1
Jaundice	..	..	..	..	..	1	..	1	1	..	..	..	..	..	..	..	5
Liver (disease of)	..	..	..	..	..	..	..	1	..	..	1	..	1	..	..	..	3
Spleen (disease of)	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	3
	..	..	1	1	8	17	8	9	6	5	3	2	3	..	..	..	62

TABLE III.—*continued.*

FEMALES.

DISEASES.	1	3	5	10	15	20	25	33	35	40	45	50	55	60	70	?	Total.
Nephritis	..	..	..	..	..	1	..	..	1	..	..	..	..	..	..	..	2
Ischuria	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diabetes	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1
Cystitis	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1
Stone	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1
Stricture	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1
Kidneys, &c. (disease of)	..	..	..	..	2	2	2	..	..	2	..	2	..	..	..	..	10
	..	..	..	..	3	3	2	2	1	3	..	2	..	..	..	..	16
Childbirth	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	2
Paramenia	..	..	..	1	18	15	9	5	..	2	2	1	..	..	..	..	53
Ovarian dropsy	..	..	..	..	..	..	1	..	..	..	..	1	..	..	..	..	2
Uterus, &c.	..	..	..	..	1	7	8	3	3	5	2	..	1	..	..	..	30
	..	..	..	1	19	22	18	10	3	7	4	2	1	..	..	..	87
Arthritis	..	..	..	..	4	8	7	2	..	1	..	..	1	..	..	..	23
Rheumatism	..	..	..	1	17	20	19	12	6	7	3	4	2	1	..	..	92
Joints, &c. (disease of)	..	2	13	10	17	20	13	4	4	4	2	1	1	..	..	..	91
	..	2	13	11	38	48	39	18	10	12	5	5	4	1	..	..	206
Carbuncle	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	2
Phlegmon	..	..	..	..	5	1	1	..	..	1	..	1	..	..	..	..	10
Ulcer	..	..	1	3	7	11	8	9	6	2	4	5	2	3	1	1	63
Fistula	..	..	..	..	..	..	3	2	1	..	..	..	..	..	..	..	6
Skin, &c. (disease of)	..	..	5	4	7	7	5	4	3	1	..	1	2	2	..	..	41
	..	..	6	7	20	19	18	15	10	4	4	7	4	6	1	1	122
Inflammation	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1
Hæmorrhage	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Dropsy	..	..	..	..	2	1	..	2	1	1	..	..	..	1	..	..	8
Abscess	..	..	1	2	5	3	..	1	..	2	..	..	..	..	..	..	14
Mortification	..	..	..	..	..	1	..	..	1	2	..	..	..	2	..	..	6
Purpura	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Scrofula	..	1	6	2	5	1	3	..	1	1	..	..	..	..	..	..	20
Carcinoma	..	..	..	..	..	1	1	3	3	2	..	5	1	4	..	..	20
Tumor	..	..	1	..	..	2	2	..	..	..	1	..	..	..	..	..	6
Gout	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Atrophy	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Debility	..	..	..	..	5	4	1	..	..	1	..	..	1	..	..	..	12
Malformations	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	2
Enlargement of the Glands	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1
	..	1	8	5	19	14	7	6	6	9	1	5	2	7	..	..	90
Wounds	..	..	..	..	1	..	1	1	..	1	..	..	1	..	1	..	6
Burns and Scalds	2	5	7	3	1	4	1	2	..	2	..	..	..	1	..	..	28
Fractures, Contusions, and Dislocations	..	1	1	4	4	6	9	5	4	6	8	12	1	11	6	..	78
	2	6	8	7	6	10	11	8	4	9	8	12	2	12	7	..	112
Causes not specified	..	..	2	..	4	4	1	3	1	1	1	..	1	..	..	..	18
Total	4	10	50	53	222	238	169	105	64	76	40	45	23	23	11	4	1143

TABLE IV.—*Classification according to Age and Disease.*

MALES AND FEMALES.

DISEASES.	1—3	3—5	5—10	10—15	15—20	20—25	25—30	30—35	35—40	40—45	45—50	50—55	55—60	60—70	70+	?	All Ages.
Small Pox	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Measles	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Scarlatina	..	..	..	1	..	..	2	1	..	..	..	..	..	..	..	..	4
Hooping Cough	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Croup	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Thrush	..	..	1	..	..	..	..	1	1	..	..	..	..	..	..	..	1
Diarrhœa	..	..	..	1	..	..	..	2	..	1	..	..	..	..	..	..	4
Dysentery	..	..	..	..	..	..	2	2	..	1	..	..	..	..	..	..	5
Cholera	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Influenza	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ague	..	..	..	..	1	1	1	..	..	1	..	..	..	..	..	..	4
Remittent Fever	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1
Typhus	..	..	1	6	12	10	9	1	2	5	..	1	..	..	..	1	48
Erysipelas	..	..	1	..	1	4	7	6	6	5	2	1	1	..	..	..	34
Syphilis	..	..	..	..	81	100	52	32	8	7	1	1	2	1	..	4	289
Hydrophobia	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	..	..	3	8	95	115	73	43	17	19	5	3	3	1	..	5	380
Cephalitis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hydrocephalus	1	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1
Apoplexy	..	..	..	..	..	..	..	1	3	..	3	2	..	1	..	..	10
Paralysis	..	1	1	1	2	..	3	6	9	11	6	7	1	1	1	1	51
Convulsions	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Delirium Tremens	..	..	..	..	..	1	..	..	2	..	..	1	..	..	..	..	4
Chorea	..	1	7	13	9	..	1	..	..	..	..	..	..	..	..	..	31
Epilepsy and Hysteria	..	..	..	1	10	15	12	7	1	2	..	..	..	1	..	..	49
Ear (disease of)	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	2
Eye (disease of)	..	..	1	7	8	17	13	6	6	4	3	2	2	3	..	..	73
Brain, &c. (disease of)	..	..	..	..	3	4	3	2	6	2	..	3	..	2	1	..	36
	1	2	10	22	33	37	32	22	27	19	12	15	3	8	2	1	246
Laryngitis	1	..	..	..	..	..	..	..	1	1	1	1	..	..	..	..	5
Quinsey	..	..	1	..	1	2	2	..	..	..	..	..	..	..	..	..	6
Bronchitis	..	..	1	2	6	2	8	5	10	8	10	5	2	3	2	..	64
Pleurisy	..	..	..	..	2	6	4	..	2	..	1	..	..	..	..	..	15
Pneumonia	..	..	..	1	2	2	2	1	3	1	4	3	1	..	..	..	20
Hydrothorax	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Asthma	..	..	..	..	..	3	2	2	..	2	1	2	2	1	..	..	15
Consumption	..	..	..	2	2	14	14	13	8	4	2	1	1	1	..	..	62
Lungs, &c. (disease of)	..	..	1	..	1	3	1	1	..	..	..	1	..	..	..	..	8
	1	..	3	5	14	32	33	22	24	16	19	13	6	5	2	..	195
Teething	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gastritis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Enteritis	..	..	1	2	2	1	2	..	..	1	1	1	..	..	..	..	11
Peritonitis	..	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..	2
Tabes Mesenterica	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Worms	..	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	1
Ascites	..	..	..	..	..	..	1	1	3	..	..	3	..	1	..	..	9
Ulceration	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hernia	..	..	..	..	..	1	..	..	..	2	2	..	2	..	..	..	7
Colic or Ileus	..	..	..	..	2	2	..	2	2	..	..	..	..	..	..	..	8
Intussusception	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Stricture	..	..	..	..	..	1	1	1	..	1	1	2	..	1	..	..	8
Hæmatemesis	..	..	..	..	1	4	..	..	..	..	..	..	..	..	..	..	5
Stomach, &c.	..	..	..	..	4	16	6	4	9	6	1	1	3	2	..	..	53
Pancreas	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hepatitis	..	..	..	..	1	1	..	..	..	..	1	..	..	..	..	..	3
Jaundice	..	..	..	..	2	1	..	1	2	..	1	..	..	..	..	..	7
Liver	..	..	..	..	..	..	..	1	3	..	2	..	2	..	..	..	8
Spleen	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	2
	..	..	2	3	12	27	11	12	19	10	9	7	7	4	..	..	123

TABLE IV.—*continued.*

MALES AND FEMALES.

DISEASES.	1—3	3—5	5—10	10—15	15—20	20—25	25—30	30—35	35—40	40—45	45—50	50—55	55—60	60—70	70+	?	All Ages.
Pericarditis	..	..	..	2	2	5	2	2	..	..	1	..	..	..	..	..	14
Aneurism	..	..	..	..	..	..	1	1	2	1	..	1	..	..	..	..	6
Heart, &c. (disease of)	..	..	..	2	1	7	10	9	3	5	6	2	2	1	..	..	48
	..	..	..	4	3	12	12	12	4	7	8	2	3	1	..	..	68
Nephritis	..	..	..	..	..	1	..	1	1	..	..	..	..	..	..	..	3
Ischuria	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diabetes	..	..	..	..	2	1	1	3	2	1	..	..	..	..	..	..	10
Cystitis	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	..	2
Stone	1	2	1	2	..	1	..	1	..	1	1	1	1	3	..	..	15
Stricture	..	..	..	..	1	4	4	9	5	5	4	3	1	4	1	..	41
Kidneys, &c. (disease of)	..	..	..	..	5	6	5	1	4	5	1	4	..	3	1	..	35
	1	2	1	2	8	13	10	15	12	13	6	8	2	11	2	..	106
Childbirth	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	2
Paramenia	..	..	..	1	18	15	9	5	..	2	2	1	..	..	..	..	53
Ovarian dropsy	..	..	..	..	..	..	1	..	..	..	..	1	..	..	..	..	2
Testes, &c. (disease of)	..	..	..	2	3	7	12	5	5	5	4	1	1	2	2	..	49
	..	..	..	3	21	22	22	12	5	7	6	3	1	2	2	..	106
Arthritis	..	..	..	..	5	10	7	4	2	3	1	..	1	..	..	..	33
Rheumatism	..	..	..	6	29	29	34	25	20	12	12	10	12	3	1	..	193
Joints, &c. (disease of)	..	4	29	26	42	37	23	13	18	13	9	13	4	6	1	..	238
	..	4	29	32	76	76	64	42	40	28	22	23	17	9	2	..	464
Carbuncle	..	..	..	..	1	..	2	..	..	..	..	..	..	1	..	..	4
Phlegmon	1	..	1	1	7	7	1	1	1	1	2	3	..	3	1	..	30
Ulcer	..	..	1	3	11	23	18	22	14	18	11	11	4	7	4	1	148
Fistula	..	..	..	..	1	..	4	3	2	..	1	1	1	..	..	..	13
Skin, &c. (disease of)	..	3	8	10	8	11	8	8	4	2	1	1	4	3	1	..	72
	1	3	10	14	28	41	33	34	21	21	15	16	9	14	6	1	267
Inflammation	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1
Hæmorrhage	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1
Dropsy	..	..	1	..	2	1	2	2	2	3	4	2	..	1	..	..	20
Abscess	1	..	1	2	8	6	4	3	1	3	3	1	..	..	..	..	33
Mortification	..	..	..	..	..	1	1	1	2	2	..	..	..	4	..	..	11
Purpura	..	..	..	1	1	..	..	..	1	..	..	..	..	..	..	..	3
Scrofula	..	2	8	10	10	2	6	..	1	1	..	..	..	..	..	..	40
Enlarged Glands	..	..	1	..	1	2	2	1	1	..	..	1	..	1	..	..	10
Carcinoma	..	..	1	1	..	1	1	3	3	6	1	6	2	6	..	..	31
Tumor	..	..	1	..	..	2	2	..	..	1	2	2	1	1	..	..	12
Gout	..	..	..	..	..	1	1	1	1	2	..	..	1	..	..	..	7
Atrophy	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Debility	..	..	..	..	5	5	1	..	..	1	..	..	1	..	..	..	13
Malformations	..	..	1	2	3	..	..	..	..	..	..	..	..	..	..	..	6
	1	2	14	16	30	22	20	11	12	20	10	12	5	13	..	..	188
Wounds	..	..	2	5	8	6	6	8	8	6	4	5	5	2	2	..	67
Burns and Scalds	3	9	11	4	5	6	3	3	..	2	..	..	..	1	1	..	48
Fractures, Contusions, &c.	1	5	10	16	27	26	31	33	20	43	32	26	10	24	10	..	314
	4	14	23	25	40	38	40	44	28	51	36	31	15	27	13	..	429
Diseases not specified	1	1	3	1	11	8	6	9	1	3	3	..	2	..	..	3	52
Total	10	28	93	135	371	443	356	278	210	214	151	133	73	95	29	10	2634

TABLE V.—*Patients Classified according to Disease and Length of Time in Hospital.*

DISEASES.	WEEKS.				MONTHS.												Total.
	Under 1 Week.	1 and under 2.	2 and under 3.	3 and under 4.	1 —1¼	1¼— 2	2 — 3	3 — 4	4 — 5	5 — 6	6 — 9	9 —12	12—18	18—24	24 +	?	
Small Pox	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Measles	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Scarlatina	2	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	3
Hooping Cough	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Croup	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Thrush	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1
Diarrhœa	..	1	..	2	..	..	1	..	..	..	..	..	..	..	..	..	4
Dysentery	..	1	..	..	1	2	..	1	..	..	..	..	..	..	..	..	5
Cholera	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Influenza	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ague	2	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	4
Remittent Fever	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Typhus	4	13	5	8	14	3	2	..	..	..	..	..	..	..	..	..	49
Erysipelas	3	8	2	3	4	4	3	2	2	..	..	..	..	..	..	..	31
Syphilis	44	47	33	29	43	43	28	10	3	1	3	..	1	..	..	2	287
Hydrophobia	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	55	71	41	43	63	52	34	13	5	1	3	..	1	1	..	2	335
Cephalitis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hydrocephalus	..	..	..	..	1	..	..	..	..	..	..	1	..	..	..	..	1
Apoplexy	1	2	2	..	2	1	1	..	..	..	..	..	..	..	..	..	10
Paralysis	5	4	3	5	11	5	7	5	..	2	3	1	..	..	..	..	51
Convulsions	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Delirium Tremens	3	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4
Chorea	4	4	2	5	5	6	2	3	..	..	..	..	..	..	..	..	31
Epilepsy and Hysteria	6	8	7	3	7	6	5	2	..	1	..	2	..	..	..	..	47
Ear (disease of)	..	..	..	..	2	..	1	..	..	..	..	..	..	..	..	..	3
Eye (disease of)	8	13	6	5	10	8	8	5	2	2	2	1	1	..	..	..	71
Brain, &c. (disease of)	4	3	5	3	3	5	1	2	1	..	..	..	..	..	..	..	27
	31	35	25	21	41	31	25	17	3	5	5	5	1	..	..	..	215
Laryngitis	1	1	..	..	..	..	3	..	..	..	..	..	..	..	..	..	5
Quinsey	4	2	..	..	..	..	1	..	..	..	..	..	..	..	..	..	7
Bronchitis	17	15	7	7	7	9	3	..	..	..	..	..	..	..	..	1	66
Pleurisy	1	3	..	1	3	1	2	1	1	..	1	..	..	1	..	..	15
Pneumonia	5	1	1	1	7	3	1	1	..	..	..	..	..	..	..	..	20
Hydrothorax	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Asthma	2	5	..	..	2	2	4	..	..	..	..	..	..	..	..	..	15
Consumption	8	14	2	6	11	7	8	3	3	..	..	..	1	..	..	..	63
Lungs, &c. (disease of)	2	1	2	2	1	..	..	1	..	..	..	..	..	..	..	..	9
	40	42	12	17	31	22	22	6	4	..	1	..	1	1	..	1	200
Teething	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gastritis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Enteritis	..	1	4	..	1	3	2	..	..	..	..	..	1	..	..	..	12
Peritonitis	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	2
Tabes Mesenterica	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Worms	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Ascites	2	2	1	..	3	..	..	..	..	..	..	..	..	..	..	..	8
Ulceration	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hernia	1	3	..	..	3	..	..	..	..	..	1	..	..	..	..	..	7
Colic or Ileus	..	2	1	..	1	1	2	..	..	1	..	..	..	..	..	..	8
Intussusception	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Stricture	1	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	3
Hæmatemesis	..	1	..	1	3	..	..	..	..	..	..	..	..	..	..	..	5
Stomach, &c. (disease of)	5	5	6	7	14	7	2	2	..	1	1	..	..	..	..	..	50
Pancreas (disease of)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hepatitis	1	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	3
Jaundice	4	1	..	..	1	..	..	..	1	..	..	..	..	..	..	..	7
Liver (disease of)	1	1	2	2	..	..	2	..	1	..	..	..	..	..	..	..	9
Spleen (disease of)	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	2
	16	17	16	10	29	13	8	2	2	2	1	..	1	..	..	..	117

TABLE V.—*continued.*

DISEASES.	WEEKS.				MONTHS.												Total.
	Under 1 Week.	1 and under 2.	2 and under 3.	3 and under 4.	1 —1¼	1¼— 2	2 — 3	3 — 4	4 — 5	5 — 6	6 — 9	9 —12	12—18	18—24	24 +	?	
Pericarditis	..	4	3	..	5	2	..	1	..	..	..	..	..	..	..	..	15
Aneurism	..	..	..	1	1	..	3	..	1	..	1	..	..	..	..	..	7
Heart, &c. (disease of)	5	12	3	7	6	4	2	4	2	..	2	..	1	..	..	..	48
	5	16	6	8	12	6	5	5	3	..	3	..	1	..	..	..	70
Nephritis	1	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	3
Ischuria	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diabetes	..	1	..	..	1	2	2	3	1	1	..	..	..	..	..	..	11
Cystitis	..	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	2
Stone	3	1	..	2	6	..	..	2	1	..	..	..	..	..	..	..	15
Stricture	11	5	5	2	8	5	6	1	2	..	..	1	..	..	..	..	46
Kidneys, &c. (disease of)	4	2	5	4	6	5	5	2	2	..	..	..	..	..	..	..	35
	19	9	11	8	21	13	13	10	6	1	..	1	..	..	..	..	112
Childbirth	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	2
Paramenia	6	8	9	7	11	5	4	1	4	..	1	..	1	..	..	..	57
Ovarian Dropsy	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	..	2
Organs of Generation (disease of)	5	5	4	7	10	7	5	1	2	..	..	..	2	..	2	1	51
	12	13	13	15	21	13	9	2	6	..	1	..	3	1	2	1	112
Arthritis	7	4	5	7	3	4	6	2	..	..	..	..	..	..	..	..	38
Rheumatism	32	28	33	20	25	19	24	4	3	..	2	..	..	..	..	..	190
Joints, &c. (disease of)	20	30	24	19	28	17	24	14	16	10	19	9	1	..	2	1	234
	59	62	62	46	56	40	54	20	19	10	21	9	1	..	2	1	462
Carbuncle	1	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	3
Phlegmon	5	2	2	3	7	2	2	3	..	..	..	1	..	..	..	..	27
Ulcer	11	21	17	17	30	19	16	5	5	2	4	..	..	..	..	1	148
Fistula	..	1	2	1	3	1	3	1	..	1	..	..	..	..	..	..	13
Skin, &c. (disease of)	5	15	9	6	11	10	9	3	..	..	1	2	1	..	1	1	74
	22	40	30	27	52	32	30	12	5	3	5	2	2	..	1	2	265
Inflammation	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	2
Hæmorrhage	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Dropsy	2	3	2	2	4	2	3	1	1	..	..	..	..	..	..	..	20
Abscess	3	5	6	5	5	1	3	2	2	..	..	..	..	..	..	..	32
Mortification	2	1	1	2	2	1	1	..	..	..	1	..	..	..	..	..	11
Purpura	..	1	1	..	1	..	..	..	..	..	..	..	..	..	..	..	3
Scrofula	5	3	7	5	8	3	2	2	1	1	2	..	..	..	..	..	39
Carcinoma	2	7	1	..	10	2	4	..	3	..	..	2	..	..	..	..	31
Tumor	1	1	3	..	1	1	3	..	..	..	..	..	..	..	..	..	10
Gout	1	..	1	..	3	1	..	..	1	..	..	..	..	..	..	..	7
Atrophy	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Debility	2	4	2	1	3	..	1	..	..	..	..	..	..	..	..	..	13
Malformations	1	..	1	1	..	..	..	1	1	..	1	..	..	..	..	..	6
Enlargement of the Glands	1	2	3	2	1	..	..	..	..	..	..	1	..	..	..	..	10
	20	28	29	18	39	11	17	6	9	1	4	3	..	..	..	..	185
Wounds	8	14	10	6	6	10	4	6	..	2	1	..	..	..	..	..	67
Burns and Scalds	3	10	8	6	7	3	8	1	2	1	..	..	..	..	..	..	49
Fractures, Contusions, and Dislocations	35	47	63	40	45	34	21	14	8	4	2	..	..	..	..	1	314
	46	71	81	52	58	47	33	21	10	7	3	..	..	..	..	1	430
Diseases not specified	3	2	3	3	4	2	15	10	1	3	5	..	..	..	..	..	51
Total	328	406	329	268	427	282	265	124	73	33	52	20	11	3	5	8	2,631

TABLE VI.—*Patients Classified according to Disease and Duration of Illness.*

DISEASES.	WEEKS.				MONTHS.						YEARS.									Total.
	Under 1 Week.	1 and under 2.	2 and under 3.	3 and under 4.	1—1½	1½—2	2 — 3	3 — 6	6 — 9	9 —12	1 —1½	1½— 2	2 — 3	3 — 4	4 — 5	5 —10	10—15	15+	?	
Small Pox	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Measles	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Scarlatina	1	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3
Hooping Cough	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Croup	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1
Thrush	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1
Diarrhœa	..	..	..	1	1	..	1	..	2	..	1	..	..	..	..	..	..	..	1	4
Dysentery	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1
Cholera	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5
Influenza	..	..	..	..	..	..	..	1	1	..	..	..	1	..	..	..	..	..	1	4
Ague	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1
Remittent Fever	..	..	..	..	14	5	6	1	1	..	..	..	..	..	..	..	..	..	6	49
Typhus	..	4	4	8	6	2	1	8	1	..	..	..	..	..	2	..	..	..	2	33
Erysipelas	..	5	4	2	29	26	56	85	27	10	14	2	9	3	2	2	..	12	..	291
Syphilis	..	3	6	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hydrophobia	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1	13	14	15	50	33	64	96	33	10	15	3	10	3	4	2	2	.. 23		391
Cephalitis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1
Hydrocephalus	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	10
Apoplexy	..	..	1	2	2	..	..	2	..	1	..	..	..	1	..	..	..	..	..	50
Paralysis	..	1	1	1	4	4	5	11	3	6	3	1	3	3	..	3	..	1	..	3
Convulsions	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	30
Delirium Tremens	..	..	2	..	..	..	..	..	..	..	..	..	..	..	1	..	..	3	..	47
Chorea	..	..	..	..	1	4	8	9	2	2	..	..	..	..	..	..	..	3	..	3
Epilepsy and Hysteria	..	1	1	2	2	3	7	6	..	3	2	2	3	5	1	2	4	..	..	47
Ear (disease of)	..	..	..	..	..	..	1	..	..	1	..	..	1	..	..	..	..	..	..	3
Eye (disease of)	1	..	2	4	9	3	4	9	8	1	5	2	4	2	..	8	..	1	7	70
Brain, &c. (disease of)	..	1	..	1	1	2	5	4	3	2	4	..	1	..	..	1	..	..	2	27
	1	3	7	10	19	16	30	41	16	16	14	5	12	11	2	15	4	1 18		241
Laryngitis	..	..	..	..	..	..	..	2	..	1	1	..	..	..	..	..	..	1	1	5
Quinsey	..	2	..	1	1	..	..	1	..	..	1	..	..	..	..	..	..	1	1	7
Bronchitis	..	3	5	4	6	4	9	18	1	1	2	1	..	2	1	3	..	1	4	65
Pleurisy	..	1	2	..	2	..	3	2	1	1	..	2	..	..	..	..	..	..	1	15
Pneumonia	1	..	1	..	1	3	5	3	2	1	..	..	1	..	..	..	..	..	2	20
Hydrothorax	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Asthma	..	..	1	..	..	..	..	4	..	..	2	1	3	1	1	2	..	..	..	15
Consumption	..	..	..	1	2	..	6	19	12	5	3	1	5	2	1	..	1	1	4	63
Lungs, &c. (disease of)	..	..	1	1	2	..	..	2	..	1	..	..	1	..	..	..	..	..	1	9
	1	6	10	7	14	7	23	51	16	10	9	5	10	5	3	5	1	2 14		199
Teething	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gastritis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Enteritis	..	..	..	2	1	1	3	3	..	..	1	1	..	..	..	..	..	..	..	12
Peritonitis	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
Tabes Mesenterica	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Worms	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1
Ascites	..	..	1	..	1	..	1	2	1	..	..	..	..	..	1	..	..	..	..	8
Ulceration	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..
Hernia	..	2	..	..	2	..	..	..	1	..	..	1	..	..	..	..	1	..	1	7
Colic or Ileus	..	..	..	..	..	..	..	2	2	..	..	..	..	..	..	..	..	..	2	8
Intussusception	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..
Stricture	..	..	..	..	..	..	..	..	..	..	..	1	..	1	1	..	..	1	..	5
Hæmatemesis	..	..	..	..	2	1	1	..	..	..	..	..	..	..	..	..	..	..	1	5
Stomach, &c. (disease of)	..	..	..	..	1	3	1	8	10	7	7	..	2	3	..	3	..	2	5	58
Pancreas (disease of)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3
Hepatitis	1	..	..	..	..	..	..	2	1	..	..	..	..	..	..	..	..	..	1	7
Jaundice	..	..	..	..	1	..	1	3	1	..	..	..	..	..	..	..	..	..	1	9
Liver (disease of)	..	..	..	..	1	1	2	..	2	..	..	..	1	..	1	..	..	..	..	2
Spleen (disease of)	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..
	2	2	2	2	10	6	9	21	18	7	9	3	3	5	1	3	2	3 13		121

TABLE VI.—*continued.*

DISEASES.	WEEKS.				MONTHS.						YEARS.									Total.
	Under 1 Week.	1 and under 2.	2 and under 3.	3 and under 4.	1 —1½	1½— 2	2 — 3	3 — 6	6 — 9	9 —12	1 —1½	1½— 2	2 — 3	3 — 4	4 — 5	5 —10	10—15	15+	?	
Pericarditis	..	..	4	..	4	2	2	2	..	..	..	..	..	..	..	1	..	..	..	15
Aneurism	..	..	..	..	..	..	..	..	1	2	1	1	..	1	1	..	..	..	..	7
Heart, &c. (disease of)	..	..	1	1	3	3	4	9	5	1	8	5	5	1	2	..	1	..	..	49
	..	..	5	1	7	5	6	11	6	3	9	6	5	1	3	2	1	..	..	71
Nephritis	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	1	3
Ischuria	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diabetes	..	..	..	..	..	..	..	2	1	1	4	1	1	..	..	..	..	..	1	11
Cystitis	..	..	..	..	..	..	1	..	..	1	1	..	..	..	..	..	..	..	..	2
Stone	..	1	..	..	..	..	..	1	..	1	1	..	1	3	1	3	3	..	..	15
Stricture	1	..	1	..	1	2	3	3	2	1	5	..	2	4	4	6	1	3	4	43
Kidneys, &c. (disease of)	..	..	1	1	3	3	2	8	4	3	2	1	3	2	..	..	..	..	..	33
	1	1	2	1	5	5	6	14	7	6	13	2	7	9	6	9	4	3	6	107
Childbirth	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
Paramenia	..	1	..	1	3	1	2	16	8	2	5	1	1	1	..	4	1	..	7	54
Ovarian Dropsy	..	..	..	..	..	..	..	1	..	..	..	..	1	..	..	..	..	..	..	2
Organs of Generation (disease of)	2	1	1	..	..	1	10	9	5	1	3	2	1	3	1	6	2	1	..	49
	2	2	1	1	5	2	12	26	13	3	8	3	3	4	1	10	3	1	7	107
Arthritis	..	..	2	2	5	1	7	4	1	2	2	..	4	1	1	..	..	..	4	36
Rheumatism	2	4	10	11	29	17	36	38	16	2	6	..	6	..	..	..	3	..	13	193
Joints, &c. (disease of)	1	2	4	4	9	12	12	42	25	24	31	14	23	8	5	10	4	1	6	237
	3	6	16	17	43	30	55	84	42	23	39	14	33	9	6	10	7	1	23	466
Carbuncle	..	..	1	..	..	1	..	1	..	..	..	..	..	..	..	..	1	..	..	4
Phlegmon	2	2	2	2	5	5	5	4	..	3	1	1	..	..	..	..	..	..	..	32
Ulcer	2	..	2	..	8	6	20	30	20	5	9	4	11	7	5	5	4	1	9	148
Fistula	..	..	..	..	2	..	..	3	..	2	1	..	2	1	..	1	1	..	..	14
Skin, &c. (disease of)	..	..	..	3	6	3	7	12	7	2	5	1	5	2	3	2	2	3	9	72
	4	2	5	5	21	15	32	50	27	12	16	7	18	10	8	8	8	4	18	270
Inflammation	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	2
Hæmorrhage	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	1
Dropsy	..	..	1	2	..	3	3	6	2	..	..	..	..	..	1	..	..	..	2	20
Abscess	..	2	1	4	2	3	4	7	3	1	1	..	..	..	1	..	..	..	3	32
Mortification	..	..	1	..	1	1	4	..	2	2	..	..	..	..	..	..	..	..	..	11
Purpura	..	..	..	..	2	..	..	1	..	..	..	..	..	..	..	..	..	..	..	3
Scrofula	..	..	1	1	1	2	4	3	4	1	4	1	4	5	1	2	1	..	4	39
Carcinoma	..	..	..	..	..	..	..	4	2	1	6	3	11	..	..	2	1	1	2	33
Tumour	..	..	..	..	..	..	..	2	3	..	2	..	..	1	..	1	1	..	1	11
Gout	..	..	1	1	1	..	..	3	..	..	..	..	..	..	1	..	..	..	..	7
Atrophy	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Debility	..	..	..	1	2	2	2	3	..	..	2	..	..	..	..	..	..	..	1	13
Malformations	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	6
Enlargement of the Glands	..	..	1	1	2	..	..	2	1	..	..	1	..	2	..	..	..	..	..	10
	..	2	7	10	12	12	17	31	17	5	15	5	15	9	4	6	4	4	13	188
Wounds	6	11	13	4	9	7	5	8	1	..	..	..	..	..	..	1	..	..	..	65
Burns and Scalds	2	8	10	4	8	2	9	5	..	..	..	..	..	..	..	..	..	..	..	48
Fractures, Contusions, and Dislocations	25	41	68	39	48	32	18	29	6	1	2	..	1	..	..	1	..	..	2	313
	33	60	91	47	65	41	32	42	7	1	2	..	1	..	..	2	..	..	2	426
Diseases not specified	1	..	..	..	2	..	2	5	6	6	4	..	7	..	1	2	..	..	11	47
Total	49	97	160	116	253	172	288	472	208	107	153	53	124	66	39	74	36	19	148	2,634

TABLE VII.—*Deaths in the London Hospitals, 1842; comprising the Sex, Age, and Cause of Death.*

Age.	0		1		3		5		10		15		20		30		40		50		60		70		80		90		100		(?)		Total.		Total Males and Females.	Total Deaths in Metropolis.
Causes of Death.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.		
All Causes.	6	3	20	8	14	15	41	43	37	27	52	48	203	156	271	105	266	103	164	92	92	45	44	24	4	8	..	1	..	..	1	..	1,220	678	1,898	45,400
Specified Causes	6	3	19	8	14	15	41	43	37	27	52	48	203	155	271	104	265	103	163	92	91	45	44	24	4	8	..	1	..	..	1	..	1,216	676	1,892	45,082
I. Zymotic (or Epidemic, Endemic, and Contagious) Diseases	..	1	..	..	1	3	3	..	7	4	5	10	24	18	23	8	16	2	6	7	4	3	1	..	..	..	..	..	..	..	..	90	56	146	7,696
Sporadic Diseases—																																		
II. of uncertain or variable Seat	1	..	..	1	1	..	7	2	3	4	4	3	25	29	41	27	41	27	26	34	19	9	5	5	..	1	..	..	..	..	1	..	174	142	316	5,715
III. of the Nervous System	2	..	3	2	..	1	2	2	4	2	4	5	10	12	25	5	26	6	10	5	5	1	2	..	1	..	..	..	..	..	..	..	92	48	140	7,505
IV. of the Respiratory Organs	..	..	..	..	1	1	1	2	3	3	18	12	72	45	33	30	79	22	56	9	17	7	9	2	..	..	..	..	..	..	..	..	344	133	477	13,990
V. of the Organs of Circulation	1	..	..	..	..	..	1	1	4	..	3	3	17	13	22	9	23	15	8	5	6	3	..	..	..	..	..	..	..	..	..	..	85	49	134	1,046
VI. of the Digestive Organs	..	..	..	..	1	..	..	1	3	1	5	2	11	14	15	7	13	7	12	12	4	6	2	3	1	1	..	..	..	..	..	..	67	54	121	3,396
VII. of the Urinary Organs	..	..	..	..	..	..	..	..	3	1	..	1	6	2	13	2	11	5	13	2	11	..	8	..	1	..	..	..	..	..	..	..	65	13	78	323
VIII. of the Organs of Generation	..	..	..	..	..	..	..	..	..	..	..	..	..	3	..	6	..	4	1	1	1	..	..	..	..	..	..	..	..	..	..	..	2	14	16	445
IX. of the Organs of Locomotion	..	..	..	..	..	..	6	..	..	2	5	2	13	6	10	1	7	2	3	1	2	1	1	..	..	..	..	..	..	..	..	..	47	15	62	230
X. of the Integumentary System	..	..	..	..	..	..	..	..	..	..	..	..	1	2	..	..	1	2	1	..	2	1	1	..	..	..	..	..	..	..	..	..	6	5	11	73
XI. Old Age	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	2	1	1	1	..	..	..	..	..	..	5	2	7	3,346
XII. External Causes; — Poisoning, Asphyxia, Injuries	2	2	16	5	10	10	21	35	10	10	8	10	29	11	35	9	48	11	27	16	18	10	14	11	1	4	..	1	..	..	..	..	239	145	384	1,267
I. 1. Small Pox	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	360
2. Measles	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1,293
3. Scarlatina	..	..	..	..	..	..	3	..	..	..	..	..	1	3	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	4	9	1,224
4. Hooping Cough	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1,603
5. Croup	..	..	..	..	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	3	438
6. Thrush	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	1	2	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	246
7. Diarrhœa	..	..	..	..	..	..	..	..	..	..	..	1	2	2	..	..	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	6	3	9	704
8. Dysentery	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	5	1	6	151
9. Cholera	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	2	..	2	118
10. Influenza	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	78
11. Ague	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	20
12. Remittent Fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	17
13. Typhus	..	..	..	..	1	..	..	..	6	4	4	7	16	8	12	3	5	..	2	3	..	..	..	..	..	..	..	..	..	..	..	..	46	25	71	1,174
4. Erysipelas	..	..	..	..	..	..	..	..	..	..	..	1	4	1	5	3	9	2	1	4	4	2	..	..	..	..	..	..	..	..	..	..	23	13	36	235
5. Syphilis	..	1	..	..	..	..	..	..	..	..	1	2	..	4	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	2	7	9	31
16. Hydrophobia	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4
I. 17. Inflammation	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	262
18. Hæmorrhage	..	..	..	..	..	..	..	..	..	..	..	..	..	..	26	17	30	17	15	20	13	4	2	3	..	..	..	..	..	..	..	..	3	..	3	156
19. Dropsy	..	..	..	..	..	..	4	1	2	1	4	1	16	21	4	..	1	1	2	1	..	..	..	..	..	..	..	..	..	..	..	..	112	85	197	1,750
20. Abscess	..	..	..	..	..	..	..	..	..	2	..	1	6	2	1	1	1	1	3	..	2	..	1	1	..	1	..	..	..	..	..	..	9	8	17	180
21. Mortification	..	..	..	..	..	..	1	..	..	..	..	1	..	4	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	16
22. Purpura	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	6	2	8	109
23. Scrofula	..	..	..	1	..	..	1	..	1	1	..	3	..	..	2	7	3	7	3	9	2	4	2	1	..	..	..	..	..	..	..	..	13	29	42	429
24. Carcinoma	..	..	..	..	..	..	1	1	..	..	..	..	..	..	2	2	..	1	1	2	1	..	..	..	..	..	..	..	..	..	..	..	5	5	10	86
25. Tumour	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	73
26. Gout	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	2	457
27. Atrophy	1	..	..	..	..	..	..	..	..	..	..	..	..	2	1	..	1	1	1	1	..	..	..	..	..	..	..	..	..	..	..	..	3	4	7	1,148
28. Debility	1	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	3	..	..	1	..	..	..	..	..	..	..	..	..	1	..	..	6	1	7	870
29. Malformations	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	1	2	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	10	8	18	595
30. Sudden Deaths	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	2	5	1,743
III. 31. Cephalitis	..	..	1	1	..	..	..	..	..	..	3	..	2	3	3	..	3	1	3	4	2	2	1	1	..	1	..	..	..	..	..	..	14	10	24	814
32. Hydrocephalus	..	..	2	..	..	1	..	1	1	..	..	1	..	2	4	1	11	1	2	..	1	3	..	1	..	..	..	..	..	..	..	..	19	10	29	776
33. Apoplexy	..	..	..	..	..	1	..	..	..	1	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	2	4	2,773
34. Paralysis	..	..	..	..	..	..	..	1	..	1	..	1	1	1	3	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	6	1	7	15
35. Convulsions	2	..	..	..	..	..	..	..	1	..	1	..	1	1	4	..	1	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	2	2	4
36. Tetanus	..	..	..	..	..	..	..	..	1	..	1	..	1	..	2	..	1	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	9	1	10	190
37. Chorea	..	..	..	..	..	..	..	1	..	..	1	..	1	..	2	1	5	..	1	1	1	..	..	..	..	..	..	..	..	..	..	..	12	2	14	76
38. Epilepsy	..	..	..	..	..	..	..	..	1	..	..	1	..	1	7	2	4	1	1	1	..	..	..	..	..	..	..	..	..	..	..	..	17	10	27	474
39. Insanity	..	..	..	..	..	..	..	..	..	..	..	3	..	4	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	2	20
40. Delirium Tremens	..	..	..	..	..	..	..	..	..	..	..	3	..	4	2	1	3	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	2	1	3	63
41. Brain, &c. (Disease of)	..	..	..	1	..	..	1	..	..	..	1	1	..	3	1	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	2	..	2	679
IV. 42. Laryngitis	..	..	..	..	..	1	..	..	..	..	..	..	..	1	9	3	12	2	9	5	4	3	1	..	..	..	..	..	..	..	..	..	42	15	57	75
43. Quinsey	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	2	1	1	1	1	2	..	..	..	..	..	..	..	..	..	..	8	5	13	3,923
44. Bronchitis	..	..	..	..	..	..	..	..	..	..	1	..	6	2	8	1	10	1	5	..	2	..	1	1	..	..	..	..	..	..	..	..	34	6	40	209
45. Pleurisy	..	..	..	..	..	..	..	..	..	..	1	1	3	1	3	..	3	1	2	..	2	..	2	1	..	..	..	..	..	..	..	..	12	2	14	1,109
46. Pneumonia	..	..	..	..	1	..	..	..	1	..	1	1	7	2	1																					
47. Hydrothorax	..	..	..	..	..	..	..	..	..	..	..	..	..	1																						
48. Asthma	..	..	..	..	..	..	..	..	..	..	..	..	..	..																						

TABLE VII.—*Deaths in the London Hospitals, 1842;*

comprising the Sex, Age, and Cause of Death.—continued.

	Age.	0		1		3		5		10		15		20		30		40		50		60		70		80		90		100		(?)		Total.		Total Males and Females.	Total Deaths in Metropolis.
	Causes of Death.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.		
	49. Phthisis (or Consumption)	..	..	..	..	..	..	1	2	1	3	15	10	55	36	63	25	46	16	34	3	8	2	1	..	..	..	..	..	..	..	..	..	224	97	321	7,145
	50. Lungs, &c. (Disease of)	..	..	..	..	..	..	..	..	1	..	1	1	..	3	3	1	5	1	5	..	1	..	4	..	..	..	..	..	..	..	..	..	20	6	26	767
V.	51. Pericarditis	..	..	..	..	..	..	..	..	..	..	..	2	..	..	2	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	3	5	33
	52. Aneurism	..	..	..	..	..	..	..	..	..	..	1	..	..	1	1	2	3	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	4	9	24
	53. Heart, &c. (Disease of)	1	..	..	..	..	..	1	1	4	..	2	1	17	18	19	6	20	14	8	5	6	3	..	..	..	..	..	..	..	..	..	..	78	42	120	989
VI.	54. Teething	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	914
	55. Gastritis	..	..	..	..	..	..	..	..	..	..	2	1	1	4	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	7	10	996
	56. Enteritis																																		
	57. Peritonitis	..	..	..	..	1	..	..	..	..	..	2	..	1	1	2	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	6	2	8	64
	58. Tabes Mesenterica	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	285
	59. Worms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	17
	60. Ascites	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	3	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	6	..	6	31
	61. Ulceration	..	..	..	..	..	..	..	..	..	..	..	..	1	1	1	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	2	3	5	78
	62. Hernia	..	..	..	..	..	..	..	..	1	..	..	..	3	..	2	1	4	3	3	6	..	4	1	3	1	1	..	..	..	..	..	..	15	18	33	93
	63. Colic, or Ileus	..	..	..	..	..	..	..	..	..	..	..	..	2	1	1	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	5	1	6	125
	64. Intussusception	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	8
	65. Stricture	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	2	2	4	21
	66. Hæmatemesis	..	..	..	..	..	..	..	..	..	..	1	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	..	3	23
	67. Stomach, &c. (Disease of)	..	..	..	..	..	..	..	..	..	..	..	1	1	1	4	3	3	1	4	..	..	..	..	..	..	..	..	..	..	..	..	..	12	6	18	193
	68. Pancreas (Disease of)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	69. Hepatitis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	1	51
	70. Jaundice	..	..	..	..	..	..	..	..	..	..	..	..	1	4	1	1	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	2	7	9	106
	71. Liver (Disease of)	..	..	..	..	..	..	..	..	..	1	..	..	..	1	3	1	3	..	3	1	1	1	1	..	..	..	..	..	..	..	..	..	11	5	16	382
	72. Spleen (Disease of)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	9
VII.	73. Nepthritis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	19
	74. Ischuria	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5
	75. Diabetes	..	..	..	..	..	..	..	..	2	..	..	1	..	..	2	..	2	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7	1	8	20
	76. Cystitis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	19
	77. Stone	..	..	..	..	..	..	..	..	1	..	..	..	..	..	2	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	5	..	5	20
	78. Stricture	..	..	..	..	..	..	..	..	..	..	..	1	1	1	3	..	2	1	11	..	1	..	5	..	1	..	..	..	..	..	..	..	24	2	26	40
	79. Kidneys, &c. (Disease of)	..	..	..	..	..	..	..	..	..	..	1	..	1	4	5	2	5	3	2	2	8	..	3	..	..	..	..	..	..	..	..	..	27	10	37	200
VIII.	80. Childbirth	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	321
	81. Paramenia	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	2	11
	82. Ovarian Dropsy	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	2	14
	83. Organs of Generation (Disease of)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	..	4	1	1	1	..	..	..	..	..	..	..	..	..	..	..	2	9	11	99
IX.	84. Arthritis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	85. Rheumatism	..	..	..	..	..	..	..	..	..	..	..	..	1	1	4	..	4	..	2	1	..	..	..	..	..	..	..	..	..	..	..	..	11	2	13	119
	86. Joints, &c. (Disease of)	..	..	..	..	..	..	6	..	..	2	5	1	12	6	6	1	3	2	1	..	2	1	1	..	..	..	..	..	..	..	..	..	36	13	49	161
X.	87. Carbuncle	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	1	5
	88. Phlegmon	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	2	..	2	3
	89. Ulcer	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	1	..	1	..	..	..	..	..	..	..	..	..	..	1	3	4	24
	90. Fistula	..	..	..	..	..	..	..	..	..	..	..	..	1	2	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	2	4	12
	91. Skin, &c. (Disease of)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	29
XI.	92. Old Age	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	2	1	1	1	..	..	..	..	..	..	5	2	7	3,346
XII.	93. Intemperance	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	22
	94. Starvation	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	20
	95. Violent Deaths	2	2	16	5	10	10	21	35	10	10	8	10	29	11	34	9	48	11	27	16	18	10	14	11	1	4	..	1	..	..	..	..	238	145	383	1,225
	Causes not specified	..	..	1	..	..	..	..	..	..	..	..	..	..	1	..	1	1	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	4	2	6	318

NOTE.—This Table contains the Deaths in the following Hospitals, viz. St. George's, Charing Cross, Middlesex, North London, Westminster, St. Bartholomew's, London, Guy's, and St. Thomas's.

A Third Contribution to a Knowledge of the Influence of Employments upon Health. By WILLIAM AUGUSTUS GUY, M.B. Cantab., Professor of Forensic Medicine, King's College, and Physician to King's College Hospital, Hon. Sec., &c.

[*Read before the Statistical Society of London, May 20th,* 1844.]

IN the last two numbers of the Journal of the Statistical Society, the influence of employments upon health was illustrated by means of probabilities confessedly open to objection, and still standing in need of confirmation. The ratio of cases of pulmonary consumption to those of all other diseases occurring among the out-patients of a public hospital (the first test employed) was obviously insufficient, inasmuch as that ratio will depend upon the comparative frequency of many diseases of a trivial nature, which may vary with the several employments. This being the case, it has seemed advisable to confirm the probability derived from this source by another probability open to a different class of objections. Such is the ratio of cases of death by consumption to those due to all other causes, as gleaned from the sanitary registers for the year 1839; which registers have been already employed in the latter part of the author's last communication to the Society.

These registers, as has been already stated, are open to the objection that the causes of death are often imperfectly registered. Without intending to lessen the force of this objection, as applying to the greater number of diseases, there is reason to believe that the cases registered as death by consumption, pulmonary consumption, decline, phthisis, &c., above the age of 15, form nearer approximations to the actual facts than almost any other class of diseases, and that, for purposes of comparison, they may be used with some degree of confidence.

The first object of the present Essay is to ascertain whether, and to what extent, the ratio which cases entered under these titles bear to all other diseases, corresponds with the ratio already obtained from the books of the King's College Hospital; for if a close correspondence shall be discovered, it will add great strength to the probability already deduced from the last-named source. Another object is to illustrate a question of considerable interest and importance, for which the hospital registers did not furnish the requisite materials, viz.: whether the several classes of society, the gentry, tradesmen, and working men, are equally liable to attacks of pulmonary consumption? The answer to this question will lead to a consideration of the causes of the unequal prevalence of the disease among the three classes; and this will suggest a further inquiry as to the actual amount of pulmonary consumption in this country; and will originate an attempt to determine the actual waste of human life due to this cause.

It is proposed in this communication to follow as closely as possible the order observed in the Essays already laid before the Society.

The following table shows, for in-door and out-door employments, the per centage proportion of deaths from pulmonary consumption at different ages, and under 30 and 40 years respectively, the ratio which such cases bear to the deaths from all other causes, and the total number of cases on which the calculations are founded :—

TABLE I.

Nature of Occupation.	15 to 20	20 to 30	30 to 40	40 to 50	50 to 60	60 to 70	70 to 80	Under 30	Under 40	Ratio of Deaths from Consumption to those from all other diseases.	No. of Deaths.	
											Consumption	Other Diseases.
In-door....	9·14	25·88	24·78	21·22	12·55	5·81	0·62	35·02	59·80	1 to 2·08	1291	2687
Out-door...	4·87	20·93	28·04	24·73	14·31	6·82	0·29	25·80	53·84	1 to 2·56	1027	2621

The following table contrasts the same classes of employment after all exceptional occupations have been excluded :—

TABLE II.

Nature of Occupation.	15 to 20	20 to 30	30 to 40	40 to 50	50 to 60	60 to 70	70 to 80	Under 30	Under 40	Ratio.	No. of Deaths.	
											Consumption	Other Diseases.
In-door....	9·57	27·96	23·98	20·32	11·40	6·13	0·64	37·53	61·51	1 to 1·98	930	1844
Out-door...	4·79	20·00	28·65	24·48	14·69	7·08	0·31	24·79	53·44	1 to 2·56	960	2453

The correspondence between these two tables and Tables IV., V., XIII., and XV. of the first essay is even greater than might have been anticipated. The ratio obtained from the hospital books, and those derived from the mortuary registers, agree in displaying the greater liability to attacks of consumption of persons employed within-doors. On comparing Table V. of the former essay, with Table II. of the present, it will be seen that the ratios are, for in-door occupations, 1 to 3·81 and 1 to 1·98 respectively; and for out-door occupations, 1 to 4·13 and 1 to 2·56 respectively. In Table IV. of the first essay, which contrasts in-door and out-door employments previous to the elimination of certain exceptional occupations, the ratios were the same for the two classes of employment, while in Table I. of the present essay the ratios are 1 to 2·08 and 1 to 2·56. The deaths, then, present a stronger contrast between in-door and out-door employments than the facts extracted from the hospital books; but the two classes of facts strongly confirm each other.

There is also an entire agreement between Tables XIII. and XV. of the former essay and Tables I. and II. of the present, in respect of the distribution of the cases and deaths from consumption according to age. The cases of consumption registered in the hospital books, as occurring under 40 years of age, in men following in-door and out-door employments respectively, were in round numbers 81 and 63 (Table XIII.), or 83 and 62 (Table XV.); and in the present essay the numbers are 60 and 54 (Table I.), or 61 and 53 (Table II.). So that here also the two classes of employment occupy the same relative place, and indicate the same comparative liability to consumption, whether the hospital books or the mortuary registers are used as the mean of comparison. Both agree in representing pulmonary consumption to be both more frequent, and of earlier occurrence, in men following in-door employments, than in those working in the open air.

The next inquiry entered into in the first essay, was the influence of different degrees of exertion in promoting pulmonary consumption, and

in hastening the period of its attack. This point was illustrated by Tables VI. and XVII. of that essay. The following table shows, for occupations requiring different degrees of exertion, the per centage proportion dying of pulmonary consumption at each period of life, and under 30 and 40 years of age, the ratio of deaths from that disease, and the number of facts upon which the table is founded:—

TABLE III.

Nature of Occupation.	15 to 20	20 to 30	30 to 40	40 to 50	50 to 60	60 to 70	70 to 80	Under 30	Under 40	Ratio.	No. of Deaths.	
											Consumption	Other Diseases.
In-door:												
Requiring little exertion . .	11·85	32·21	22·42	19·07	10·48	2·58	1·29	44·06	66·48	1 to 1·76	368	684
Requiring more exertion . .	8·37	23·91	23·21	23·21	12·68	7·90	0·72	32·28	55·49	1 to 2·20	418	891
Requiring great exertion . .	8·22	23·29	23·29	13·70	21·91	8·22	1·37	31·51	54·80	1 to 2·10	73	152
With varied exercise	6·01	25·56	30·08	16·54	9·02	10·53	2·25	31·57	61·65	1 to 2·27	133	302
Out-door:												
Requiring moderate exertion	8·92	23·80	26·78	20·86	10·71	8·33	0·60	32·72	59·50	1 to 2·21	168	372
Requiring greater exertion .	3·55	17·41	28·24	26·83	16·87	6·75	0·35	20·96	49·20	1 to 2·27	563	1279

In the case of in-door occupations, there is the same general agreement between the results of the foregoing table and those of the first essay, which has just been noticed in comparing in-door with out-door occupations.

The ratios obtained from the hospital books were, for the first three classes of employment, 1 to 3·08, 1 to 4·44, and 1 to 5·06; those deduced from the mortuary registers are, 1 to 1·76, 1 to 2·20, and 1 to 2·10. In both cases the sedentary class of occupations holds the same place, and presents the highest ratio; but employments requiring great exertion hold the second instead of the third place in the mortuary registers. The difference, however, which causes this change of place is so slight as scarcely to deserve attention, and may probably be explained by the small number of deaths entered under this head.

The age at which pulmonary consumption proves fatal in the three classes of in-door employment corresponds with the age of attack, as obtained from the hospital books. The numbers under 30 and 40 years of age respectively follow the same order as in Table XVII. of the first essay.

In the class of employments with varied exercise, the proportion of deaths from consumption under 40 years of age does not bear the same relation to the other classes as does the proportion of attacks of consumption. The proportion of deaths under 40 ranks next to that obtained for the sedentary class of occupations, while the proportion of attacks under 40 is higher than that which prevails among persons following sedentary occupations. Though the position of these two classes is different, the two together occupy the same place, in respect of the other two classes of in-door occupation. It will be observed, that the proportion of deaths under 30 does not preserve the same relative position as the proportion under 40 years of age.

On referring to the employments carried on in the open air, it will be seen that the ratio of deaths is somewhat higher in the class requiring moderate exertion, while the ratio of attacks of the disease is higher in the class requiring greater exertion. The per centage proportion of deaths, however, occurring under 30 and 40 correspond with the ratio of attacks as displayed in Table XVII. of the first essay. There is a great excess of both in those employments requiring the lesser degree of exertion. It follows, then, that the correspondence between the results of the foregoing table and those of the first essay, though not exact, is very considerable; and in the case of employments carried on within doors, it is so close as to give strong confirmation to the general principle laid down in the two former essays, that the tendency to consumption varies inversely as the amount of exertion.

It would have been interesting to extend the comparisons already instituted, to the effect of intemperance, of exposure to dust, &c., in promoting pulmonary consumption, and in hastening the period of its attack; but the small number of facts, and the necessary imperfection of the registers themselves, would render such a comparison of little use.

One comparison still remains to be made, which has no parallel in the first communication addressed to the Society, viz.: that of the deaths from pulmonary consumption occurring among the three classes of gentlemen, tradesmen, and artisans. This comparison is made in the following table:—

TABLE IV.

Condition.	15 to 20	20 to 30	30 to 40	40 to 50	50 to 60	60 to 70	70 to 80	Under 30	Under 40	Average age at Death.	Ratio.	No. of Deaths.	
												Consumption	Other Diseases.
Gentlemen, &c. . . .	10·84	18·67	27·11	19·27	15·06	6·03	3·01	29·51	56·62	39	1 to 5·00	166	835
Tradesmen	8·46	24·34	26·98	20·11	12·70	6·35	1·06	32·80	59·78	38	1 to 2·60	189	491
Artisans, &c	7·25	23·69	26·24	22·79	13·34	6·26	0·43	30·9$_{4}$	57·18	38$\frac{1}{5}$	1 to 2·29	2318	5308

This table corresponds very closely with Table XIX. of the second essay, in which a comparison was made between the deaths at the several ages in the three classes. The ratios of death from consumption follow the same order as the average age at death, being lowest where the average age is highest, and the reverse. Thus the average age at death of the class of gentlemen is 58·61, and the ratio of deaths from consumption is 1 to 5; in the case of the tradesmen, the average age is 48·84, and the ratio of deaths from consumption 1 to 2·60; while in the class of artisans, the average age is 48·06, and the proportion of deaths from consumption 1 to 2·29.

Again, the class of gentry presents a smaller proportional number of deaths under 30 and 40 than either of the other classes. It is also well worthy of observation, that the per centage proportion of deaths from consumption under 30 and 40 is higher in the class of tradesmen than in that of the artisan and labourer, although the ratio of cases of consumption is greater in the latter class. This is doubtless accounted for by the fact already established, that the strong exertion which a considerable proportion of the labouring class employed within doors use in

their occupations, and the large number employed out of doors, has the effect of retarding the attack of pulmonary consumption. A glance at the following table will convince us of the justice of this explanation.

TABLE V.

Nature of Occupation.	Under 30.	Under 40.
In-door, sedentary . .	44·06	66·48
In-door	37·53	61·51
Tradesmen	32·80	59·78
Out-door	24·79	53·44
In-door, requiring great exertion	31·51	54·80

The tradesman, it will be seen, occupies the intermediate place between the in-door and the out-door labourer, between the artisan using little exertion and the artisan using much exertion. It is obvious, therefore, that the class of artisans owes the slight advantage which it enjoys over the tradesmen in respect of the time of death from consumption, to the comparatively healthy effects of strong exertion within doors, and of employment in the open air, which falls to the lot of a part of that class. Another point attracts attention in Table IV., viz., the great proportion of deaths from consumption occurring in the class of gentry from 15 to 20 years of age. Does not this show that the liability to the disease is greater in this class than in the two others; and does it not tend to strengthen the position, that the excess of deaths from consumption in the other classes is due to, the unfavourable circumstances in which they are placed?

The ratio of deaths from consumption in the class of gentry, low as it is, would have been still lower if the medical men who are included in it were omitted. The number of cases of pulmonary consumption occurring in members of that profession is very remarkable, and it is a subject of regret with the author that they were not made a separate class.

If we assume that the numbers and proportions in the table are fair representations of the absolute and relative mortality from consumption in the three classes of society in London, and that it is possible, by due attention to the health of our tradesmen and artisans, to place them in as favourable a position as that which the gentry occupy in this respect; if, in other words, the ratio of consumptive cases, instead of being 1 to 2·60 in the case of tradesmen, and 1 to 2·29 in the case of artisans, were in both cases 1 to 5, there would be a saving in the metropolis alone in a single year of no less than 1123 lives.

Again, if we assume the approximate average age at death from consumption in the three classes to be the true age, we must add to these lives, unnecessarily sacrificed, 1937 years of life wasted.

It should also be borne in mind that, taking one case with another, every death from consumption is preceded by two years of lingering illness; and that in a large proportion of cases the fatal attack of the disease is not the first, and that it is often the last of a series.

This rough estimate of the annual waste of life from consumption in the metropolis is formed from the deaths comprised in the tables, which

fall short of those actually occurring, inasmuch as all the deaths in workhouses, unless the employment happen to be stated, are omitted. In order to ascertain more nearly the actual number of deaths from this cause, and the probable waste of life, I propose to calculate the number of deaths occurring in the metropolis, and in England and Wales, from the data furnished by the report of the Registrar General.

Estimate of the number of cases of Pulmonary Consumption occurring annually in the Metropolis, and in England and Wales.

It has already been stated that the number of cases entered in the mortuary registers as pulmonary consumption, or under synonymous titles, between the ages of 15 and 50, is probably a near approximation to the true number; for the number of other diseases, accompanied by slow decay, occurring between these two ages is comparatively small, and certainly bears a much less proportion to true cases of pulmonary consumption than those entered as such, either before 15 or after 60. On referring to the mortuary registers of the metropolis for 1840–41,* it will be seen that no less than 3120 deaths from consumption are entered under 15, and as many as 747 after 60; while the number between 15 and 60 is 10·698; now it must be obvious that these are not deaths from *pulmonary* consumption; for the deaths from that disease, under 15 and above 60, do not bear any such proportion to the deaths from the same cause between 15 and 60. How then is this error to be corrected? and how is the true number of deaths from pulmonary consumption to be estimated? The easiest and simplest method is to start with the assumption that the cases entered as consumption, between 15 and 60, are cases of true *pulmonary* consumption, and then, having ascertained the proportion which the number of deaths from this disease, under 15 and above 50, bears to the number between 15 and 60, to calculate the number that ought to have been entered on the mortuary registers.

In the absence of any accurate tables of the relative number of cases of pulmonary consumption at these three periods† of life, I avail myself of the tables of deaths occurring in the London hospitals during 1840, and published in the Annual Report of the Registrar General for 1842, p. 292. These cases are correctly reported, and on the authority, in most instances, of an examination of the body after death. Before proceeding to make use of these data, it is necessary to premise, that it is not the absolute number of deaths from pulmonary consumption in the London hospitals, which it is proposed to make use of, but merely the relative numbers at different ages.

The number of deaths from pulmonary consumption, occurring in the London hospitals during the year 1840, was 412, which were thus distributed—

Under 15 . .	4
15 to 60 . .	396
60 and upwards	12

The number of deaths, then, occurring under 15 years of age is only one in 99 of those occurring between 15 and 60, while the number of

* Fourth Annual Report of the Registrar General, 1842, p. 330.

† The tables given by Sir James Clerk, in his work on Consumption, do not comprise the first period under 15.

those occurring after 60 is one in 33. Assuming for the present that these are the real proportions, it will be easy to calculate the deaths occurring in the metropolis, and in England and Wales.

The deaths from consumption, between 15 and 60, registered in the metropolis, during the two years 1840 and 1841, were 10,688, or, for one year, 5344; the total number, therefore, according to the above suppositions, will be—

From 15 to 60 .	5311
Under 15 . . .	54
Above 60 . . .	162
Total for the metropolis during one year . .	5560

This is about one-eighth of the deaths at all ages, and somewhat less than one-fourth of the deaths of all above 15 years of age.

Now the deaths in the metropolis from all causes, during 1841-42, were 90,556, or, for one year, 45,278; and assuming that the mortality from pulmonary consumption, in England and Wales, bears the same proportion to the total mortality, as it does in the metropolis, we have the proportions—

5560 : 45,278 :: 42,223 : 343,847

—343,847 being the number of deaths from all causes in England and Wales during 1841. This number falls short of the number entered in the mortuary registers, under the general title of consumption, by 17,369 deaths.

This calculation assumes that the relative mortality for the whole kingdom, from pulmonary consumption, is that of the metropolis; an assumption obviously incorrect, and greatly exaggerating the actual mortality from that cause. In order to arrive at a truer estimate of the mortality, it may be fairly assumed that the mortality from pulmonary consumption, for England and Wales, bears the same relation to the mortality of the metropolis, as does the mortality from all causes. This will give the following proportions,—

42,223 : 35,966 :: 2·605 : 2·219

The number of deaths from pulmonary consumption, occurring every year in England and Wales, may therefore be stated, in round numbers, at about 36,000, being rather less than one-ninth of the mortality from all causes at all ages, and 1 in less than 6 of the total deaths occurring above 15 years of age.

It must be understood that this estimate is put forth merely as a rough approximation, and not as a precise calculation. The materials for a more just estimate are still wanting.

Having thus obtained a rough approximation to the number of deaths from pulmonary consumption, occurring in the metropolis and in England and Wales respectively, I resume the consideration of the waste of life due to this cause. The 5560 deaths include males and females, and the first step in the inquiry is to ascertain how many of them belong to each sex. For this purpose, I avail myself of the Hospital Reports for 1840, in which the sex, age, and cause of death are registered, and I find that in 100 deaths from all causes, there are in males 19 deaths from

consumption, and in females 15; and as there is no obvious cause of this disparity, except the relative frequency of the disease in the two sexes, I assume this to be the true ratio. From this ratio it is easy to calculate the number of deaths from consumption occurring in the two sexes; they are in males 3107 and in females 2453. The number of deaths from pulmonary consumption, comprised in the foregoing tables, as occurring in males of all ranks during the year 1839, is 2673; a number falling short of the above estimate by 434, which probably represents the deaths from pulmonary consumption occurring in workhouses in 1839 in men whose employments were not mentioned. The total deaths of adult paupers during that year was 3062, and if we assume that the deaths were equally divided between the two sexes, we shall have 1531 deaths occurring in males; and, on the supposition that the deaths from consumption formed one fourth of the total deaths, 383 deaths from that disease. Now 383 added to 2673 gives 3056 instead of 3107, the number according to the foregoing estimate. The slight difference still existing may probably be accounted for by the excess of deaths of men whose employments were not stated over men dying in workhouses whose previous employments were stated. This latter class was a very large one.

The estimated number of 3107 deaths may probably be regarded as a very close approximation to the number of males of all ages and classes dying of pulmonary consumption every year in the metropolis; and if the distribution according to rank be assumed to be that of Table IV, we shall have the 3107 deaths from consumption divided as follows:—gentry and professional men 193; tradesmen 219; and artisans, &c. 2695; the deaths from all other diseases for the three classes being 971, 569, and 6171. Now if the deaths from pulmonary consumption in the classes of tradesmen and artisans, bore the same proportion to all other causes of death as they do in the class of gentry, we should have, in the place of 3107 deaths from that disease, only 1541, being a saving of 1566 lives, and, on the supposition that the average age of death is that of Table IV, of 2014 years of life; moreover, for each of the 1566 lives prematurely sacrificed, we must reckon at the very least 3132 years of lingering illness during the very prime of life. If the same calculation corrected by the fraction $\frac{1}{15}$, which represents their relative liability to consumption, were applied to the deaths of females, it would raise the estimated annual waste of life to 2212, with an additional loss of 2845 years of life.

In all these calculations it is assumed to be possible, to place the classes of tradesmen and artisans in the same favourable circumstances as the gentry. Can this be done? It would be a great stretch of imagination to suppose that it could be done at once. In all great ameliorations time is an essential element—time for the reformation of bad habits—time for the widening of streets, the enlarging of houses, the re-constructing of workshops, the shortening of hours of labour, for drainage and ventilation, for the more abundant supply of water, for public baths, for the increase of open spaces for exercise and recreation. Habits of intemperance will not suddenly grow into disuse, nor will a desire for pure air be created in a day. As in the case of temperance, so in that of ventilation, the example must be set by the higher classes, before the contagion can be expected to spread to the lower. So long as the rich

shall be content to endure the stifling atmosphere of crowded places of assembly, whether public or private, and to sleep in rooms from which fresh air is sedulously excluded, the poor may be expected to remain indifferent to the foul air of their workshops, and to submit without a murmur to the manifold inconveniences of their places of residence. It is only, then, after the lapse of years that the condition of the tradesman and artisan can be expected to be so improved as to reduce their present fearful mortality from consumption to the low level of the more forward classes. Much, however, may be done at once. Some provision at least may be made for the ventilation of houses and workshops, and for the shortening of hours of labour. Such a provision would save, in the metropolis alone, many hundreds of lives every year. This is not a matter of conjecture, or a loose estimate merely, but admits of demonstration.

It has already been shown (Table II.) that the ratio which deaths by consumption bear to those from all other diseases, is higher in the case of men employed within-doors than in those working in the open air, being in the one case 1 to 1·98, and in the other 1 to 2·56. Now it is well known that, as a general rule, men employed in-doors earn higher wages than those who work out of doors, and that therefore they have the means of procuring better lodgings, clothing, and food. In all these things they have the advantage. They differ in this, that the in-door labourer, while he shares, though in a less degree, the household inconveniences of the out-door labourer, is confined for many hours of each day in heated and ill-ventilated apartments. A large proportion of men so occupied have as much exercise as men employed in the open air; the occupations of the remainder are of a more or less sedentary nature. Those whose employments require more or less exertion, differ from out-door labourers only in the air they breathe; and those who lead a sedentary life, partly in this, and partly in the absence of exercise. The experience of the wealthier classes addicted to sedentary pursuits, shows that such pursuits are not unfavourable to health and longevity. Hence there is good reason to believe that the in-door labourer owes his ill-health, not so much to the sedentary nature of his employment, as to the foul and heated air which he is constrained to breathe. If this reasoning be valid, it will be easy to show what number of deaths occurring among the in-door labourers might be prevented. A simple calculation, based on Table II., shows that the excess of deaths from consumption in the 2774 in-door labourers over the deaths from the same disease in an equal number of out-door labourers, is 150. Out of 930 deaths from consumption, therefore, no less than 150, or about one-sixth, may fairly be assumed to fall victims to the foul air of the workshop. If the entire estimated number of deaths from pulmonary consumption occurring among artisans, be divided between the two classes of in-door and out-door labourers, we shall have the number raised to 214; and the addition of lives prematurely sacrificed, and females, would swell this number to 400 a-year.

The estimates which have been thus formed of the waste of life in the metropolis, will have to be more than doubled to give the waste for the whole of England and Wales. A simple calculation founded on the number of deaths from consumption taking place in 25 town districts,*

* Registrar-General's Report, for 1843, p. 199.

on the supposition that the waste is in the same proportion in those districts as in the metropolis, gives us as the number thus sacrificed 4882, of which number 1000 deaths seem to be fairly traceable to the unwholesome condition of workshops and factories, and the remainder to the state of their dwellings, added to habits of intemperance, and the privations to which they are occasionally exposed.

What part of this waste is to be attributed to causes over which the poor have virtually no control, and what part to their own habits of life, it is of course impossible to state; but after making a liberal allowance for the effects of intemperance, and the occasional use of scanty or unwholesome food, there can be no room to doubt that a fearful waste of human life at present takes place, and that much of this may be prevented by the improvement of dwellings and workshops. Such improvement would doubtless bring with it, as a necessary consequence, a great improvement in the habits of the labouring class; for it has been clearly proved, and is, in fact, a necessary consequence, that all causes of exhaustion are indirectly causes of intemperance. Some experience of the poor, and inquiries expressly directed to this point, have convinced me that they are led into this baneful habit not so much by a love of intemperance and of its treacherous pleasures, as by the opinion that spirituous liquors are necessary to the support of their strength. Those who use strong exertion in their employments drink because they think that without spirituous liquors they could not do their work; but those who lead sedentary employments are often compelled to drink that they may neutralize the debilitating effect of an atmosphere which in extreme cases may be, with little exaggeration, described as combining the temperature of an oven with the foul air of a sewer. If they had pure air, they would soon cease to regard spirituous liquors as necessary to their existence, and the habits which grew out of a supposed necessity, might be fairly left to the correcting influence of experience and example. If those evils were once corrected over which the labouring class have no control, they would not be slow to perfect the work of a wise and far-seeing legislation.

Hitherto the attention of the public has been directed chiefly to the waste of human life, and the consequent misery and expense caused by fevers due to the bad drainage of towns and streets, and the defective construction of the houses of the poor; but those who have so successfully laboured to rouse the public to a sense of these fearful evils, and of the responsibilities growing out of them, have been ignorant of, or have disregarded the more silent and stealthy ravages of a disease which is as surely the result of foul air, overcrowding, and confinement, as fever itself of deficient drainage and unwholesome habitations. If the condition of the dwellings of our poorer classes is justly chargeable with the fevers to which they are constantly falling victims, to the state of our workshops and our long hours of work is as certainly to be attributed a large proportion of the cases of consumption which form so fearful an item in our mortuary registers. If the entire population of this country could be surrounded by influences as wholesome as those to which the higher classes owe their better health, longer life, and comparative immunity from consumption, the number of cases of pulmonary consumption would be greatly reduced, and some thousands of the most valuable part of our population might be saved. This rough estimate may be

TABLE VI.

Nature of Occupations.	Ratio of Cases of Pulmonary Consumption entered on the Hospital Books.	Ratio of Deaths from Consumption to those from all other Diseases.	Per Centage proportion of cases entered as Consumption.		Per Centage proportion of Deaths from Consumption.		Per Centage proportion of Deaths.			Age at Death.		Per Centage proportion Employed.				
			Under 30.	Under 40.	Under 30.	Under 40.	Under 30.	Under 40.	Above 90.	Average.	Greatest.	Under 40.	Above 40.	Above 50.	Above 60.	Above 70.
In-door	1 to 3·81	1 to 1·98	50·96	83·21	37·53	61·51	21·98	39·82	0·22	47¼	98	73·98	26·02	13·60	5·62	1·67
Out-door	1 to 4·13	1 to 2·56	36·30	62·30	24·79	53·44	16·68	34·26	0·59	49½	99	63 83	36·17	17·95	7·04	1·15
In-door:—																
Requiring little exertion . .	1 to 3·08	1 to 1·76	51·03	81·37	44·06	66·48	24·34	40·29	0·19	46·86	98	74·88	25·12	13 65	6·31	2·06
Requiring more exertion . .	1 to 4·44	1 to 2·20	53·41	80·81	32·28	55·49	19·17	36·72	0·39	48·06	101	72·15	27·85	14·64	5·77	1·75
Requiring great exertion . .	1 to 5·06	1 to 2·10	48·63	67·55	31·51	54·80	17·81	33·81	1·33	47·75	Under 90	68·96	31·04	15·05	3·14	0·94
With varied exercise . . .	1 to 3·32	1 to 2·27	47·28	87·27	31·57	61·65	24·59	41·83	2·53	45·08	Under 90	75·64	24·36	12·95	4·31	1·61
Out-door:—																
Requiring moderate exertion .	1 to 4·65	1 to 2·21	32·76	53·46	32·72	59·50	18·52	38·52	3·16	47·70	99	68·26	31·74	14·83	5·86	0·84
Requiring greater exertion . .	1 to 4·02	1 to 2 27	33·81	61·28	20·96	49·20	16·45	35·24	3·04	47·60	98	61·83	38·17	19·49	7·68	1·21

TABLE VII.

Condition.	Per Centage proportion of Deaths.			Average Age.	Greatest Age.	Ratio of Deaths from Consumption.	Per Centage proportion of Deaths from Consumption.	
	Under 30.	Under 40.	Above 80.	Above 90.				Under 30.	Under 40.
Gentlemen, &c.	9·10	20·60	10·80	0·80	58·61	98	1 to 5·00	29·51	56·62
Tradesmen	16·03	32·50	3·39	0·59	48·84	97	1 to 2·60	32·80	59·78
Artisans, &c.	19·86	37·51	2·48	0·34	48·06	101	1 to 2·29	30·94	57·18

very far from the truth; but it is better to err in this way than, by confining ourselves to the establishment of dry abstract principles, however interesting or important, to let pass an opportunity of forcibly drawing the attention of the public to a great evil, equally commanding and admitting of a remedy.

In all investigations of this nature there is much room for error. Some standards of comparison essential to accuracy are at present wanting Causes and effects are so mixed up that it is impossible to separate them. The disease which by destroying the adult puts a younger man into his place, also alters the distribution of the population, so as to swell the number of its own victims; and thus all attempts at perfect accuracy are rendered abortive. Approximations confessedly imperfect, and estimates necessarily rude, must hold the place of those accurate results which force conviction. The author would therefore again guard against misconception. He has not dared to characterise his results as certain or accurate, but merely as approximations to truth, and probabilities more or less strongly confirming one another. His estimates are open to correction, and await that correction at the hands of himself or others; but he trusts that, in the absence of that certainty of which he is in search, the probabilities he has established will serve the purpose of attracting attention to a part of the great subject of public health which has hitherto received comparatively little attention; and, in conclusion, he may be allowed to express his own conviction, that the evils which have been pointed out are not exaggerated.

Two tables are subjoined, which form a useful summary of the chief probabilities thrown together in the three communications, of which this is the last.

On the Progress of the Population of Russia. By Major Graham, Registrar-General.

Sir, *General Register Office, June*, 1844.

I enclose an abstract of a Return which I have recently received of the population, marriages, births, and deaths, in the principal provinces of the Russian empire. I am indebted to the liberality of Count Nesselrode for this Return; which was procured at the instance of Lord Aberdeen, by Lord Stuart de Rothsay, and forwarded to me by Sir James Graham.

I have obtained from other countries similar Returns, to compare with those made under the Registration Act in England. I submit this to the Members of the Statistical Society, as I believe that no Return of the kind has been published before out of Russia; and it appears to me to possess an unusual degree of interest, not only from its novelty, but from the extent of the population, and the varieties of climate and circumstances in which the people of the several provinces are placed.

The Return is for the year 1842, and the abstracts of marriages, births, and deaths, had not been received from Georgia, Koursk, the Trans-Caucasian, or the Caspian provinces: neither have we included in the Return Finland, Poland, the Don Cossacks, the Cossacks in the country of the Black Sea, and of the Oural; the provinces of Iakotsk, Kamschatka, Okhotsk, or Russian America. The population of the Russian empire exceeds 60,000,000; of which the Returns from 53

provinces specify 52,682,711; and give the marriages, births, and deaths among 49,525,420 persons (24,559,414 males, and 24,966,006 females) in the European (and partly Asiatic) provinces,—in Tobolsk, Tomsk, Irkutsk, and Eniseisk,—four provinces of Siberia. The marriages returned were 501,850; the births 2,205,422; the deaths 1,856,183.

The excess of births over deaths was 349,239. This would indicate an increase of 0·7 per cent. (or 7 per 1000) annually.

		Males.	Females.	Total.
1842	Population . . .	24,559,414	24,966,006	49,525,420
	Married	501,850	501,850	1,002,700
	Births	1,127,122	1,078,300	2,205,422
	Deaths	931,635	924,548	1,856,183

The proportion of marriages, births, and deaths, to the population, is shown in the annexed Table (A). I think it very probable that the Returns of births and deaths include still-born children, which are generally registered on the Continent, but have not hitherto been registered in England. As the Returns stand, the births were 4·45 per cent., the deaths 3·75 per cent., of the population. A correction for the still-born would reduce the births to about 4·2, the deaths to 3·5 per cent.

In Russia 1 in 99 persons marries yearly; in England the proportion of marriages is much less, 1 in 128. The births in Russia are more than 8 per cent. on the female population. The mortality in Russia was 1 in 27; and as the population is increasing, we know that the mean duration of life is somewhat lower than 27 years. The mortality in England is 1 in 45 annually, and the expectation of life 41 years.

The comparison would seem to indicate that in Russia marriages are earlier than in England—that more persons marry—that the number of children borne by a given number of women is greater in a given time—that fewer children attain maturity—and that, notwithstanding the rigorous climate, and the causes of insalubrity, the excess of births over deaths adds 300,000 or 400,000 persons every year to the part of the population embraced in the Returns.

The area of the Russian empire is estimated at 7,700,000 English square miles. The area of the 49 European provinces, for which the population of 49,102,697 was returned, is 1,731,324 English square miles; the density is therefore 28 persons to an English square mile, and 38 to a geographical square mile. The density of England and Wales was 276 persons to an English, 366 to a geographical, square mile, in 1841. The area of the two provinces of Siberia,—Tobolsk and Tomsk,—is said by Mr. Koeppen in an official statement (quoted by M'Culloch) to be equivalent to 1.887,569 English square miles. The population of these provinces was 1,315,461 in 1842; and the mean density was therefore less than 1 person to every square mile,—it was 7 to 10 square miles. In the rest of the empire around the arctic region, to which our Return does not extend, there is, according to Mr. Koeppen's statement, not more than 1 person to 4 English square miles.

Russia, as is well known, is divided into viceroyalties, provinces (or oblasts), and districts. The Return in my possession gives the population, marriages, births, and deaths, in each district and province. The abstract which I enclose carries the subdivision no further than provinces.

The Table (B) of the proportion of marriages, births, and deaths, in each province to 100 females living, shows that in some parts of Russia the mortality is less than in some counties of England; but, as a general rule, the mortality was greater than in England. It was greatest in the southern provinces,—from Nijgorod to Ekaterinoslav on the Sea of Azov, including the most fertile of the corn districts, Kharkoff, Penza, Pultava, Viatka, Nijgorod, Saratoff, Riazan, Ekaterinoslav, Orel, Tamboff. The annual mortality was from 4·3 to 5·3 per cent. in these provinces, which lie in the basin of the Dnieper, Don, and Volga; with the general aspect of the country looking south, and towards the Black Sea, the Caucasus, and the Caspian.

The mortality of the northern parts of Russia is generally below 3 per cent. annually; this was the case in Archangel, Minsk, Courland, Esthonia, Olonetz, Pskoff, Vologda, Kalouga, Grodno, Vitepsk, Novgorod, Moghileff. The rivers of those regions flow north or north-west into the Arctic Ocean, the White Sea, and the Baltic. In Wilma and Livonia, the mortality was 3·3 and 3·2, slightly above 3 per cent; in Petersburgh (province) 3·8 per cent: with these exceptions, the mortality of the parts sloping towards the north or north-west, was a fourth or a fifth less than in the southern provinces.

In Tomsk and Irkoutsk, two vast provinces of Siberia, the mortality was so low as 2·4 per cent.; in Tobolsk, however, it was 3·6 per cent.

These remarks refer to females, but the mortality of males and females is nearly the same in Russia.

This Return, I may remark, has evidently been drawn up with great care and accuracy. It gives us a high opinion of the administrative talent and energy with which the Government is carried on.

Those acquainted practically with these matters will be aware how arduous an undertaking it must be to procure a census, and periodical Returns of the marriages, births, and deaths, from such a vast population, so thinly scattered over the face of the country, that in some provinces there is not one inhabitant to a square mile of territory.

The mere fact of registering the marriages, births, and deaths, is also a proof of the deep interest with which the Russian Government regards, and endeavours to promote, the physical interests of the population under its charge.

I am, Sir,
Your obedient Servant,
GEORGE GRAHAM,
Registrar-General.

Joseph Fletcher, Esq.,
&c. &c.

TABLE A.

Rate of Increase of the Population of Russia; and Proportion of Marriages, Births, and Deaths, to the Population, in England and Russia, compared.

Annual rate of increase, ·7 per cent.—Males, ·81; Females, ·62.

	One Marriage to			One Birth to			One Death to		
	Males.	Females	Males and Females	Males.	Females	Males and Females	Males.	Females	Males and Females
Russia (1842) . .	49	50	99	11	11	22	26	27	27
England (1838–41)	63	65	128	15	16	31	43	47	45

	To 100 Males.			To 100 Females.			To 100 Persons.		
	Marriages.	Births.	Deaths of Males.	Marriages.	Births.	Deaths of Females	Marriages.	Births.	Deaths.
Russia* . .	2·043	8·980	3·793	2·010	8·834	3·703	1·013	4·453	3·748
England .	1·599	6·539	2·308	1·528	6·250	2·131	·781	3·197	2·219

* The still-born are probably included in the Russian returns of births and deaths. Applying a correction derived from the Prussian returns, in which the numbers still-born are specified, the corrected mortality of Russia will be 3·590, the births 4·296, per cent. annually.

Note.—The return does not state the ages of the living, the ages at death, nor the causes of death; but it is very probable that all these particulars will ultimately be procured. Professor Schubert's volume, "Das Russiche Reich," in his "Handbuch der Allgemeinen Staatskunde von Europa," contains a tolerably good account of the progress of statistics in Russia. The first census (Revision) was taken in 1723, in connexion with a poll-tax, and was to be repeated every 20 years; but it embraced only 5,794,928 males subject to the tax. The church registers were instituted by Peter the Great, in 1722; but their organization was only completed in the time of Catharine II. "From the time of Catharine," says Schubert, "two abstracts were made: (1) the one for the Senate, classed in governments and provinces, first introduced in 1768 by Count Sievers in the governments of Novogorod and Tver. It embraces all the religious sects, *but has not hitherto been made public* ("sind aber bis jetzt noch nicht öffentlich bekannt gemacht"). (2) The other return, for the Holy Synod, is made in 36 eparchies, which only comprise the members of the Greek Catholic Church (Griechish Catholischen Kirchen). A summary of this return is published every year."† Schubert's calculations are all founded on the ecclesiastical returns. It appears, therefore, that Russia has had for many years two systems of registration in operation (as England has at the present time),—the registers of the established Greek Church,—and the civil registers, which are made for the Imperial Government, and of which the return in Table C. is a detailed abstract.

† Schubert, vol. i. p. 147.

TABLE B.—*Density of the Population, and Proportion of Marriages, Births, and Deaths, in the several Provinces of Russia.*

		Average Population to a Geographical square Mile (of 60 to a Degree).	To 100 Females Living.		
			Marriages.	Births.	Deaths (of Females).
Northern Provinces.	1. Archangel . . .	·9	1·546	8·100	2·222
	2. Olonetz . . .	6	1·911	9·412	2·692
	3. Vologda . . .	7	1·841	9·306	2·801
Great Russia.	4. Petersburgh . .	41	1·756	9·739	3·770
	5. Novgorod . . .	21	1·828	9·102	2·972
	6. Pskoff	43	1·523	9·112	2·766
	7. Smolensk . . .	70	2·247	9·823	3·269
	8. Moscow	159	2·135	9·019	4·010
	9. Tver	74	1·930	9·301	3·030
	10. Jaroslaff . . .	79	1·440	8·188	3·367
	11. Kostroma . . .	43	1·592	7.626	3·290
	12. Nijgorod . . .	79	1·950	8·758	4·684
	13. Wladimir . . .	85	1·821	8·352	3·941
	14. Riazan	109	2·517	8·296	4·450
	15. Tamboff . . .	90	1·930	7·393	4·279
	16. Toula	139	3·223	8·411	4·171
	17. Kalouga	109	2·138	7·842	2·866
	18. Orel	117	2·421	9·311	4·320
	19. Koursk	142	..	..	..
Baltic Provinces.	20. Esthonia . . .	56	1·657	7·586	2·627
	21. Livonia	59	1·738	8·158	3·048
	22. Courland . . .	67	1·772	6·692	2·453
White Russia.	23. Vitepsk	59	1·128	8·532	2·928
	24. Moghileff . . .	63	2·129	9·263	2·983
	25. Minsk	33	1·550	6·800	2·360
Lithuania.	26. Wilna	69	1·940	8·911	3·345
	27. Grodno	82	2·330	9·078	2·922
	28. Bielostock . . .	103	1·572	7·773	3·025
Little Russia.	29. Volhynia . . .	82	1·689	8·764	3·764
	30. Podolia	164	1·991	8·445	3·701
	31. Kieff	124	1·878	7·823	3·613
	32. Tchernigoff . . .	94	2·091	8·842	3·859
	33. Pultava	95	2·339	8·041	4·727
	34. Kharkoff. . . .	51	2·223	8·906	5·260
	35. Voroneje . . .	71	2·240	9·553	3·918
	36. Don Cossacks . .	16	..	..	..
New Russia.	37. Ekaterinoslav . .	43	2·217	9·775	4·435
	38. Cherson	49	1·539	8·898	3·294
	39. Crimea	16	1·735	12·298	3·422
	40. Bessarabia . . .	54	2·614	11·003	2·980
Wolga and Caspian Provinces.	41. Kazan	71	1·903	7·377	3·310
	42. Penza	91	2·111	8·225	4·738
	43. Simbirsk . . .	68	1·976	9·055	3·693
	44. Saratoff	30	2·025	9·599	4·640
	45. Astrakan . . .	3	1 858	8·750	2·990
	46. Caucasus, &c. . .	5	3·031	14·317	5·026
Oural Provinces.	47. Orenbourg . . .	16	2·665	9·804	3·533
	48. Perm	34	1·817	9·668	3·744
	49. Viatka	38	2·102	10·777	4·725
Siberia.	50. Tobolsk	·9	1·772	10·138	3·574
	51. Tomsk		1·461	7·589	2·395
	52. Irkoutsk . . .	·35	1·482	6·905	2·417
	53–5. Iakoutzk, Kamschatka, Okhotsk .		..	..	..
	56. Eniseisk. . . .		1·392	9·735	3·307
ENGLAND		366	1·528	6·250*	2·131

* It will be recollected that the English Return of Births is defective, and that the still-born are probably registered in Russia.

TABLE C.—*Population, Marriages, Births, and Deaths, of the several Provinces or Governments in Russia*, 1842.

	Area in Square Geographical Miles, 60 to the Degree.*	Population.			Marriages.	Births.			Deaths.			Difference between Births and Deaths.	
		Males.	Females.	Total.		Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.
Northern Provinces:—													
1. Archangel	243,392	107,615	114,784	222,399	1,774	4,781	4,516	9,297	2,618	2,551	5,169	2,163	1,965
2. Olonetz	37,664	113,715	122,855	236,570	2,348	5,792	5,771	11,563	3,638	3,307	6,945	2,154	2,464
3. Vologda	110,080	367,901	414,241	782,142	7,628	19,875	18,673	38,548	11,250	11,602	22,852	8,625	7,071
Great Russia:—													
4 Petersburgh	11,360	229,427	236,364	465,791	4,151	11,724	11,295	23,019	10,133	8,912	19,045	1,591	2,383
5. Novgorod	33,120	340,731	368,892	709,623	6,744	16,572	17,003	33,575	11,067	10,962	22,029	5,505	6,041
6. Pskoff	16,720	350,874	369,450	720,324	5,627	17,321	16,345	33,666	10,307	10,218	20,525	7,014	6,127
7. Smolensk	15,264	523,302	541,348	1,064,650	12,164	27,183	25,996	53,179	17,811	17,698	35,509	9,372	8,298
8. Moscow	8,800	740,517	658,460	1,398,977	14,059	30,149	29,240	59,389	26,648	26,407	53,055	3,501	2,833
9. Tver	17,952	653,563	670,276	1,323,839	12,933	32,437	29,906	62,343	21,190	20,309	41,499	11,247	9,597
10. Jaroslaff	12,912	451,893	561,868	1,013,761	8,091	23,459	22,547	46,006	17,219	18,916	36,135	6,240	3,631
11. Kostroma	23,008	469,063	510,650	979,713	8,128	20,023	18,919	38,942	16,586	16,801	33,387	3,437	2,118
12. Nijgorod	14,048	529,139	574,716	1,103,855	11,206	25,532	24,803	50,335	27,577	26,918	54,495	2,045	2,115
13. Wladimir	13,296	545,371	583,451	1,128,822	10,622	24,717	24,011	48,728	22,465	22,991	45,456	2,252	1,020
14. Riazan	11,312	620,933	609,549	1,230,482	15,343	26,067	24,503	50,570	26,769	27,124	53,893	702	2,621
15. Tamboff	18,432	823,320	841,374	1,664,694	16,248	31,822	30,385	62,207	35,011	36,004	71,015	3,189	5,619
16. Toula	8,464	587,088	588,002	1,175,090	18,949	25,443	24,016	49,459	23,857	24,528	48,385	1,586	512
17. Kalouga	8,656	471,689	471,988	943,677	10,092	19,215	17,796	37,011	13,067	13,529	26,596	6,148	4,267
18. Orel	12,080	693,730	714,848	1,408,578	17,305	33,596	32,963	66,559	30,548	30,879	61,427	3,048	2,084
19. Koursk	12,704	901,663	907,127	1,808,790	†	†	†	†	†	†	†	†	†
Baltic Provinces:—												55,005	37,532
20. Esthonia	5,040	135,524	147,252	282,776	2,440	5,733	5,438	11,171	4,079	3,869	7,948	1,654	1,569
21. Livonia	13,216	376,310	406,628	782,938	7,068	17,120	16,052	33,172	12,342	12,396	24,738	4,778	3,656
22. Courland	7,600	239,907	272,232	512,139	4,824	9,326	8,891	18,217	6,826	6,679	13,505	2,500	2,212

* The area, as estimated by Mr. Koeppen, an officer in the Russian service, is given by M'Culloch in German square miles, which have here been converted into geographical square miles by multiplying the original numbers by 16 (= 4^2). There are 15 German miles to the degree (= 4 × 15) = 60 geographical miles.

† No entries.

White Russia:—													
23. Vitepsk	12,448	363,770	375,262	739,032	4,232	16,247	15,770	32,017	11,206	10,988	22,194	5,041	4,782
24. Moghileff	13,184	421,096	414,382	835,478	8,821	19,940	18,446	38,386	12,530	12,362	24,892	7,410	6,084
25. Minsk	31,728	521,083	521,295	1,042,378	8,080	18,037	17,411	35,448	12,951	12,302	25,253	5,086	5,109
Lithuania:—													
26. Wilna	18,576	650,417	632,770	1,283,187	12,277	29,170	27,216	56,386	22,136	21,169	43,305	7,034	6,047
27. Grodno	9,120	401,513	344,533	746,046	8,026	16,184	15,093	31,277	10,472	10,068	20,540	5,712	5,025
28. Bielostock	2,592	133,133	132,811	265,944	2,088	5,391	4,932	10,323	4,085	4,017	8,102	1,306	915
Little Russia:—													
29. Volhynia	17,168	711,074	699,465	1,410,539	11,814	31,150	30,153	61,303	27,049	26,328	53,377	4,101	3,825
30. Podolia	9,216	762,512	753,233	1,515,745	15,000	32,825	30,788	63,613	27,726	27,877	55,603	5,099	2,911
31. Kieff	12,768	786,075	799,957	1,586,032	15,023	31,932	30,651	62,583	29,095	28,901	57,996	2,837	1,750
32. Tchernigoff	14,368	670,126	678,720	1,348,846	14,191	30,422	29,593	60,015	26,403	26,189	52,592	4,019	3,404
33. Pultava	16,992	802,184	815,867	1,618,051	19,084	33,514	32,090	65,604	37,692	38,565	76,257	4,178	6,475
34. Kharkoff	22,176	565,745	574,835	1,140,580	12,778	26,030	25,163	51,193	30,773	30,236	61,009	4,743	5,073
35. Voroneje	21,664	750,420	784,671	1,535,091	17,580	38,357	36,603	74,960	31,973	30,741	62,714	6,384	5,862
36. Don Cossacks	No returns.												
New Russia:—													
37. Ekaterinoslav	18,976	403,145	403,321	806,466	8,943	19,880	19,545	39,425	17,715	17,886	35,601	2,165	1,659
38. Cherson	17,584	436,802	427,815	864,617	6,586	19,828	18,238	38,066	15,157	14,094	29,251	4,671	4,144
39. Crimea	32,640	274,482	242,593	517,075	4,208	15,580	14,255	29,835	8,928	8,302	17,230	6,652	5,953
40. Bessarabia	12,704	361,688	323,561	685,249	8,457	18,187	17,413	35,600	10,255	9,641	19,896	7,932	7,772
Wolga & Caspian Provinces:—													
41. Kazan	17,664	603,861	655,786	1,259,647	12,477	25,068	23,312	48,380	21,510	21,704	43,214	3,558	1,608
42 Penza	10,784	482,501	503,707	986,208	10,631	21,309	20,120	41,429	22,801	23,865	46,666	1,492	3,745
43. Simbirsk	18,256	625,817	622,512	1,248,329	12,303	28,438	27,928	56,366	23,715	22,992	46,707	4,723	4,936
44. Saratoff	55,568	836,239	856,008	1,692,247	17,336	42,132	40,038	82,170	41,380	39,720	81,100	752	318
45. Astrakhan	45,264	74,182	66,894	141,076	1,243	2,958	2,895	5,853	2,248	2,000	4,248	710	895
46. Caucasus, &c.	28,848	83,584	71,371	154,955	2,163	5,132	5,086	10,218	4,079	3,587	7,666	1,053	1,499

TABLE C.—*Population, Marriages, Births, and Deaths, of the several Provinces or Governments in Russia.*—continued.

	Area in Square Geographical Miles, 60 to the Degree.	Population.			Marriages.	Births.			Deaths.			Differences between Births and Deaths.	
		Males.	Females.	Total.		Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.
Ourat Provinces:—													
47. Orenbourg	104,560	863,974	853,651	1,717,625	22,754	42,116	41,573	83,689	28,940	30,163	59,103	13,176	11,410
48. Perm	43,536	724,968	756,670	1,481,638	13,746	36,587	36,567	73,154	27,170	28,331	55,501	9,417	8,236
49. Viatka	39,952	716,373	804,613	1,520,986	16,916	43,992	42,723	86,715	37,151	38,020	75,171	6,841	4,703
Siberia:—													
50. Tobolsk	} 1,421,088	397,309	398,624	795,933	7,065	20,496	19,915	40,411	15,265	14,245	29,510	5,231	5,670
51. Tomsk		274,014	245,514	519,528	3,586	9,497	9,135	18,632	6,395	5,881	12,276	3,102	3,254
52. Irkoutsk		257,550	239,077	496,627	3,542	8,609	7,900	16,509	6,276	5,779	12,055	2,333	2,121
53. Iakoutsk		No returns.											
54. Kamschatka	} 2,592,000	No returns.											
55. Okhotsk		No returns.											
56. Enisetsk		123,441	101,537	224,978	1,413	5,375	4,510	9,885	4,016	3,358	7,374	1,359	1,152
Trans-Caucasian Provinces:—													
*57. Georgia, Imeritia	54,096	..	..	838,116	†	†	†	†	†	†	†	†	†
Caspian Provinces	†	†	†	510,385	†	†	†	†	†	†	†	†	†
Kertch-Enikil (townships).	..	6,849	3,476	10,325	102	234	203	437	238	110	348	4	93
Izmail (township and dependencies)	..	22,616	13,633	36,249	289	804	748	1,552	575	355	930	229	393
Odessa (township)	..	40,960	34,932	75,892	591	1,762	1,429	3,191	1,503	1,054	2,557	259	375
Taganrog (township and district)	..	38,299	33,682	71,981	738	2,052	1,789	3,841	1,219	1,118	2,337	833	671
Black Sea—Cossacks' country	No returns received.												
Oural—Cossacks' country	No returns received.												

† No returns.

* (57.) The sex not distinguished in 3 of 11 districts,

Statistical Report on the Physical and Moral Condition of the Working Classes in the Parish of St. Michael, Blackrock, near Cork. By NORTH LUDLOW BEAMISH, F.R.S., President of the Cork Scientific and Literary Society.

[*Read before the Statistical Section of the British Association at Cork, August*, 1843.]

THE parish of St. Michael comprehends the district generally known under the name of the "Peninsula of Blackrock;" being bounded on the north and east sides by the river Lee; on the south, by the tributary stream of Tramore, which forms, with the confluence of the tide, the "Douglas Channel;" and on the west, by the town parishes of St. Nicholas and St. Finn Bars, the former meeting it about one mile from the city of Cork. It contains 1,929 acres, or three square miles, nine acres. The whole population in April, 1843, was 2,630, consisting of 457 families, living in 413 houses; 61 houses are uninhabited, and 9 are in progress of building. Of the population, 2,187 are Roman Catholics, and 443 Protestants, including dissenters, being a proportion of nearly 5 to 1 in a district much inhabited by Protestant gentry. The Catholic males number 1,042, females, 1,145; Protestant males, 197, females, 246;—800 males and 900 females are over 14 years of age; 439 males and 491 females are under that age. Ninety families are living in one room to each family; 260 in two rooms, and 207 in three or more rooms to each family; the average number of persons to a bed is three.

The whole number of the gentry is 372, leaving that of the working classes, 2,258; of these, 1,125 are males, and 1,133 females, which may be thus classified:—

Males.

Carpenters	15	Gingle drivers*	13
Masons	14	Lime-burners	18
Slaters	12	Brick-makers	56
Tailors	10	Fishermen	111
Shoemakers	14	Male servants	79
Smiths	9	Labourers	212
Coopers	3	Aged and infirm	46
Cabinet-makers	2	Children	426
Gardeners	32	Total Males	1125
Farmers	53		

Females.

Employed as servants, in field work, &c.	372
Children, and aged and infirm	453
Unemployed	308
Total Females	1133

In the above enumeration are not included the inmates of the Ursuline convent, numbering 50 nuns, 80 boarders, and 20 servants; Mr. Rudkin's academy for young gentlemen, containing 26 Protestant males; and Miss Bergin's seminary for young ladies, containing 16 Protestant females.

One hundred and thirteen of the working classes hold land, varying from a quarter of an acre to seven acres each. They pay an average yearly rent of 3*l.* per acre, exclusive of poor rate and county rate; the

* Generally owners.

former of which may be averaged at 1*s.* 10½*d.*, and the latter at 5*s.* 10*d.* per acre annually. Those holding under leases are also subject to the payment of tithe, which averages 2*s.* an acre; but this is not now very strictly enforced in the parish from the small holder, the landlord being at present immediately responsible to the minister. The soil is generally excellent, and capable of bearing the finest wheat crops. The course of tillage is potatoes and wheat alternately; the former being manured, but so indifferently, and the general preparation of the land being so imperfectly performed by the working farmer, that the potato crop seldom yields more than seven tons, or the wheat more than six barrels of 20 stone, or about 3½ English quarters per acre, being not more than two-thirds of the produce of the same description of land under a proper system of tillage. Great ignorance, or an indolent adherence to old habits, is exhibited in the application of manure, which is often left for days previous to use exposed, in small heaps, to the action of the atmosphere, and consequently to the loss of its most fertilizing qualities by evaporation. Many of the labouring class hire small portions of manured land from the gentry, for the purpose of speculating in early potatoes, which, if productive, and at the ordinary average price, yield them a fair profit. Such portions of land, varying from a quarter to two or three acres, let at the rate of 10*l.* to 12*l.* an acre, which, although apparently high, often yields a profit of 6*l.* to 8*l.* per acre. But of late years the produce of potato ground has been very uncertain; and when the crop fails, either the poor tenant becomes a severe loser, or fails to make good his agreement with the proprietor; generally, the emergency is met by abatements on the part of the landlord.

The number of men and boys able to work, and dependent upon work for subsistence, is 653. Of these, 370 are employed, and 283 unemployed. A great portion of the latter subsist on the earnings of some member of the family who is employed; others support themselves in a temporary manner by pledging or selling part of their effects; and others, on the alms of the benevolent. The workhouse is the last resource; and, at the present time, although 283 males and 308 females, or *more than one-fourth of the working population*, are without the means of earning their livelihood, in consequence of the want of employment, *only three persons* belonging to the parish are in the workhouse.

Wages.—Tradesmen's wages average 20*s.* per week; labouring men receive 5*s.* 10*d.*, women, 3*s.*, and children, 2*s.* per week; but many able-bodied men work for 5*s.* a-week. For particular kinds of labour, such as quarrying, the wages are 7*s.* per week; and lime-burners receive 10*s.*, in consideration of being employed by night. From the superabundance of labour, wages do not, as formerly, rise in time of harvest, and good reapers can be had at the present moment (August, 1843), at the ordinary wages of 1*s.* a-day.

Food, Clothing, &c.—The food of the poorest labourer consists of potatoes and milk, or potatoes and salt-fish, the cost of which is about 9½*d.* per head per week, or 4*s.* 8*d.* per week for a family of six. A considerable number, however, use meat and bread occasionally; 1,200, or more than one-half, once a-week; and 700, twice a-week. The average cost of food for the whole is 1*s.* 7*d.* per head per week, or 9*s.* 6*d.* per week for a family of six persons. The precarious condition and improvidence of the fishermen is much to be deplored. According to a late Act of Parliament, they are prevented from fishing nearly one-half the year; and they are often unsuccessful at other periods; yet, while employed, they use bread and tea, the common labourer living on potatoes and milk, and they seldom put by anything to meet emergencies. Only three Blackrock fishermen have deposits in the savings' bank; these average 7*l.* each.

The cost of clothing annually is 18*s.* per head for a family of six; of coal, 9*d.* per week, for the same number: 1,200 men, and 800 women, or nearly nine-tenths of the working population, wear shoes and stockings; 320 have one or more pigs; 290 families only of the whole population have pig-sties. Of the 413 inhabited houses, only 230 are provided with privies; and the want of sewers, drains, water-shoots, and appropriate receptacles for carrying away the dirt and drainage from the houses of the labouring poor, is a great impediment to their cleanliness. One of the greatest wants which they experience is the want of water, as well for drinking as for domestic purposes. There are two public pumps of hard water, about a mile apart, but the water in one of these is of a very indifferent quality; at times, scarcely available for any domestic purpose, and the poor of this part of the parish are frequently obliged to send across the river to the opposite bank, at a distance of a mile, and at a great sacrifice of time and labour.

Three hundred and thirty-six of the working classes receive assistance from the loan bank, the average amount of each loan being 2*l.* 10*s.*; 38 have deposits in the savings' bank, averaging 10*l.* each; 300 have articles pledged, the amount of the united pledges of each individual averaging 2*l.*; 300 are in arrear of rent, at an average of 3*l.* The whole amount of arrear is 900*l.*

Education.—190 Roman Catholic males attend the Blackrock national school.

165 Roman Catholic females, Mrs. Murphy's free school in Ballintemple.

181 Roman Catholic females, the Convent free school.

80 Roman Catholic females, Mrs. Meade's school at Ballinlough.

37 Protestant males and females attend the Protestant free school in Ballintemple.

26 Protestant males, Mr. Rudkin's academy.

16 Protestant females, Miss Bergin's seminary.

Thus two-thirds of the children under 14 years of age are in progress of education. An average yearly sum of 3*l.* each is paid for the education of 142 of the children.

Of the 457 families into which the population is divided, and 87 of which only are gentry, 435 families possess books, and 236 the Bible.

The moral condition of the working classes is extremely good; the only crimes committed are petty larcenies, and there are only two illegitimate children in the parish. Habits of intemperance, as regards intoxicating liquors, are little known, nor can this favourable feature be attributed altogether to the temperance or total abstinence movement—unless, perhaps, by the influence of example; for out of the whole working population of 2,258, only 160 males, and 60 females, or less than one-tenth of the whole, have taken the temperance pledge.

The large proportion of unemployed persons, particularly females, in

this district, is much to be deplored. It may be mainly attributed to the large proportion of land under pasture, in the demesnes of the gentry, which thus limits the field work to little more than one-fourth of the area of the district. There is no manufactory or public work, with the exception of small lime-works and brick-making, which employ but a very limited number of persons; the quarries and lime-kilns about 36 throughout the year; and the brick-making, about 90, of all ages, for three months.

As no registry of deaths is kept in the parish, no statistical statement can be made, or accurate conclusions drawn, as to the mortality of the working population. In the Catholic community there are generally five persons to a family; one baptism to every five families, and one marriage to every five baptisms, annually.

Sanitary Condition.—There is no endemic disease peculiar to the district. A light and dry soil thinly covers a limestone rock, the strata of which crop up at a high angle, in some places nearly perpendicular, causing a perfect drainage of the surface. In a few places, the soil rests upon hills of diluvial sand and gravel, which equally drain the surface. A few pools in hollows of the limestone, and two or three small springs, offer nothing to create marsh or boggy surface. Free, therefore, from miasmatic influence, intermittent fever or ague is almost unknown,—only six cases having received dispensary attendance during the last seven years.

Phthisis or consumption cannot be considered frequent, an annual average of only three cases of this disease fully developed, and an annual average of six cases of spitting of blood, appearing in the dispensary journal for the same period.

The total number of medical cases for the last seven years was 7,924, being an annual average of 1,132; surgical, 2,094, or an average of $299\frac{1}{7}$ annually. The total number of cases of all descriptions for the same period was 10,468, giving an annual average of $1,495\frac{1}{2}$, or more than half the population.

A serious visitation of typhus fever took place in the first year of the septennial period (1836), the number of cases among the poor amounting to 353, or about one-seventh of the whole. This gradually subsided in the following years to 110, 85, 102, 63, 37, and 46.

In the years 1832 and 1834, the district was severely afflicted with cholera, after which it nearly disappeared: in the latter part of 1837, and beginning of 1838, it returned, but from the judicious treatment adopted by the dispensary physician, Dr. Haines, was followed by few fatal results.

On comparing the pulmonary with abdominal affections in this district, the singular fact is observable, that while the pulmonary affections exceeded the abdominal in each of the first six years (1836 to 1842,) the order is reversed in the seventh year. This may be referred to the altered condition of the climate, the past summer having been unusually dry and warm, which conclusion appears to be strengthened by the fact, that the actual as well as relative proportion of pulmonary affections throughout the year was diminished, while, notwithstanding the plentiful potato crop, the actual and relative proportion of abdominal disorders among the poor was augmented.

Statistics of Fires in London.

In the number of this Journal for September, 1838 (vol. i. p. 283), an account was given of the formation and organization of "The London Fire-engine Establishment," which not only created for the first time an effective system for extinguishing or arresting actual conflagration, but also originated a regular accumulation of data respecting the most prevalent accidental *causes* of fire, calculated to afford important suggestions as to the means, yet more desirable, of *preventing* the occurrence of this formidable species of individual disaster and public danger. As regards the primary object of the combination, the more prompt extinction of fires actually broken out, the paper in question shows to what extent it had been attained in the course of the first five years during which the establishment was in operation, from 1833 to 1837, from the data furnished by the registry which it regularly keeps of the number, extent, &c. of fires in every year; the most important fact thus indicated being, a considerable diminution of the proportion which the number of fires wherein the premises were either wholly consumed or seriously damaged, bore to the total number of cases.

As regards the *causes* of fires, the first class of facts furnished by the records of the Establishment is that which relates to the respective degrees of liability to such accident attaching to the nature of the premises or their occupancy. The paper in this journal already referred to, presents a list of those descriptions of occupation of premises in which fires had occurred most frequently during the same period of five years, stating the number that had happened in each kind of occupation; from whence naturally follow certain deductions as to the comparative chances of fire necessarily attending particular trades and occupations.

A still more important kind of data supplied by the same systematic registration, consists in the specification of the ascertained cause of each individual fire. Herein the prompt attendance and the diligent endeavours constantly used by the firemen of the Establishment to trace out the particular occasion of each conflagration had already been so satisfactory in their result, that the same period of five years had sufficed to reduce the cases in which the cause was undiscovered to a very small proportion. Accordingly, the paper in question presents a tabular statement of the several causes which had led to fires, and the number of instances under each head, so far as the same could be ascertained, in each year from 1833 to 1837; from whence is shown the relative frequency of the several causes, whether arising from negligence, from necessary nature of occupation, or from inevitable accident.

And finally, a third statement in the same paper, combining the materials of the two former, exhibits the several causes of fires in the different classes of buildings and trades furnishing the greatest number of fires, specifying the numbers in each class assignable to each cause respectively; thus affording means to discover those peculiar circumstances in a given trade which subject it to this kind of danger.

Again, the quarterly number of the Journal of December last (vol. vi. p. 361) presents a continuation of the results of the operations and the observations of the Metropolitan Fire-engine Establishment, in the shape of extracts from the Report of Mr. Braidwood, superintendent of

the Metropolitan Fire Brigade, to the managing Committee of the Establishment, on the fires which occurred in the year 1842, including an abstracted statement of the fires during each of the *ten* years previous. Here, again, the leading fact regarding the increased effectiveness of the Establishment appears in the still decreasing proportion of the cases of total destruction to that of the whole number of conflagrations. The other most remarkable fact presented by this tabular view is, that the proportion of cases of fire in which *gas* was found to be used on the premises, had increased in the same ten years from *one*-fourth to *three*-fourths of the whole number of fires—a fact, however, which of itself cannot be taken to indicate anything beyond the rapid progress of the substitution of gas-lights for the old modes of artificial lighting.

We now extract from the Appendix to the same Report a *particular* statement of the fires which took place in London in each of the same ten years. The former of the two papers already referred to, having confined its list of the occupations of premises to those classes in which more than six fires had occurred during the five years, the present table, specifying every class in which any fires whatever have occurred, exhibits upwards of a hundred several descriptions of occupancy which do not appear in the former statement. In like manner, the account of the causes of fire in the several classes of buildings having, in the same paper, been limited to those classes (18 in number) wherein more than 20 fires had occurred during the five years, the present statement will be found to specify the causes, so far as discovered, in each several description of occupancy, amounting to upwards of a hundred and eighty. Since, also, the latter statement extends over ten years in lieu of five from the complete organization of the Establishment, it presents the means of carrying out the deductions of the preceding paper with greater fulness, precision, and certainty.

The following table, then, based on the experience of ten complete years, supplies all the further data on this subject which it will be requisite to place on record in the pages of this journal, excepting only a brief statement of the gross result of each succeeding year's operations.

At a period when the municipal arrangements of our large towns for the purposes of public health and safety are undergoing so severe a scrutiny as that to which they are now subjected, it would be well that the subject of fire police should not wholly escape attention, with reference not only to supplies of water easily accessible, but also to express arrangements by which the services of some police officer of experience in these cases shall always be available for the direction of proceedings, where no such complete establishment exists as that of the London Fire Brigade. The supply of water for such purposes is too often left to the mere good-nature of private companies; and the loss of life and property through the pure helplessness of alarm, of surprise, and of ignorance regarding the progress of such casualties, is very great. While there is a competition among some of our largest corporate towns for the best chief of their police, it would, therefore, not be amiss, were they to apply some of this spirit of rivalry in good administration to providing that each of their several police forces shall contain at least one person of skill in these matters; and Mr. Braidwood's is a normal school, in which they may always rely on finding men of character and experience.

Table of Fires which took place in London in Ten Years, commencing 1st January, 1833, ending 31st December, 1842.

TRADES.	Totally Destroyed	Partly (Greatly) Damaged.	Slightly Damaged.	Gas.	No Gas.	Total.	CAUSES.
Apothecaries and Dealers in Drugs, but no Chemical Works carried on.	1	10	8	13	6	19	Trade 6; gas 3; unknown 10.
Archel-makers	..	..	..	..	1	1	Trade 1.
Asphalte Works	..	1	1	..	1	2	Trade 2.
Bagnios	..	1	21	2	27	29	Curtain 19; gas 1; intoxication 4; candle 1; unknown 4.
Bacon-dryers	..	..	3	2	1	3	Trade 3.
Bakers	7	46	87	108	32	140	Trade 88; gas 14; flue 11; candle 2; fire on hearth 1; unknown 24.
,, (Sea Biscuit)	..	2	1	2	1	3	Trade 3.
,, (Muffin)	..	..	1	..	1	1	Trade 1.
Barge and Boat Builders	..	5	6	..	11	11	Incendiarism 1; trade 9; unknown 1
Basket-makers	2	4	2	..	8	8	Trade 2; unknown 6.
Bath-keepers	..	..	1	1	..	1	Trade 1.
Beer-shops	3	9	20	24	8	32	Curtain 6; gas 5; flue 2; stove 1; smoking tobacco 3; pipe stove 1; lucifer 1; copper badly set 1; unknown 13.
Blacking-makers	..	1	1	1	1	2	Unknown 2.
Booksellers, Binders, and Stationers	..	40	39	55	24	79	Gas 23; flue 8; stove 2; trade 7; candle 6; incendiarism 1; accidents 1; child 2; lucifer 1; lime over-heating 1; unknown 27.
Bottle Merchants	..	1	5	6	1	1	Candle 1.
Brewers	..	8	5	..	7	13	Trade 5; flue 1; candle 1; making gas 1; coals overheating 1; unknown 4.
Brick-makers	..	..	1	..	1	1	Trade 1.
Brokers and Dealers in Old Clothes	3	23	22	21	27	48	Intoxication 1; lime over-heating 1; flue 4; trade 3; curtain 4; fire on hearth 1; gas 3; candle 4; lucifer 1; stove 1; children 2; unknown 23.
Butchers	..	1	1	1	1	2	Lime over-heating 1; flue of copper, 1.
Builders	2	1	8	..	11	11	Lime over-heating 3; trade 5; candle 1; unknown 2.
Cabinet-makers	15	39	30	18	66	84	Trade 37; flue 5; candle 5; stove 1; gas 1; unknown 35.
Cane-dyers	..	2	..	..	2	2	Trade 2.

List of Fires which took place in London in Ten Years, from 1833 *to* 1842.—continued.

TRADES.	Totally Destroyed	Consi-derably Damaged.	Slightly Damaged.	Gas.	No Gas.	Total.	CAUSES.
Carpenters and Workers in Wood, not Cabinet-makers.	24	96	125	57	188	245	Trade 100; flue 9; stove 4; incendiarism 3; gas 5; children 2; candle 16; fire on hearth 3; accident 2; smoking tobacco 1; cinders 1; spark 2; carelessness 2; lucifers 1; curtain 1; working late 1; unknown 92.
Carriers	1	1	..	2	..	2	Unknown 2.
Cart-grease-makers	..	1	..	..	1	1	Trade 1.
Cement and Plaster of Paris Works	..	2	..	..	2	2	Trade 1; unknown 1.
Caoutchouc Manufacturers	..	5	2	3	4	7	Trade 5; flue 1; unknown 1.
Chandlers	6	16	26	23	25	48	Trade 2; candle 3; gas 9; intoxication 1; stove 1; lucifers 1; curtain 2; flue 2; accident 1; copper flue 1; unknown 25.
Charcoal and Coke (Dealers in)	..	2	9	1	10	11	Accident 2; trade 5; unknown 4.
Cheesemongers	3	6	11	20	..	20	Smoking hams 1; gas 4; unknown 15.
Chemists, including all places in which are laboratories for chemical purposes.	2	18	20	18	22	40	Trade 31; flue 1; carelessness 1; experiment 1; unknown 6.
Chocolate-makers	..	..	1	..	1	1	Trade 1.
Churches	1	8	9	8	10	18	Stove 8; gas 1; flue 2; pipe stove 1; hot-air flue 1; descending stove 1; lightning 2; fire on hearth 1; unknown 1.
Cigar-makers	..	3	1	2	2	4	Trade 2; flue 1; doubtful 1.
Coach-makers	5	7	13	6	19	25	Smoking tobacco 1; stove 1; flue 2; lamp-black overheating 2; trade 5; candle 1; unknown 13.
Cochineal-dryers	..	..	1	1	..	1	Trade 1.
Coach-painters	1	..	..	..	1	1	Unknown 1.
Coffee-shops and Chop-houses	1	8	25	29	5	34	Flue 9; curtain 7; pipe stove 3; stove 1; trade 1; gas 2; candle 1; reading in bed 1; blocked up flue 1; unknown 8.
Coffee-roasters	..	5	14	6	13	19	Trade 17; unknown 2.
Colour-makers, not mere Colour-shops	..	5	10	2	13	15	Trade 14; unknown 1.
Confectioners and Pastry-cooks	1	8	12	16	5	21	Trade 10; gas 5; unknown 6.
Coopers	3	1	5	1	8	9	Candle 2; trade 4; flue 2; unknown 1.
Cork-burners	1	1	3	1	4	5	Gas 1; trade 4.
Cork-cutters	1	3	..	1	3	4	Candle 1; pipe stove 1; gas 1; unknown 1.
Corn-chandlers	2	11	3	9	7	16	Flue 2; trade 2; accident 1; child 1; gas 1; over-heat of kiln 1; Unknown 8.
Corn-mills	..	..	1	..	1	1	Trade 1.
Cotton Wool (Workers in)	1	2	3	2	4	6	Trade 4; over-heating 1; drying waste 1.
Cotton-wick Manufacturers	..	1	..	1	..	1	Trade 1.
Curriers and Leather-sellers	2	5	4	6	5	11	Trade 4; smoking tobacco 1; unknown 6.
Comb-makers	..	1	..	..	1	1	Unknown 1.
Distillers	..	13	7	8	12	20	Trade 14; furnace adjoining 1; repairing a vat 1; spark 1; unknown 3.
,, (Illicit)	..	3	3	1	5	6	Trade 6.
,, of Tar	2	4	1	..	7	7	Trade 7.
Docks	..	1	4	..	5	5	Cask of spirits falling 1; spontaneous combustion 1; furnace of steam-engine 1; lighted tobacco falling through grating 1; carelessness 1.
Drapers (Woollen and Linen), and Mercers	3	46	67	109	7	116	Flue 4; gas 77; candle 7; incendiarism 3; pipe stove 2; lucifers 1; curtain 3; chafing-dish 1; carelessness 1; unknown 17.
Druggists (Wholesale)	1	..	..	..	1	1	Bottle of ether being broken 1.
Drysalters	..	1	3	1	3	4	Trade 1; gas 1; over-heating 1; unknown 1.
Dyers	..	5	7	7	5	12	Flue 3; trade 6; gas 1; unknown 2.
Eating-houses	1	3	36	34	6	40	Trade 18; flue 11; gas 5; curtain 3; unknown 3.
Farming Stock	3	27	3	..	33	33	Over-heating 13; incendiarism 7; suspicious 1; heating tar 1; children 1; railway 1; trade 2; unknown 7.
Feather Merchants	1	5	6	4	8	12	Flue 1; stove 4; steam furnace flue 1; trade 3; fireworks 1; curtain 1; unknown 1.
Fellmongers	1	1	1	..	3	3	Candle 1; trade 1; unknown 1.
Felt-makers	1	..	1	..	2	2	Trade 2.
Fire Preventive Company	..	1	..	..	1	1	Experiment 1.
Firework-makers	4	10	6	1	19	20	Trade 19; unknown 1.
French Fancy Warehouses	..	..	2	..	2	2	Lucifers 2.
Flax-dressers	..	1	6	2	5	7	Accidents 1; trade 5; unknown 1.
Floor-cloth Manufacturers	1	2	1	2	2	4	Trade 3; unknown 1.
Founders	..	12	14	8	18	26	Furnace 2; trade 18; spontaneous ignition 1; unknown 5.
Furriers and Skin-dyers	2	4	3	4	5	9	Candle 1; flue 2; trade 1; unknown 5.
Gaming-houses	..	1	1	..	2	2	Candle 1; hand grenade 1.

List of Fires which took place in London in Ten Years, from 1833 *to* 1842.—continued.

TRADES.	Totally Destroyed	Considerably Damaged.	Slightly Damaged.	Gas.	No Gas.	Total.	CAUSES.
Gas Works	..	7	18	25	..	25	Gas 6; trade 19.
Glass and Emery Paper-makers	..	1	..	..	1	1	Flue 1.
Glass-blowers	..	..	1	..	1	1	Furnace 1.
,, (Illicit)	..	2	3	1	4	5	Trade 5.
Glass-benders	..	1	..	..	1	1	Trade 1.
Grocers	7	23	29	54	5	59	Gas 17; trade 3; flue 2; children 1; candles 6; lucifers 1; hot cinder 1; stove 1; unknown 27.
Glue-makers	..	1	1	..	2	2	Flue 1; trade 1.
Gunpowder (Sellers of)	..	1	..	1	..	1	Trade 1.
Granary-keepers	1	1	1	2	1	3	Kiln 1; steam-engine 1; unknown 1.
Hat-makers	2	32	23	36	21	57	Trade 27; flue 6; gas 4; airing clothes in stove 1; candle 1; incendiarism 1; boy lighting a fire 1; unknown 16.
Hemp and Flax Merchants	1	2	..	..	3	3	Trade 1; candle 1; smoking tobacco 1.
Horse-hair Merchants	2	1	5	..	8	8	Trade 4; stove 1; broken windows 1; unknown 2.
Hotels, including Club-houses	..	13	26	38	1	39	Flue 12; gas 6; curtain 8; trade 1; lamp 1; reading in bed 2; candle 4; rarifying stove 1; steam furnace 1; defect in hearth 1; unknown 2.
Hair-dressers using ovens	..	..	1	..	1	1	Trade 1.
Ink-makers	1	1	..	..	2	2	Trade 2.
Japanners	1	5	5	1	10	11	Trade 10; unknown 1.
Lamp-black-makers	1	6	5	1	11	12	Trade 9; flue 1; unknown 2.
Laundresses	1	6	8	2	13	15	Trade 9; ironing stove 1; flue 2; lucifer 2; spark 1.
Leather (Patent) Makers	..	2	3	1	4	5	Trade 4; spontaneous ignition 1.
Lime Wharfs	..	..	1	..	1	1	Trade 1.
Livery Stables	..	..	1	..	5	5	Trade 5.
Lodging-houses	2	66	372	77	363	440	Intoxication 6; flue 86; curtain 225; children 27; smoking tobacco 12; trade 2; fire on hearth 4; smoothing iron 1; gas 1; fumigation 4; candle 39; timber under hearth 1; accident 4; old age 1; incendiarism 2; fits 1; lucifers 7; spark 4; stove 1; cat 1; carelessness 2; naptha lamp 1; unknown 58.

Lucifer-match-makers	..	36	27	5	58	63	Trade 60; curtain 1; unknown 2.
Maltsters	1	4	1	..	6	6	Trade 4; unknown 2.
Manganese Manufacturers	..	..	1	..	1	1	Unknown 1.
Marine Stores (Dealers in)	2	7	14	5	18	23	Spark 1; trade 7; candle 2; curtain 1; smoking tobacco 1; gas 1; incendiarism 1; unknown 9.
Mattress-makers	..	2	2	1	3	4	Steam-engine 1; trade 3.
Mast and Block Makers	1	..	..	..	1	1	Unknown 1.
Millers	3	..	..	..	3	3	Trade 1; unknown 2.
,, (Steam)	..	2	3	4	1	5	Trade 5.
Musical Instrument Makers	..	6	4	1	9	10	Trade 4; flue 1; refusing to admit firemen 1; unknown 4.
Mustard-makers	..	..	1	..	1	1	Trade 1.
Naptha Manufacturers	1	1	1	..	3	3	Trade 3.
Nuts (dealers in)	..	..	2	1	1	2	Bleaching nuts 2.
Oil and Preserve Merchants	1	..	1	1	1	2	Trade 1; unknown 1.
Oil and Colourmen, not Colour-makers	7	28	52	44	43	87	Trade 34; gas 4; flue 2; candle 14; gunpowder 1; spontaneous combustion 1; curtain 1; friction 1; dung over-heating 1; lucifers 1; carelessness 1; unknown 26.
Oil Refiners	..	..	1	..	1	1	Trade 1.
Oil Works	1	2	..	1	2	3	Trade 2; unknown 1.
Painted Baize Makers	1	2	1	1	3	4	Flue 1; trade 1; unknown 2.
Painters, Plumbers, and Glaziers	1	4	8	4	9	13	Trade 4; lime and rain 1; unknown 8.
Panoramas	..	..	2	2	..	2	Curtain 1; illumination 1.
Paper-hangers	1	..	1	1	1	2	Flue 1; unknown 1.
Paper-mills	..	3	1	..	4	4	Incendiarism 2; unknown 2.
Paper-stainers	..	1	5	2	4	6	Trade 3; candle 1; oil thrown on the fire instead of water 1; unknown 1.
Pawnbrokers	3	8	6	16	1	17	Gas 3; flue 2; curtain 1; unknown 11.
Perfumers	..	..	1	..	1	1	Trade 1.
Picture-dealers	..	1	..	..	1	1	Unknown 1.
Pipe-makers	..	1	3	1	3	4	Trade 3; unknown 1
Pitch-makers	..	2	..	..	2	2	Trade 2.
Playing-card-makers	..	1	2	2	1	3	Trade 2; unknown 1.
Pork-butchers	..	..	3	3	..	3	Trade 2; gas 1.
Potteries	..	..	2	1	1	2	Stove 1; trade 1.

List of Fires which took place in London in Ten Years, from 1833 *to* 1842.—continued.

TRADES	Totally Destroyed	Considerably Damaged.	Slightly Damaged.	Gas.	No Gas.	Total.	CAUSES.
Printers and Engravers	3	10	23	22	14	36	Pipe stove 2; stove 2; flue 4; trade 11; gas 6; steam-engine 1; flue of steam-engine 2; unknown 8.
,, (Copper-plate)	..	8	7	4	11	15	Stove 3; trade 9; gas 1; candle 1; unknown 1.
Printers' Ink Makers	1	3	..	..	4	4	Trade 4.
Prisons	..	2	2	2	2	4	Stove 1; lime over-heating 1; unknown 2.
Public Buildings	5	5	13	12	11	23	Flue 7; incendiarism 1; late hours 1; timber under hearth 1; fireworks 1; thawing water-pipe 1; illumination 1; kiln 1; stove 1; gas 3; spark 1; unknown 4.
Private	27	304	1,604	444	1,491	1,935	Lucifers 3; gas 11; curtain 855; flue 346; children 53; fire on hearth 18; stove 23; reading in bed 5; fumigation 21; candle 123; fireworks 5; bug-hunting 2; chafing-pan 1; intoxication 11; timber under hearth 2; hot air stove 2; incendiarism 8; smoking tobacco 5; pipe stove 6; hot cinders 8; lightning 3; boiling pitch 1; ironing-stove 1; spark 6; burning cask 1; insanity 2; coppers badly set 3; thawing water-pipes 1; party wall 1; defect in hearth 3; carelessness 5; sewing in bed 1; naptha lamp 1; warming bed 1; plumbers 1; heating tar 1; making polish for furniture 2; children playing with lucifers 3; children playing with fire 6; fainting 1; cat 2; doubtful 2; copper fire 1; wax-taper 1; unknown 377.
Public Places (not Theatres)	..	1	..	..	1	1	Fireworks 1.
Rag-merchants	1	10	10	2	19	21	Fire on hearth 2; overheating 5; stove 1; candle 3; trade 6; unknown 4.
Railways	..	2	..	1	1	2	Trade 1; unknown 1.
Ribbon-dressers	..	..	1	..	1	1	Trade 1.
Rope-makers	..	8	6	1	13	14	Trade 9; smoking tobacco 1; fireworks 1; unknown 3.
Sack-makers	..	2	2	..	4	4	Trade 3; old flue 1.
Sail-makers	1	..	1	..	2	2	Candle 1; unknown 1.
Silk-dressers	..	..	1	..	1	1	Unknown 1.
Sale Shops and Offices, no hazardous goods	19	83	223	224	101	325	Gas 93; stove 12; trade 6; flue 42; candle 21; pipe stove 2; fireworks 1; heating by steam 1; fire on hearth 2; accident 6; lucifers 2; smoking tobacco 2; cat 1; spark 1; incendiarism 2; carelessness 1; working on Sunday 1; stove badly set 2; copper 1; curtain 1; unknown 125.
Saltpetre-refiners	..	1	..	1	..	1	Trade 1.
Saw Mills	3	6	6	8	7	15	Trade 5; steam-furnace 2; steam-engine 1; rags overheating 1; friction 1; drying-stove 1; candle 1; unknown 3.
Schools of Industry	..	..	2	..	2	2	Incendiarism 2.
Ships	..	18	19	..	37	37	Rags overheating 1; stove 6; steam 1; lime overheating 6; stove-pipe 2; cooking 3; heating pitch 1; candle 2; cargo overheating 3; repairs 1; workmen 1; unknown 9.
Ship-breakers	..	..	1	..	1	1	Incendiarism 1.
Ship-builders	1	3	8	..	12	12	Trade 8; unknown 4.
Ships (Steam)	..	6	10	..	16	16	Trade 9; steam 2; steam-engine 2; cooking 1; carelessness 1; unknown 1.
Ship (Steam) Builders	..	1	..	..	1	1	Trade 1.
Ship Chandlers	..	3	1	1	3	4	Candle 1; trade 2; unknown 1.
Shot Manufacturers	..	1	..	..	1	1	Trade 1.
Snuff Mills	1	..	..	..	1	1	Stove 1.
Soot Merchants	..	1	8	..	9	9	Fire in soot 1; trade 3; candle 1; flue 1; curtain 1; unknown 2.
Spice Merchants	..	..	1	1	..	1	Bleaching spice 1.
Stables	11	43	59	9	104	113	Flue 6; candle 25; repairs 2; dung overheating 6; heating pitch 1; laboratory adjoining 1; accident 9; copper 1; incendiarism 1; smoking tobacco 3; lucifers 1; charcoal stove 1; stove 1; fireworks 1; children 2; defect in wall 1; pipe stove 1; unknown 50.
Starch-makers	..	3	..	..	3	3	Trade 2; unknown 1.
Steam-boiler-makers	..	4	..	1	3	4	Trade 1; unknown 3.
Sugar-refiners	3	4	4	1	10	11	Flue 2; packing 1; trade 3; unknown 5.
Straw-bonnet-makers	..	1	4	3	2	5	Trade 2; unknown 3.
Steam Mills	1	..	..	..	1	1	Trade 1.

List of Fires which took place in London in Ten Years, from 1833 *to* 1842.—continued.

TRADES.	Totally Destroyed.	Considerably Damaged.	Slightly Damaged.	Gas.	No Gas.	Total.	CAUSES.
Tailors	1	19	22	23	19	42	Stopped up flue 1; gas 7; trade 4; candle 7; flue 2; curtain 2; pipe stove 1; stove 1; incendiarism 1; unknown 16.
Tanners	..	8	4	..	12	12	Over-heating 1; tan over-heating 4; trade 2; steam-engine 2; unknown 3.
Tallow Chandlers, Melters, Wax Chandlers, and Soap-boilers.	6	11	20	9	28	37	Trade 23; gas 1; flue 3; unknown 10.
Tarpaulin-makers	2	1	..	..	3	3	Trade 1; unknown 2.
Theatres	1	..	9	9	1	10	Gas 6; trade 1; fireworks 1; smoking tobacco 1; unknown 1.
Tinmen, Braziers, and Smiths	4	15	36	19	36	55	Lime over-heating 1; trade 29; stove 1; steam-boiler bursting 1; flue 1; pipe stove 1; candles 2; spark 1; unknown 18.
Type-founders	..	..	1	1	..	1	Trade 1.
Tobacco Manufacturers	..	5	3	7	1	8	Trade 2; candle 1; gas 2; unknown 3.
Tobacconists	..	4	6	10	..	10	Lucifers 4; candle 2; smoking tobacco 1; gas 1; unknown 2.
Toy Warehouses	..	2	..	1	1	2	Unknown 2.
Turpentine Distillers	2	..	..	..	2	2	Trade 2.
Victuallers	12	87	219	274	44	318	Gas 42; flue 65; curtain 43; trade 9; stove 10; smoking tobacco 19; spirit lamp 1; candle 17; tar boiling over 1; pipe stove 3; fire on hearth 2; fumigation 2; spark 3; lucifers 3; airing a bed 1; children playing with lucifers 1; naptha 1; cutting away party wall 1; oven adjoining 1; unknown 93.
Vitriol Works	..	..	1	..	1	1	Trade 1.
Varnish-makers	2	4	2	..	8	8	Trade 8.
Vinegar Works	..	1	2	..	3	3	Trade 1; Pitch boiling over 1; stove 1.
Under repair, and building	2	15	32	6	43	49	Repairs 15; flue 5; candle 1; trade 15; gas 1; fire on hearth 5; lime over-heating 1; stove 1; carelessness 1; unknown 4.
Unoccupied	4	11	30	6	39	45	Flue 6; incendiarism 6; curtain 1; fire on hearth 2; gas 2; candle 1; smoking tobacco 2; children 3; spontaneous ignition 1; trade 1; repairs 1; lucifers 1; burning a straw bed 1; unknown 17.
Upholsterers	1	5	10	10	6	16	Candle 1; gas 1; trade 3; pipe stove 1; hot water stove 1; curtain 1; smoking tobacco 1; unknown 7.
Wadding-makers	1	8	2	..	11	11	Stove 1; trade 8; incendiarism 1; unknown 1.
Warehouses	3	12	30	16	29	45	Stove 2; flue 5; pitch boiling over 1; floor falling 1; incendiarism 6; spark from fire 1; trade 1; candle 2; rags over-heating 3; cotton waste 2; shoddy over-heating 2; lighting gas 1; unknown 18.
,, (Manchester)	..	1	10	7	4	11	Pipe stove 1; flue 5; gas 1; carelessness 1; incendiarism 1; unknown 2.
Waterproof Canvass-makers	..	1	..	..	1	1	Unknown 1.
Weavers (Carpet)	..	..	1	..	1	1	Candle 1.
,, (Silk)	1	3	5	2	7	9	Unknown 4; curtain 1; trade 1; candle 3.
,, (Willow)	..	1	1	..	2	2	Cat 1; Unknown 1.
Wine and Spirit Merchants	..	12	42	12	42	54	Straw in cellar 3; stove 1; packing 2; trade 37; gas 6; flue 1; unknown 3; incendiarism 1.
Wharfingers	..	..	1	..	1	1	Rags over-heating 1.
Wood Merchants	..	4	2	2	4	6	Gas 1; spark 1; sewing by candle-light 1; unknown 3.
Wool Staplers	..	1	1	..	2	2	Unknown 2.
Workhouses	..	6	7	6	7	13	Hearth decayed 1; curtain 2; stove 1; flue 2; gas 1; stove for drying linen 1; spark from fire 1; trade 1; unknown 2; cooking apparatus 1.
	269	1,611	3,894	2,142	3,632	5,774	
False alarms . 691 Chimney ditto. 1,034						1,725	
						7,499	

(Signed) JAMES BRAIDWOOD, Superintendent.

MISCELLANEOUS.

South Australia.—The colony of South Australia embraces the territory comprised between the 132nd and 141st degrees of east longitude, and extends from the sea coast on the southward to the 26th degree of south latitude. Of the greater portion of this extensive country nothing is as yet known. The peninsula formed by St. Vincent's and Spencer's Gulfs on the west, and Lake Alexander and the Murray on the east, (the western boundary extending from Cape Jervis in latitude about 36° 20″ to the head of Spencer's Gulf in latitude about 32½°, and the eastern boundary extending from Cape Jervis to the great bend of the Murray in latitude 34°),—Yorke's Peninsula, between Spencer's and St. Vincent's Gulfs,—and the peninsula of Eyria, the boundaries of which extend from Sleaford Bay, in a northerly and easterly direction as far as the head of Spencer's Gulf, and in a northerly and westerly direction as far as Streaky Bay,—are the only portions of the province which have as yet been explored, and the latter of these is still only very imperfectly known.

The settlement of the colony has not, excepting a few hundred persons at Port Lincoln, yet extended beyond the peninsula formed by the Murray and the gulf; nor, considering the vast extent of available country still unappropriated, is it likely to do so for some years. From Adelaide as far as Lake Alexandrina on the east, and Encounter Bay and Cape Jervis on the south, lies a fine extent of country, consisting alternately of rich alluvial vallies, and mountain ranges of grassy forest. The only rivers of any consequence that empty themselves into the sea, which forms the western boundary of this country, are the Sturt and the Onkaparinga rivers, and several smaller streams. On the east the Bremer, Angus, Finniss, Inman, Hindmarsh, and other streams, disgorge into the Lake and Encounter Bay.

The census of 1842 exhibits a return of 14,625 souls; but as no returns have been made for many remote districts, and as no allowance has, notwithstanding, been made for omissions, it is believed that the actual population of the province is not at this time under 16,000 souls.

Taking the above return as the basis of our calculations, the male population of the province is nearly as one and a half to one of the females, a state of things which accounts in some degree for the scarcity of female servants. Taking the present population of the province at 16,000, and the land selected in the province at 320,000 acres, an allowance of 20 acres of land must be made for every man, woman, and child in the province, independent of the thousands of acres which are at present grazed upon, although not selected, or even surveyed.

Upon the calculation of 20 acres of land for every man, woman, and child in the province, there is at the present moment sufficient land surveyed to accommodate a population of 32,000 souls; that is, a population twice its present amount.

The number of children in the province under seven years of age are not given in the above census, but they may be set down at 3,000, and, in the past year, the births may be calculated at rather more than three times the amount of the deaths.

The farmers have found great difficulty in getting in the harvest this year, from want of hands; and as 200 additional shepherds will be wanted almost immediately, there are not a sufficient number of labourers in the colony for the requirements of the ensuing year, by nearly 1,000. It is hoped, therefore, that the friends of the colony in England will impress upon the Colonial Office the necessity for the speedy renewal of emigration.

Turnpike Trusts.—From the Report of the Commissioners appointed to inquire into the subject, it appears that for every 200 miles of turnpike road, there are, on an average, ten surveyors; whereas, if the highways and turnpike trusts were consolidated, one properly qualified surveyor might perform much better the service with which the ten are charged. There are, it appears, 1,116 turnpike trusts, comprehending about 22,000 miles. The officers employed consist of 1,120 treasurers, 1,135 clerks, and 1,300 surveyors: total 3,555. The annual cost of the *repair* of the turnpike roads is 51*l.* per mile, making a total expenditure of 1,122,000*l.* per annum. The debts amounted to upwards of 9,000,000*l.*, and they appeared to be rapidly increasing. The average expense of the *management* of the highway and turnpike roads is estimated at 10*l.* per mile per annum; but it is calculated that if the management of the turnpikes and highways were consolidated, they might be better managed at an expense of from 30*s.* to 2*l.* per mile per annum. On comparing the actual expense of the repairs of roads under a scientific management of the highways with the common cost, it appears probable that by management on an extended and appropriate scale, upwards of 500,000*l.* per annum might be saved on that branch of administration alone.

The Committee of the House of Commons, which sat in 1834, examined some of the most able engineers in the country; and a Commission subsequently appointed, at the head of which were the Duke of Richmond and the Marquis of Salisbury, coincided in recommending the adoption of the principle of consolidation as the only means of retrieving that branch of administration.—*Report on the Sanitary Condition of the Labouring Population of Great Britain, p.* 325.

Private and Joint-Stock Banks.

An Account of the Number of Private and Joint-Stock Banks registered in each Year from 1820 *to* 1842, *both inclusive.*

Year.	Number of Private Banks.	Number of Joint Stock Banks.	Year.	Number of Private Banks.	Number of Joint Stock Banks.
1820 to 1821	521	..	1831 to 1832	424	25
1821 to 1822	526	..	1832 to 1833	416	35
1822 to 1823	547	..	1833 to 1834	416	47
1823 to 1824	547	..	1834 to 1835	411	55
1824 to 1825	544	..	1835 to 1836	407	100
1825 to 1826	554	..	1836 to 1837	351	107
1826 to 1827	465	6	1837 to 1838	341	104
1827 to 1828	456	7	1838 to 1839	332	108
1828 to 1829	460	11	1839 to 1840	332	113
1829 to 1830	439	15	1840 to 1841	321	115
1830 to 1831	436	19	1841 to 1842	311	118

[Parl. Paper, No. 85, Session 1843.]

Slave Trade Police.—A Return of the Number of Ships of War, of all Classes, employed for the Suppression of the Slave Trade in the Year 1842; *stating the Number of Guns and of Men.*

CLASS.	Number of Ships.	Number of Guns.	Number of Men.
3rd rate	1	72	620
4th rate	4	202	1,900
5th rate	2	88	720
6th rate	5	130	1,085
Sloop	19	310	2,550
Steam-vessel	8	26	686
Gun-brig	19	117	993
Total	58	945	8,554

This Return is made for the 1st of July, as an average of the force employed for the whole of the year 1842; but although the above number of vessels were furnished with Slave-Trade Instructions, yet they were only employed in cruising against Slave Vessels as the other duties of the stations on which they were respectively employed would permit.

Yeomanry Cavalry.—This is a force almost exclusively confined to England. The Irish Yeomanry were disbanded on the 31st of March, 1834: and in Scotland there are only the Ayrshire corps and that of the Upper Ward of Lanarkshire; the former containing 6, and the latter 4 troops, with 38 officers and 750 men, maintained at an expense of 4,190*l.* 1*s.* 6*d.* But in England there are 53 corps, comprising 228 troops: 9 of these corps, comprising 11 troops, serve gratuitously, and do not make any returns of their effective strength to the War Office; but the other 44 comprise in their 217 troops 12,684 men, and their cost to the government, in 1841, was 78,179*l.* 4*s.* 7*d.*, making the total cost of the English and Scotch Yeomanry 82,369*l.* 6*s.* 1*d.*, including 272*l.* 18*s.* for the pay and travelling expenses of officers employed to inspect them.—(*Parl. Pap., Sess.* 1842, *No.* 300.)

Religious Instruction, Ireland.—Prefixed to a recent return to an order of the House of Commons (1843, No. 588) is a summary, from which it appears that the total number of schools in operation in Ireland under the National Board of Commissioners of Education was, on the 30th of April, 1843, no fewer than 2,751, of which 2,614 have made returns of the course of religious instruction pursued in them during the four months preceding. In 492 of these National Schools the Holy Scriptures were read, daily or occasionally, without the selected "Scripture Lessons;" in 592 both the Holy Scriptures and the "Scripture Lessons" were read: making a total of 1,084 in which the Holy Scriptures have been read daily or occasionally. The number of schools in which the "Scripture Lessons" published by the Commissioners have alone been read was 855, making 1,447 in which these lessons were used; while the number in which neither the Scriptures nor the "Scripture Lessons" were read was 815. By another return of the same session (520) it appears, that 137 were on sites belonging or attached to Roman Catholic religious edifices.

Tenth Report of the Manchester Statistical Society, established in 1833.—*October*, 1843.

The Annual Meeting of the Society was held in the Chamber of Commerce, when Officers for the ensuing Session were appointed.

The thanks of the Society were voted to the Directors of the Chamber of Commerce, for their kindness in allowing the use of their room for the Meetings of the Society.

At subsequent Meetings, during the Session, the following communications were made:—

On the Medical Inspection of Towns and the Registration of the Causes of Death.—Mr. P. H. Holland.

On Early Marriages in Oriental Countries as being no evidence of Early Puberty.—Mr. Roberton.

A Committee was appointed to report on the Expenditure of the Public Charities in Manchester during the last five years, which has not yet reported.

In pursuance of a Resolution of the Society passed at the Meeting of the 9th of May, the Secretaries advertised for an Agent to undertake a new inquiry into the state of Education in the Boroughs of Manchester and Salford, but owing to the excited state of the public mind upon this subject, it was considered desirable to postpone entering upon the inquiry.

The Committee on the Registration of Births, Deaths, and Marriages, for the Districts of Manchester and Salford, have been actively engaged in abstracting and classifying the entries in the Registrar's books, and from the continuance of their labours a most valuable mass of information is in process of collection and arrangement.

During the past Session, three Ordinary Members have been elected.

PROCEEDINGS OF THE STATISTICAL SOCIETY OF LONDON.

Eighth Ordinary Meeting, June 17, 1844.

Lieut.-Colonel Sykes, V.P., in the Chair.

The following gentlemen were elected:—

Thomas Hodgkin, M.D. — William Humphry Freeland, Esq.
Alfred Rhodes Bristow, Esq.

The following gentlemen were proposed as candidates for admission into the Society:—

Julius Jeffreys, Esq. — Gregory Seale Walter, Esq.
B. Smith, Esq., M.P. — A. A. Knox, Esq.

A paper, by Mr. Hutchinson, was read, entitled "Contributions to Vital Statistics, obtained by means of a Pneumatic Apparatus for valuing the Respiratory Powers with relation to Health."—See p. 193.

BILLS OF MORTALITY.

The quarterly returns are obtained from 115 districts, sub-divided into 576 Sub-districts. *Thirty-four* districts are placed under the metropolis, and the remaining 81 districts comprise, with some agricultural districts, the principal towns and cities of England. The population was 6,578,912 in 1841.

The deaths registered in the last quarter (ending June 30th) amounted to 38,925, which is less by 7116 than the deaths in the previous quarter, and 1283 less than the average of the corresponding Spring quarter in the 5 years (1838-42). Allowing for the increase of the town population, the mortality was 10 per cent. below the average of the season.

The reduction in the mortality has been unequally distributed over the kingdom; but as a general rule, it has been most remarkable in the large manufacturing districts.

	Average of 5 previous Spring Quarters, 1838-42.	Deaths in the Quarter ending June 30. 1844.
Manchester	1543	1260
Salford	519	417
Ashton and Oldham	1377	993
Leeds	1107	936
Sheffield	577	464
Stockport	630	418
Liverpool	1744	1547

Birmingham remained the same; and in a few of the other manufacturing districts, to be shortly mentioned, the mortality was above their average.

Small-pox and *Scarlatina* have been epidemic in the metropolis; and towards the end of the quarter, 51 persons (chiefly children) died of the former, 78 of the latter disease in one week, The deaths in the quarter from *small-pox* were 425. 107 of the number were reported by the informants to have been vaccinated; but the evidence of this would necessarily be, in many cases, uncertain and imperfect. Influenza has declined; and since the mean temperature has risen above 60 degrees, bowel complaints have become more prevalent.

The epidemics most frequently mentioned in the country districts are scarlatina, measles, small-pox, hooping-cough, and typhus.

The quarterly meteorological table has been compiled from the weekly tables supplied by the astronomer royal. The mean temperature (55° 0′) was 1° 9′ above the average of the season; the highest temperature of the air (observed) was 83° 3′, the lowest 34°; the thermometer once rose in the sun to 111° 7′, and fell on the grass so low as 21° 6′. The mean *dew point* was 47° 2′. The quarter has been remarkable for the small quantity of rain which fell. The rain collected in 13 weeks was only 2·31 inches, and of this 1·55 inches fell upon the last week of June.

The results of some meteorological observations by M. P. Moyle and Lovell Squire, Esqs., are given in another page. The publication of the results of a series of simultaneous meteorological observations, made on an uniform plan in different parts of the kingdom, could not fail to be highly interesting.

Districts in which the mortality was HIGHER *than the average mortality of the Spring Quarter in the same districts.*—The south districts of the Metropolis, *Portsea Island, Northampton*, Bedford, Clifton, Stroud, Hereford, Kidderminster, West Derby, Wigan, *Bradford, Merthyr-Tydfil.*

Districts in which the Mortality was lower than the average Mortality of the Spring quarter in the same districts.—Brighton, Oxford, *Norwich*, Dorchester, Bristol, *Worcester*, Wolverhampton, *Stockport*, Macclesfield, *Great Boughton* (Chester), *Liverpool*, Preston, Bury, Bolton, *Prescott*, *Manchester*, *Salford*, *Ashton*, *Sheffield*, Huddersfield, *Leeds*, York, *Sunderland*, Tynemouth, Newcastle-on-Tyne, *Pontypool*, Newtown, Anglesey.

MORTALITY OF THE COUNTRY.

Quarterly Table of the Mortality in 115 *of the Districts of England (including the principal Towns) showing the Number of Deaths registered in the Six Years, the Average Number of Deaths in the Five Springs,* 1838-42, *and the Number of Deaths in the Spring Quarter of* 1844, *ending* 30*th June.*—(*Continued from p.* 183.)

DISTRICTS.	Population 1841.	Annual Deaths Registered.						1838–42 Quarly. Average†		Deaths in the Spring Quarter, ending June 30, 1844.
		1838	1839	1840	1841	1842	1843	Of Five Years.	Of Five Springs.	
*Metropolis.**										
West Districts	301,326	8,114	6,538	6,936	6,599	6,826	7,214	1,751	1,738	1,802
North Districts.	366,303	8,944	7,890	8,594	8,261	8,550	9,038	2,112	2,004	2,191
Central Districts	374,759	10,844	9,751	9,108	9,333	8,873	9,547	2,395	2,255	2,044
East Districts	393,247	12,434	10,359	10,063	10,004	9,947	10,960	2,640	2,417	2,433
South Districts.	479,469	13,210	11,562	12,329	11,872	11,918	12,575	3,044	2,685	3,001
Total	1,915,104	53,546	46,100	47,030	46,069	45,114	49,332	11,943	11,101	11,471
South Eastern Division.										
Maidstone	33,210	737	726	700	648	815	774	181	184	202
Brighton	46,742	916	898	980	1,102	1,126	1,117	251	230	219
Isle of Wight	42,517	655	650	737	891	721	703	182	193	191
Portsea Island	53,036	1,264	1,180	1,140	1,211	1,152	1,342	297	271	363
Winchester	23,044	421	479	526	416	469	471	116	113	117
Windsor	20,502	381	367	402	395	394	314	97	94	98
South Midland Division.										
St. Albans	17,051	378	310	331	300	340	291	83	89	73
Wycombe	34,150	788	692	824	751	679	748	187	210	229
Oxford	19,701	359	407	406	450	414	359	102	94	77
Northampton	28,103	689	687	670	693	622	677	168	165	224
Bedford	31,767	676	678	743	714	604	762	171	172	200
Cambridge	24,453	563	547	639	659	465	597	144	144	155
Eastern Division.										
Colchester	17,790	533	437	488	381	417	393	113	107	105
Ipswich	25,254	694	630	593	499	594	551	150	144	161
Norwich	61,846	1,373	1,852	1,752	1,362	1,582	1,295	396	430	342
Yarmouth	24,031	417	440	504	493	516	510	118	115	127
South Western Division.										
Devizes	22,130	426	510	491	429	449	633	115	111	118
Dorchester	23,380	469	362	412	456	437	524	107	118	95
Exeter	31,333	700	646	808	920	764	836	192	178	186
St. Thomas	47,105	824	819	838	859	886	808	214	201	220
Plymouth	36,527	862	670	765	730	1,141	889	208	196	209
Redruth	48,062	914	909	1,011	906	1,232	845	249	252	243
Penzance	50,100	762	848	976	1,016	1,128	996	236	226	221
Bath	69,232	1,567	1,602	1,974	1,728	1,598	1,624	423	436	433
Western Division.										
Bristol	64,298	1,842	1,675	2,330	1,895	1,771	1,742	476	462	424
Clifton	66,233	1,328	1,150	1,739	1,519	1,510	1,256	362	368	427
Stroud	38,920	952	693	760	728	706	808	192	205	244
Cheltenham	40,221	869	726	853	890	1,078	824	221	217	191
Hereford	33,646	774	687	758	688	862	816	188	182	207
Shrewsbury	21,529	568	514	559	520	586	534	137	143	140
Worcester	27,130	805	717	638	614	637	641	171	166	129
Kidderminster	29,408	591	523	670	582	621	597	149	137	169
Dudley	86,028	1,767	1,891	2,022	2,296	2,332	1,729	515	497	468
Walsall	34,274	619	749	913	832	927	706	202	183	174
Wolverhampton	80,722	1,556	1,909	2,217	2,153	2,319	1,783	508	506	457
Wolstanton	32,669	710	795	831	757	964	842	203	210	202
Birmingham	138,187	3,359	3,639	3,767	3,673	3,579	3,340	901	845	869
Aston	50,928	1,099	1,058	1,218	1,113	1,093	1,031	279	275	298
Coventry	31,023	684	724	616	905	890	838	191	181	199

* The deaths in the Metropolis for the years 1840-1-2 have been derived from the weekly tables, the Returns for each year comprising 52 weeks, or 364 days. The last quarter in the metropolis ended June 29, 1844. The returns from other places are for the years ending December 31, and the quarter ending June 30.

† Wandsworth District is included in the return for the Metropolis.

A Quarterly Table of the Mortality, &c.—continued.

DISTRICTS.	Population 1841.	Annual Deaths Registered. 1838	1839	1840	1841	1842	1843	1838–42 Quartly. Average of Five Years.	1838–42 Quartly. Average of Five Springs.	Deaths in the Spring Quarter ending June 30, 1844.
North Midland Division.										
Leicester	50,932	1,170	1,291	1,730	1,358	1,457	1,255	350	326	344
Lincoln	36,110	620	731	817	800	720	786	184	194	180
Nottingham	53,080	1,209	1,540	1,794	1,239	1,429	1,393	361	315	327
Basford	59,634	1,045	1,200	1,549	1,163	1,245	1,216	310	322	359
Derby	35,015	769	832	926	914	909	922	217	208	209
North Western Division.										
Stockport	85,672	2,410	2,591	2,574	2,048	2,073	2,203	595	630	418
Macclesfield	56,018	1,315	1,528	1,745	1,419	1,403	1,551	370	394	338
Great Boughton (including Chester)	49,085	1,040	1,237	1,384	1,246	1,189	1,091	305	315	237
Liverpool	223,054	6,627	7,435	8,470	7,556	7,407	7,458	1,875	1,744	1,547
West Derby (adjoining Liverpool)	83,652	1,625	1,746	2,206	2,202	2,405	2,312	509	455	526
Blackburn	75,091	1,612	2,190	2,140	1,692	1,665	2,031	465	492	461
Preston	77,189	1,726	1,812	2,637	2,026	2,050	1,938	513	502	464
Rochdale	60,577	1,477	1,673	1,868	1,417	1,476	1,531	396	426	476
Bury	77,496	1,901	1,990	2,170	2,064	1,987	1,832	506	543	495
Bolton	97,519	2,432	2,857	2,900	2,572	2,607	2,596	668	672	616
Wigan	66,032	1,483	1,912	2,144	1,561	1,588	1,832	434	447	456
Prescott	43,739	916	1,056	1,155	997	1,075	920	260	272	183
Chorlton	93,736	2,140	2,418	2,399	2,431	2,427	2,529	591	535	510
Manchester	192,408	6,706	6,774	6,489	5,821	6,151	6,263	1,597	1,543	1,269
Salford	70,228	2,207	2,449	1,998	1,971	1,977	2,093	530	519	417
Ashton	173,964	4,488	5,489	4,873	4,282	4,786	4,391	1,196	1,377	993
York Division.										
Sheffield	85,076	2,429	2,703	2,410	2,231	2,182	2,169	598	577	464
Huddersfield	107,140	1,847	2,080	2,243	2,122	1,996	2,451	514	620	572
Halifax	109,175	2,093	2,402	2,354	2,292	2,272	2,459	566	586	666
Bradford	132,164	3,093	3,251	3,176	3,041	3,323	3,344	794	803	959
Leeds	168,667	4,289	4,388	4,488	4,360	4,615	4,329	1,107	1,107	936
Hull	41,130	1,060	1,023	1,442	1,206	1,042	1,128	289	264	241
York	47,779	876	1,217	1,209	1,039	1,133	1,048	274	292	267
Northern Division.										
Sunderland	56,226	1,479	1,524	1,513	1,512	1,357	1,247	369	374	307
Gateshead	38,747	881	963	1,016	939	909	984	238	211	216
Tynemouth	55,625	1,112	1,285	1,243	1,340	1,327	1,229	315	322	268
Newcastle-on-Tyne	71,850	1,829	2,117	1,957	2,104	1,726	1,922	497	469	373
Carlisle	36,084	855	739	901	925	840	762	213	193	199
Cockermouth	35,676	784	718	696	674	597	690	173	160	166
Kendal	34,694	729	825	821	601	714	666	184	193	183
Welsh Division.										
Abergavenny	50,834	1,150	1,206	1,374	1,458	1,109	1,116	315	357	333
Pont-y-pool	25,037	561	615	563	648	545	514	147	170	99
Merthyr Tydvil	52,864	1,516	1,246	1,566	1,423	1,110	1,183	343	360	560
Newtown	25,958	537	468	619	539	420	477	129	144	117
Wrexham	39,542	845	823	966	900	809	917	217	227	221
Holywell	40,787	897	791	864	800	738	815	204	222	203
Anglesey	38,105	645	589	632	597	624	575	154	173	143
Total exclusive of the Metropolis	4,663,803	109,321	116,505	124,664	114,664	115,834	113,869	29,049	29,107	27,454
Grand Total	6,578,912	162,867	162,605	171,694	160,733	161,948	163,201	40,992	40,208	38,925

* Wandsworth District is included in the return for the metropolis.

MORTALITY OF THE METROPOLIS.

A Table of the Mortality in the Metropolis, showing the Number of Deaths from all Causes, registered in the 13 *Weeks ending* 29*th June*, 1844.

CAUSES OF DEATH.	Quarterly Average of Deaths in the Five Springs of 1839–43.	Deaths in the Spring Quarter ending June 29, 1844.
All Causes	10,960	11,471
Specified Causes	10,912	11,432
I. Zymotic (or Epidemic, Endemic, and Contagious) Diseases	1,993	2,451
Sporadic Diseases.		
II. Dropsy, Cancer, and other Diseases of uncertain or variable Seat	1,300	1,209
III. Diseases of the Brain, Spinal Marrow, Nerves, and Senses	1,887	2,006
IV. Diseases of the Lungs and of the other Organs of Respiration	3,340	3,229
V. Diseases of the Heart and Blood Vessels	260	378
VI. Diseases of the Stomach, Liver, and other Organs of Digestion	755	847
VII. Diseases of the Kidneys, &c.	68	94
VIII. Childbirth, Diseases of the Uterus, &c.	108	99
IX. Rheumatism, Diseases of the Bones, Joints, &c.	77	82
X. Diseases of the Skin, Cellular Tissue, &c.	14	12
XI. Old Age	795	673
XII. Violence, Privation, and Intemperance	314	352
I. Small Pox	144	425
Measles	355	208
Scarlatina	325	601
Hooping Cough	438	361
Croup	99	126
Thrush	40	42
Diarrhœa	59	83
Dysentery	13	18
Cholera	5	9
Influenza	25	28
Ague	3	3
Remittent Fever	6	4
Typhus	400	455
Erysipelas	65	68
Syphilis	8	19
Hydrophobia	1	1
II. Inflammation	81	71
Hæmorrhage	40	42
Dropsy	411	333
Abscess	42	20
Mortification	55	46
Purpura	3	3
Scrofula	29	43
Cancer	106	170
Tumor	19	7
Gout	13	19
Atrophy	76	137
Debility	239	236
Malformations	12	22
Sudden Deaths	173	124
III. Cephalitis	164	153
Hydrocephalus	461	497
Apoplexy	209	294
Paralysis	189	213
Convulsions	670	614
Tetanus	4	7
Chorea	2	2
Epilepsy	50	55
Insanity	19	18
Delirium Tremens	22	29
Disease of Brain, &c	106	124
IV. Laryngitis	7	17
Quinsey	18	23
Bronchitis	130	194
Pleurisy	23	19
Pneumonia	813	715
Hydrothorax	54	67
Asthma	198	161
Phthisis or Consumption	1,919	1,838
Disease of Lungs, &c	178	195
V. Pericarditis	11	29
Aneurism	9	14
Disease of Heart, &c.	240	335
VI. Teething	205	165
Gastritis	193	11
Enteritis		169
Peritonitis	17	29
Tabes Mesenterica	61	125
Worms	3	6
Ascites	9	17
Ulceration (of Intestines, &c.)	15	9
Hernia	22	23
Colic or Ileus	22	32
Intussusception	5	7
Stricture	7	3
Hæmatemesis	6	10
Disease of Stomach, &c.	50	74
Disease of Pancreas	..	1
Hepatitis	13	22
Jaundice	26	39
Disease of Liver, &c.	99	105
Disease of Spleen	1	..
VII. Nephritis	5	9
Ischuria	2	..
Diabetes	4	3
Cystitis	3	2
Stone	5	5
Stricture	6	16
Disease of Kidneys, &c.	44	59
VIII. Childbirth	78	67
Paramenia	2	3
Ovarium Dropsy	3	6
Disease of Uterus, &c.	24	23
IX. Arthritis	1	1
Rheumatism	34	27
Disease of Joints, &c.	43	54
X. Carbuncle	1	..
Phlegmon	1	2
Ulcer	4	7
Fistula	5	1
Disease of Skin, &c.	4	2
XI. Old Age	795	673
XII. Intemperance	7	13
Privation	3	6
Violent Deaths	304	333
Causes not specified	48	39

PRICES OF PROVISIONS,

Average Contract Prices of the Provisions and Fuel supplied to the Workhouses

Districts marked out by the Registrar-General, and Central Unions contained therein.	Average Weekly Cost per Head of In-door Paupers. Food.	Clothing.	Food and Clothing.	Wheaten Flour per Stone.	Wheaten Bread per 4lbs.	Meat—Beef and Mutton per lb.	Salt Butter per lb.	Cheese per lb.	Potatoes.
Metropolis.	*s. d.*	*d.*	*s. d.*	*s. d.*	*d.*	*d.*	*d.*	*d.*	*s. d.*
East London	2 9¼	5¼	3 2½	2 6	6	4¼	6½	..	2 3 cwt.
Holborn	2 1	2¾	2 3¾	2 0	6	4	6¼	4	2 6 cwt.
South Eastern Counties.									
Maidstone	2 2¼	3½	2 5¾	1 9	5¼	4	7	4½	1 0 bshl.
Portsea Island	2 2	7	2 9	1 9	5¼	3½	6½	3¾	2 0 cwt.
South Midland Counties.									
Northampton	2 5¼	4½	2 9¾	2 2	5¾	3¾	13	6	1 4 cwt.
Cambridge	2 2¼	7	2 9¼	2 1	5¾	4	9	4½	1 2 bag.
Eastern Counties.									
Ipswich	2 0½	5¼	2 5¾	1 10	5½	5	10	5¾	..
South Western Counties.									
Devizes	2 0½	5¼	2 5¾	1 9	4¾	3	7½	4½	1 6 bshl.
Penzance	2 0¾	4¼	2 5	2 0	5½	4¾	7¾	10	2 3½ cwt.
Bath	2 0	2¼	2 2¼	1 9	5	3¾	8	3	5 0 sack
Western Counties.									
Stroud	1 10	1¾	1 11¾	..	5	4	7¼	3	5 0 bag.
Wolverhampton	1 11¼	6¼	2 5½	1 11½	5½	4s. 6d. per st.	8	5	1 6 bshl.
North Midland Counties.									
Derby	1 9	1¾	1 10¾	2 0	5½	4½	12	5½	4 0 cwt.
North Western Counties.									
Macclesfield	1 9	7	2 4	1 9	..	3½	10	6½	5 11 load
Bolton	1 7¾	3¾	1 11½	1 8½	5	4	7½	4¾	6 3 load
Prescot	1 10¾	12¼	2 11	..	6	3¾	8	..	2 6 90 lb.
North Eastern Counties.									
Sheffield	2 5	7	3 0	2 0	..	4¼	..	7	5 4 load
Halifax	1 10¾	1¾	2 0½	2 4	5	4¾	8½	..	0 6 load
Sculcoates	2 4	7	2 11	2 1	4½	4¼	14	..	0 5¼ peck
Northern Counties.									
Gateshead	1 9¼	4	2 1¼	2 0	4¼	4	10	6½	2 10 cwt.
Kendal	1 10¾	5¼	2 4	1 10½	..	4	9¾	5½	0 2¾ st.
Wales.									
Pembroke	1 5½	1¾	1 7¼	2 0	6	4½	7	5	2 6 cwt.
St. Asaph	1 8	3½	1 11½	..	6	3¾	9	5½	3 0 (210 lbs.)

FUEL, &c.—*(Continued from p. 187.)*

of the following Unions, during the Quarter ended at Lady-day, 1844.

Peas per quart.	Oatmeal per lb.	Candles per 12 lbs.	Yellow Soap per lb.	Coals per Ton.	Tea per lb.	Sugar per lb.	Milk per quart.	Miscellaneous Articles.
d.	*d.*	*s. d.*	*d.*	*s. d.*	*s. d.*	*d.*	*d.*	
2½	2	5 1	4¼	16 0	3 5	6	2½	Table Beer, 5*s.* barrel.
2¼	2	5 3	4½	15 9	3 3	6	..	Porter, 33*s.* barrel.
..	3	5 6	5	20 9	3 8	6	..	. . . .
2¼	3	5 2	4½	15 10½	..	..	..	. . . .
3	3¾	5 6	4¾	22 6	3 9	6½	2¾	. . . .
3	1½	5 6	4¾	22 6	..	..	..	. . . .
2¼	3½	5 8	5	19 6	..	..	..	. . . .
2¼	3¾	5 10½	5	18 6	4 2	7	..	Beer, 7*d.* gall. Bacon, 4*d.* lb
2	2¾	5 5	5	14 6	3 10	6¾	..	Fish, 12*s.* 10*d.* cwt.
2¼	3½	5 4	4	14 0	3 6	6¼	..	Rice, 17*s.* cwt.
2	..	5 6	4½	15 6	..	..	1½	Groats, 19*s.* cwt. Rice Flour, 19*s.* cwt. Bacon, 4½*d.* lb.
2	1½	5 3	5	7 0	..	..	..	Treacle, 2½*d.* lb. Rice, 2*d.* lb.
2	1½	5 6	4½	8 8	4 0	7	..	Rice, 16*s.* cwt.
2¾	2¼	5 6	4½	9 2	..	..	..	. . . .
2	2	4 9	4¾	6 4	..	..	1	Treacle, 2¾*d.* lb.
2	2¼	4 10	4¼	9 4	..	..	1¼	Bacon, 4*d.* per lb.
2¼	1½	5 3	5	6 1½	4 2½	6½	1½	Treacle, 3*s.* 3*d.* stone. Rice, 2*s.* 2*d.* stone. Coffee, 1*s.* 9*d.* lb. Tobacco, 3*s.*6*d.* lb. Porter, 11*d.* gall. Salt, 3*d.* stone.
2¼	2	5 0	5	9 6	4 5	7	8	. . . .
2	1½	5 3	5	16 0	..	..	..	. . . .
2¼	2¾	5 6	4½	4 0	4 1	6½	..	Coffee, 1*s.* 5*d.* per lb.
..	1½	5 9	5	12 11	4 2	7	0¾	Coffee, 1*s.* 6*d.* lb. Rice, 2*s.* st.
2½	3	6 6	5¼	14 5	4 8	7	1	. . . .
2½	1¼	5 10	4¾	14 0	3 6	6½	..	Rice, 2½*d.* lb.

QUARTERLY METEOROLOGICAL TABLE,

Compiled from the Weekly Tables furnished to the Registrar-General by the Astronomer Royal.

1844 Week ending	Phases of the Moon.	Mean height of the Barometer, from 72 observations, corrected and reduced to 32 deg. Fahrenheit.	THERMOMETERS. Highest during the week.	Lowest during the week.	Mean. Highest on each day, 6 observations.	Mean. Lowest on each day, 6 observations.	Mean. Difference.	Mean of 72 observations.	Dew Point. Mean of 72 results.	Self-Registering. Highest in the sun. During the week.	Self-Registering. Highest in the sun. Mean of 7 observations.	Self-Registering. Lowest on the grass. During the week.	Self-Registering. Lowest on the grass. Mean of 7 observations.	WIND. Pressure in lbs. on the square foot. Greatest pressure in the week.	WIND. Pressure in lbs. on the square foot. Mean for the week.	WIND. General direction.	Difference between the mean temperature of the week, and the mean temperature of the same week on an average of 25 years.	Difference between the dew point temperature and air temperature. Mean of the greatest on each day, 6 observations.	Difference between the dew point temperature and air temperature. Mean of the least on each day, 6 observations.	Mean of 72 differences.	The mean amount of Horizontal movement of the air in each week.	Mean amount of Cloud, 0-10.	Rain in inches (7 days.)	Deaths registered in the Metropolis from Small Pox, Measles, Scarlatina, Hooping Cough, Typhus, Diarrhœa, Dysentery and Cholera, Influenza, Consumption, and other diseases of the Lungs; the numbers at each age,* and the total deaths† (except violent and sudden) in each of the 13 weeks ending June 29, 1844. Small Pox.	Measles.	Scarlatina.	Hooping Cough.	Typhus.	Diarrhœa, Dysentery, and Cholera.	Influenza.	Phthisis or Consumption.	Other diseases of the lungs.	Deaths at Three Ages (exclusive of violent and sudden Deaths.) 0 to 15.	15 to 60.	60 and upwards.	Deaths from all causes (exclusive of violent and sudden deaths.)
April 6th	3rd, full	inches. 29·807	67·0	37·0	63·3	40·4	22·9	50·9	43·2	108·7	95·4	39·2	30·4	S.W. mod.	3·0	0·2	+0·2	1·3	10·4	2·8	7·7	670	2·9	0·0	0·00	21	42	35	46	5	4	121	126	425	575	171	869
13th	9th, 3rd qr.	30·067	66·7	34·0	61·1	40·7	20·4	50·3	42·3	103·7	89·4	37·3	29·5	E.N.E. W.S.W.	3·5	0·3	+4·1	2·2	16·0	6·6	9·4	900	3·0	0·02	0·00	22	39	31	49	6	5	136	143	396	570	167	820
20th	17th, new	30·090	66·8	36·0	61·3	43·2	18·1	52·3	46·6	100·7	87·3	30·0	24·5	S.W.	3·0	0·1	+2·2	0·8	12·5	5·7	6·8	700	3·7	0·05	0·00	31	47	36	57	9	6	121	129	363	570	170	810
27th	24th, 1st qr.	30·016	74·0	38·0	69·0	42·5	25·5	54·3	46·0	102·0	89·0	34·5	30·0	N.N.E. E.S.E.	3·0	0·1	—0·6	1·7	17·1	9·4	7·5	900	3·1	0·02	0·00	31	55	33	57	9	5	105	93	365	570	167	830
May 4th	2nd, full and in Perigee	30·148	67·3	35·9	61·0	41·3	19·7	51·0	45·4	103·7	89·0	34·0	31·3	N.N.W. N.E.	1·5	0·1	+4·1	2·2	15·1	7·0	7·5	750	3·1	0·00	0·00	35	57	34	49	12	3	105	134	373	548	154	845
11th	9th, 3rd qr.	29·795	74·1	44·3	67·7	46·0	21·8	56·7	49·0	104·7	89·4	37·7	35·1	N.E.	5·5	0·6	—0·4	1·9	10·7	6·0	4·7	1005	5·7	0·00	0·00	30	58	32	49	6	3	107	134	318	539	165	762
18th	17th, new	30·039	74·0	34·0	69·5	42·0	21·3	52·1	46·2	100·7	87·3	29·5	25·5	N.E.	10·0	1·4	—1·6	1·9	14·9	6·6	8·3	1400	7·3	0·01	0·01	39	63	32	49	6	5	134	138	373	573	165	857
25th	25th, 1st qr.	29·911	69·8	42·0	63·9	44·9	19·0	52·9	46·7	99·3	89·3	34·0	30·0	N.N.E.	7·0	0·6	—4·1	2·6	12·2	5·6	6·6	1820	9·1	0·10	0·10	31	74	42	63	8	6	142	138	364	562	172	953
June 1st	31st, full and in Perigee	29·690	69·6	42·1	58·2	44·2	14·0	50·9	44·8	91·0	75·0	32·0	30·0	S.W. W.S.W.	5·0	0·3	+3·0	0·6	9·3	3·2	6·1	1925	9·3	0·03	0·02	40	74	42	56	11	1	104	104	395	554	172	953
8th	7th, Greatest declination N.	29·840	74·1	43·6	70·5	50·3	20·2	59·5	50·5	97·7	83·2	36·2	32·7	S.W. W.S.W.	5·0	0·6	+2·0	0·8	11·5	4·9	6·6	1170	4·1	0·02	0·02	56	82	56	69	12	1	107	111	395	567	164	932
15th	14th, Greatest declination N.	29·941	75·1	47·5	74·5	51·7	22·8	62·7	52·4	100·0	84·0	38·0	34·5	S.W. W.S.W.	4·5	0·3	+3·0	0·8	11·1	5·2	5·9	835	3·9	0·10	0·10	78	98	69	82	15	1	106	125	434	571	141	956
22nd	16th, new	29·770	75·0	46·0	70·7	50·1	19·9	60·0	52·0	100·0	84·0	43·2	38·0	S.W. N.N.E.	4·5	0·4	+0·4	1·1	13·2	6·9	6·3	925	4·2	0·09	0·09	91	111	82	94	16	1	106	140	445	576	139	975
29th	23rd, 1st qr.	..	69·3	41·0	66·0	44·0	17·2	60·5	50·0	111·7	92·4	39·0	40·0	N.E.	3·5	0·2	—1·1	1·9	13·9	6·9	7·0	940	5·0	0·20	0·10	78	111	82	94	16	1	125	140	434	576	139	1014
Mean, Highest, or Lowest, of the 13 weeks.		29·910	69·3	34·0	63·4	40·5	19·0	55·0	47·2	111·7	89·4	30·0	21·0	..	10·0	0·0	+4·1	0·6	17·1	9·4	7·8	1925	9·3	0·20	0·10	91	111	82	94	16	6	142	140	445	576	172	1014

* The ages of 17, on account of the corrections for returns not received, were not specified in the Table.
† Inquests are held on violent and sudden deaths, which are returned irregularly.

REVENUE.

An Abstract of the Net Produce of the Revenue of Great Britain, in the Quarters and Years ended 5th July, 1843 and 1844; showing the Increase or Decrease thereof.—(*Continued from p.* 188.)

Sources of Revenue.	Quarters ended 5th July, 1843	1844	Increase.	Decrease.
Customs—	£.	£.	£.	£.
Consolidated Duties .	3,304,473	3,802,521	..	..
Sugar Duty applicable to Consolidated Fund .	1,252,733	1,066,714	..	..
Ditto Ditto to Supplies .	..	..	..	..
Total Customs . .	4,557,206	4,869,235	312,029	..
Excise	3,030,113	3,115,592	85,479	..
Stamps	1,659,010	1,705,033	46,023	..
Taxes	1,984,831	1,989,874	5,043	..
Property Tax	861,709	752,485	..	9,224
Post-Office	145,000	155,000	10,000	..
Crown Lands	32,500	30,000	..	2,500
Miscellaneous . . .	1,063,524	422,187	..	641,337
Total Ordinary Revenue .	13,333,893	13,039,406	458,574	653,061
Imprest and other Moneys	67,180	49,018	..	18,162
Repayments of Advances.	138,207	274,557	36,350	..
Total Income . .	13,539,280	13,362,981	494,924	671,223
Amount applied to Consolidated Fund, exclusive of Advances . .	6,442,506	8,994,078	Deduct Increase	494,924
Ditto applied as Advances	191,501	177,276	Decrease on the Quarter	176,299
Ditto as part of the Ways and Means of the Year.	6,905,273	4,191,627		
Total	13,539,280	13,362,981		

Sources of Revenue.	Years ended 5th July, 1843	1844	Increase.	Decrease.
	£.	£.	£.	£.
Customs	18,934,809	19,770,158	835,349	..
Excise	11,545,529	11,965,602	420,073	..
Stamps	6,445,370	6,518,063	72,693	..
Taxes	4,191,129	4,197,516	6,387	..
Property Tax	3,317,997	5,247,663	1,929,666	..
Post-Office	598,000	632,000	34,000	..
Crown Lands	120,000	145,000	25,000	..
Miscellaneous . . .	1,647,541	493,140	..	1,154,401
Total Ordinary Revenue .	46,800,375	48,969,142	3,323,168	1,154,401
Imprest and other Moneys	302,254	187,703	..	114,551
Repayments of Advances.	677,713	1,063,833	386,120	..
Total Income . . .	47,780,342	50,220,678	3,709,288	1,268,952
Amount applied to the Consolidated Fund, exclusive of Advances .	32,110,389	35,013,579	1,268,952	Deduct Decrease.
Ditto applied as Advances	506,506	848,777	2,440,336	Increase on the Year.
Ditto as part of the Ways and Means of the Year.	15,163,447	14,358,322		
Total	47,780,342	50,220,678		

CORN.

Average Prices of Corn per Imperial Quarter in England and Wales, with the Rate of Duty on Foreign and Colonial Wheat, during each week of the Second Quarter of 1844; *together with the Average Prices for the whole Quarter.*—(*Continued from p.* 190.)

Returns received at the Corn Office, 1844.	Wheat. Weekly Average.	Wheat. Aggregate Average of Six Weeks regulating Duty.	Barley. Weekly Average.	Oats. Weekly Average.	Rye. Weekly Average.	Beans. Weekly Average	Peas. Weekly Average.	Date of Certificates of preceding Prices, regulating Duties for the Week ensuing.	Duties on Wheat per Quarter. From Foreign Countries.	Duties on Wheat per Quarter. From British Possessions out of Europe.
Weeks ended 1844	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*		*s. d.*	*s. d.*
April 6 .	55 5	56 1	32 10	20 1	33 9	30 11	31 8	April 11	16 0	3 0
13 .	55 1	55 11	33 1	20 1	32 4	31 2	32 5	18	17 0	4 0
20 .	55 4	55 10	32 10	20 2	32 3	31 3	31 5	25	17 0	4 0
27 .	55 6	55 8	32 7	20 1	31 2	31 4	30 8			
May 4 .	55 3	55 6	31 8	20 1	30 11	31 9	31 2	May 2	17 0	4 0
11 .	55 1	55 3	31 5	20 5	31 4	32 5	32 3	9	17 0	4 0
18 .	55 10	55 4	31 1	21 0	31 2	33 3	31 8	16	17 0	4 0
25 .	55 10	55 6	30 7	21 2	31 7	33 11	31 7	23	17 0	4 0
								30	17 0	4 0
June 1 .	55 6	55 6	30 9	21 7	34 0	34 10	33 4	June 6	17 0	4 0
8 .	55 6	55 6	31 4	21 11	33 11	35 11	34 1	13	17 0	4 0
15 .	55 9	55 7	31 10	22 6	32 4	36 11	34 1	20	17 0	4 0
22 .	55 8	55 8	32 8	22 8	34 2	37 10	35 2	27	17 0	4 0
29 .	55 9	55 8	34 0	22 9	35 0	38 0	36 1	July 4	17 0	4 0
Average of the Quarter	55 6	..	32 0	21 1	32 7	33 9	32 8	..	..	..

Foreign and Colonial Wheat and Wheat-Flour imported in each of the Months ended 5th May, 5th June, and 5th July, 1844; *the Quantities upon which Duties have been paid for Home Consumption during the same Months; and the Quantities remaining in bond at the close of them.*—(*Continued from p.* 190.)

WHEAT.

Months ended	Imported. Foreign.	Imported. Colonial.	Imported. Total.	Paid Duty. Foreign.	Paid Duty. Colonial.	Paid Duty. Total.	In Bond at the Month's end. Foreign.	In Bond at the Month's end. Colonial.	In Bond at the Month's end. Total.
1844	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.
5th May . .	67,997	64	68,061	80,816	64	80,880	238,167	117	238,284
5th June . .	246,358	3	246,361	63,319	1	63,320	411,280	119	411,399
5th July . .									

WHEAT FLOUR.

Months ended	Imported. Foreign.	Imported. Colonial	Imported. Total.	Paid Duty. Foreign.	Paid Duty. Colonial.	Paid Duty. Total.	In Bond at the Month's end. Foreign.	In Bond at the Month's end. Colonial.	In Bond at the Month's end. Total.
1844	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.
5th May . .	42,534	996	43,530	4,733	4,349	9,082	153,624	4,695	158,319
5th June . .	42,123	1,091	43,214	658	1,678	2,336	191,969	4,106	196,075
5th July . .									

CURRENCY.

Quarterly Average of the Weekly Liabilities and Assets of the Bank of England, in the Quarters ended 20th April, 18th May, and 15th June, 1844; *and in the corresponding Quarters of the preceding Year.*—(*Continued from p.* 191.)

Quarters ended	LIABILITIES. Circulation.	LIABILITIES. Deposits.	LIABILITIES. Total.	ASSETS. Securities.	ASSETS. Bullion.	ASSETS. Total.
1844.	£.	£.	£.	£.	£.	£.
20th April .	21,427,000	13,615,000	35,042,000	22,150,000	16,015,000	38,165,000
18th May . .	21,393,000	13,345,000	34,738,000	21,786,000	16,010,000	37,796,000
15th June. .	21,237,000	13,483,000	34,810,000	21,916,000	15,900,000	37,816,000
1843.						
22nd April .	20,239,000	11,634,000	31,873,000	23,587,000	11,190,000	34,777,000
20th May .	19,853,000	11,154,000	31,007,000	22,696,000	11,291,000	33,987,000
17th June . .	19,521,000	10,495,000	30,016,000	21,604,000	11,472,000	33,076,000

Average Aggregate Amount of Promissory Notes which have been in Circulation in the United Kingdom, distinguishing the several Banks, or Classes of Banks, by which issued in each part of the Kingdom, with the Average Amount of Bullion in the Bank of England, during the four weeks ended the 27th April, 25th May, and 22nd June, 1844, *respectively.*—(*Continued from p.* 191.)

Banks.	Circulation during the Four Weeks ended 27th April, 1844.	25th May, 1844.	22nd June, 1844.
	£.	£.	£.
England—Bank of England .	21,839,000	21,504,000	20,634,000
Private Banks. .	5,295,239	5,142,830	4,743,057
Joint-Stock Banks.	3,752,867	3,680,413	3,665,104
Scotland—Chartered Private & Joint-Stock Banks	2,714,627	3,041,079	3,117,988
Ireland—Bank of Ireland. .	3,625,925	3,663,500	3,488,300
Private and Joint-Stock Banks . .	2,357,446	2,241,722	2,080,277
Total . .	39,585,104	39,273,544	37,728,726
Bullion in the Bank of England	15,844,000	15,572,000	15,898,000

Consolidated Fund Operations.—The total income brought to this account in the quarter ended 5th July, 1844, was 13,377,883*l.*; the total charge was 10,219,337*l.*, leaving a surplus of 3,158,546*l.* The amount of Exchequer Bills issued to meet the charge on the Consolidated Fund for the quarter ended 5th April, 1844, and paid off out of the growing produce of that fund for the quarter ended July 5th, 1844, after deducting 300,000*l.* paid off out of the Sinking Fund, was 3,667,317*l.* The surplus of the Consolidated Fund for the quarter ended July 5th, 1844, was 1,033,081*l.*; and the probable amount of Exchequer Bills required to meet the charge on the Consolidated Fund for the quarter ended July 5th, 1844, was 4,700,398*l.*

BANKRUPTCY.

An Analysis of the Bankruptcies in England and Wales, gazetted in each Month of the Quarter ended June 30, 1844; *showing the Counties and Branches of Industry in which they have occurred.* (*Continued from p.* 192.)

COUNTIES.	April.	May.	June.
Metropolis	37	31	15
Bedford	..	1	..
Berks	1	..	2
Bucks	..	..	..
Cambridge	..	2	2
Chester	..	2	1
Cornwall	..	..	..
Cumberland	1	..	1
Derby	2	1	..
Devon	1	2	..
Dorset	1	..	..
Durham	..	2	3
Essex	1	2	2
Gloucester	..	1	3
Hants	1	3	2
Hereford	1	1	1
Hertford	1	1	1
Huntingdon	..	..	..
Kent	..	2	2
Lancaster	9	11	7
Leicester	1	..	..
Lincoln	..	2	..
Middlesex (exclusive of the Metropolis)	..	1	1
Monmouth	2	1	..
Norfolk	..	1	..
Northampton	1	..	1
Northumberland	1	..	..
Nottingham	..	2	..
Oxford	..	2	3
Rutland	..	..	..
Salop	1	1	..
Somerset (including Bristol)	2	1	..
Stafford	3	5	2
Suffolk	2	3	..
Surrey (exclusive of the Metropolis)	..	3	..
Sussex	1	3	3
Warwick	4	2	3
Westmoreland	1	..	..
Wilts	..	..	..
Worcester	..	2	..
York (East Riding)	..	2	1
,, (North Riding)	..	..	..
,, (West Riding)	10	8	4
Wales	..	..	1
Total	85	101	61

TRADES.	April.	May.	June.
Agriculture and connected Trades.			
Farmers	..	1	1
Agricultural Implement Makers and Wheelwrights	..	..	..
Millers and Malsters	1	..	5
Hop Merchants	..	1	..
Brewers	3	2	..
Horse and Cattle Dealers, and Woolstaplers	1	2	1
Mining and connected Trades.			
Mining Firms	..	..	..
Blasting Works	..	..	..
Manufactures.			
Woollen Manufactures	1	3	1
Cotton ,,	1	1	1
Linen ,,	..	..	..
Silk ,,	..	1	..
Printers and Dyers	..	..	..
Lace Manufacturers	..	..	..
Hosiery ,,	..	..	..
Hardware ,,	1	4	3
Earthenware ,,	..	..	..
Glass ,,	..	..	..
Paper ,,	..	..	..
Builders	8	9	4
Miscellaneous Manufactures	11	10	5
Commerce.			
Bankers and Merchants	5	8	1
Shipowners, Warehousemen, Brokers, and Wholesale Dealers generally	10	11	10
Retail and Handicraft Trades.			
Bakers	..	1	1
Butchers	..	..	2
Corn and Hay Dealers	2	..	3
Innkeepers and Victuallers	8	12	1
Wine and Spirit Merchants	3	3	3
Dealers in Grocery, Drugs, and Spices	7	10	3
Makers of, and Dealers in, Clothing	4	4	5
Makers of, and Dealers in, Furniture	2	1	2
Coach Builders	..	..	..
Miscellaneous	17	17	9
Total	85	101	61

QUARTERLY JOURNAL

OF THE

STATISTICAL SOCIETY OF LONDON.

DECEMBER, 1844.

A Statistical View of the Recent Progress and Present Amount of Mining Industry in France; drawn from the Official Reports of the "Direction Générale des Ponts et Chaussées et des Mines," in continuation of a Paper read before the Statistical Section of the British Association for the Advancement of Science, at its Meeting in Newcastle in 1838.

By G. R. Porter, Esq., F.R.S., Corresponding Member of the Institute of France.

[*Read before the Statistical Section of the British Association at York, September 26th*, 1844.]

At the present time, when the most strenuous exertions are being made for the advancement of the material interests of this country in all their leading branches, and while those exertions are being attended by the measure of success which usually accompanies industry directed by intelligence, it must be interesting to know whether other nations are engaged in the same pursuits, and in what degree success may have crowned their efforts also.

Our mining industry, if not the greatest, is, without doubt, one of the greatest sources of our wealth. It has been one of the chief means whereby we have been enabled to take and to maintain the station which we occupy among the nations of Europe. The knowledge of this fact has naturally led to this consequence, that other countries have striven to rival us so far as the means for such rivalry have been within their reach, and that their Governments have shown a desire to foster and encourage pursuits from which they have expected to draw results commensurate with those which have thus excited their emulation.

In no country have greater efforts to this end been made than in France. Whether the means whereby success has been sought have been the most judicious that could have been adopted on the part of the Legislature of that country is, however, very questionable.

The latest of the official documents that has been hitherto compiled having reference to the mining operations of France, relates to the year 1841, being five years in advance of the returns brought forward at the meeting of this section of the British Association in Newcastle. It will be interesting to compare the results obtained at the end of that interval of time, as an element of importance towards forming a judgment concerning the future progress of the mining industry of France. With this view, the facts will be presented as nearly as possible in the form given to the inquiry in 1838.

The system of Government inspection of the mines in France was begun in 1832, during which year, as well as in 1836 and 1841, the