The series of morbid growths that have been here referred to, from the simple granulation to the distinct excrescence, possess, I believe, nothing in their structure which they do not derive from the texture upon which they grow: they are strictly what have been termed *analogous*, as distinguished from *heterologous* formations, and consequently do not come into the category of tumours: they are evidently common to all those more vascular and exposed portions of the mucous membranes which form the outlets of canals, or open upon the surface of the body, and are found also in certain other situations that have been cited; they possess an abundant supply of blood-vessels, and for the most part undoubtedly nervous fibrils also, although in this respect they probably differ much in degree: they are, in some instances, traceable to a local irritation; in others, not so: they vary in form, partly as they are produced upon a portion of membrane closely adherent to subjacent firmer textures, as the tarsal cartilages of the lid, or the bony parietes of the nose; or upon looser portions, as the semi-lunar fold, or other reflected portion of the conjunctiva, the lining membrane of the orifice of the urethra, etc. Again, their form is also much influenced by other circumstances of locality; thus a growth arising between the teeth will naturally, as has been described, bulge out on each side where the pressure is least; and for the same reason, a *growing* body in the urethra or meatus auditorius, must assume a more or less elongated form, as it is less interfered with in an outward direction than in any other. These are, however, not the only circumstances which influence form; some there are, I believe, which are quite unknown, and likely to remain so. What it is which causes most of these growths to bleed so much more rapidly when excised than the membrane itself from which they grow would do, if wounded as extensively, is another point requiring explanation; and yet, again, what it is which endows one of these growths with this property to an extent so much greater than is possessed by others which *appear* equally vascular. Yet the fact remains, and is only at present a subject for speculation. They all possess many common characteristics, and the minor ones in which they differ among themselves are not, I think, greater than in different examples of any other class of morbid growths.

3, Duchess-street, Portland Place, March 10, 1852.

VITAL STATISTICS OF THE ROYAL FREE HOSPITAL.

By THOMAS B. PEACOCK, M.D., formerly Physician to the Hospital; Assistant Physician to St. Thomas's Hospital.

It has been my intention for some time to prepare a statistical report of the practice of the Royal Free Hospital, during the period that I was connected with that institution: circumstances, however, prevented my doing so when hospital statistics were attracting more particular attention, about twelve months ago, and I have been compelled to delay the work till the present time.

The value of hospital statistics mainly depends upon the facility which is afforded for comparison with the experience of other institu-

tions; and as similar facts can alone be made the subjects of comparison, it is essential that all such particulars as are likely to affect the general results should be stated. Thus, in calculating the rate of mortality which obtains in any hospital, the following particulars should be attended to:—

1. The report should extend over a considerable period of time; for when the observations embrace only a limited period, casual circumstances may materially modify the results. Thus, the rate of mortality at the Royal Free Hospital during the three years, embraced in the report, varied considerably, having been 7·15, 8·89, and 8·19 per cent., if the calculation be based upon the whole of the cases admitted. Attention to this point is of essential importance in reporting on the practice of hospitals receiving only a limited number of patients; but, in those of larger size, the rate of mortality may vary considerably during different years. I find that the mortality per cent. of the admissions into the Royal Infirmary of Edinburgh was, in 1846 and 47, 14·90; in 1847 and 48, 15·77; and in 1848 and 49, 13·90, or a difference of nearly 2 per cent. in two consecutive years.[1]

2. The ages of the patients should be specified; for as the rate of mortality increases from adolescence to old age, and very rapidly at the later periods of life, the proportion of deaths in different hospitals will vary according to the average age of their patients. The difference between the mortality of persons in early and advanced life is well seen in the table of the ages of the medical patients at the Royal Free Hospital. Of 870 persons under 50 years of age, 84 died, or 9·65 per cent., while, of 99 persons, above 50 years of age, 19 died, or 19·1 per cent. In the reports of the Paris hospitals, the mortality of infants and young children is given separately from that of the adults; but the more accurate plan is to give tables of the number of cases at each decennial period of life, with the respective mortality.

3. The numbers of the sexes should also be specified; for, as the rate of mortality throughout adult life, and especially at the higher ages, is greater in males than in females, an institution receiving a larger proportion of the former will generally have a higher rate of mortality than one in which the number of females preponderates. In the Royal Free Hospital the mortality in males, in the three years, exceeded that in females by 1·95 per cent.; and the excess, with slight exception, was equally marked at all ages.

4. The rate of mortality in hospitals may be materially affected by the relation which the amount of accommodation provided, bears to the demands for hospital relief in the adjacent districts; by the mode in which applicants are admitted to the hospitals, and by the rules which regulate the selection of the cases to be received. Thus, in institutions situated in populous and unhealthy localities, and which possess only limited accommodations, the patients admitted can form only a small proportion of those who apply, and a selection must necessarily be made of the more severe cases, so that the rate of mortality will be higher than in hospitals under more favourable cir-

[1] See Appendix to the Reports of the Managers of the Royal Infirmary for those years.

cumstances, independently of any difference which may result from the more malignant character of the diseases treated. In some of our hospitals the patients require, to entitle them to admission, to present a letter of recommendation from a governor, and they can only be received on a fixed day of the week—rules which must operate to make the class of patients of a somewhat higher order, and the diseases under which they labour less acute. On the contrary, in institutions where these restrictions do not exist, and where patients are admitted at all times whenever they apply, provided their maladies are of a severe nature, the inmates will generally consist of the more destitute, and their diseases will be of a more acute character. At the Royal Free Hospital, no form of recommendation is required, and patients are admitted at all times; and from, considerable experience of the working of that institution, as well as of other hospitals in this country and on the continent, where the same plan is followed, I have no hesitation in expressing my opinion that the practise of admitting patients only on one day in the week, as adopted by the London hospitals in general,[1] detracts from the usefulness of those institutions, both in a philanthropic and scientific point of view. The poor find difficulty in obtaining admission at the commencement of the illness, when medical aid would be of most avail, and the cases under treatment are of a more chronic character and less adapted for the purposes of medical tuition. The rules which regulate the selection of the cases to be admitted may also modify the rate of mortality. In some hospitals, cases of confirmed organic disease are not received, or are only detained for a limited period, and a large source of mortality being thus cut off, the proportion of deaths in such institutions will be small. It would not be difficult to demonstrate the operation of these several circumstances, by a careful analysis of various published hospital reports; but their influence is sufficiently shown by the difference between the mortality of the hospitals of London, Edinburgh and Glasgow, and those of our provincial towns, the former having an average mortality of 8 to 10 or 12 per cent. and upwards, the latter rarely exceeding 6 or 7 per cent. It has also been shown that in some of the larger hospitals the rate of mortality has become higher as the accommodations have been extended, probably in consequence of a larger proportion of cases of organic disease having been received and retained till the fatal termination.

5. The respective numbers of medical and surgical cases treated in different hospitals will also modify their respective rates of mortality, as of the former a much larger proportion prove fatal than of the latter. It will be seen by the following tables that at the Royal Free Hospital, while the mortality of the medical cases treated averaged during the three years 10·61 per cent., that of the surgical cases was only 2·86 per cent.

6. In order to form a correct estimate of the rate of mortality in any hospital, the proportion of deaths should be calculated, not only on the cases admitted or treated in the establishment, but also upon

[1] Of course these remarks apply only to the general hospitals, not to those for the treatment of special forms of chronic disease.

the mean number of patients constantly resident. The latter must not only necessarily form the basis of all estimates of the expenditure for maintenance, medicine, etc., but also, by enabling us to calculate the mean period during which the cases are under treatment, it will furnish an index of their relative severity in different institutions. Two hospitals may admit, during a given period, nearly the same number of patients, and yet may have very different proportions of deaths. On investigation, however, it may be found that in the institution which has the low rate of mortality the patients reside, on the average, only for a few days; while, in the other, their period of residence may be extended to three weeks or a month: it may therefore justly be inferred that the cases under treatment in the former are of a much slighter character than those received into the latter. Again, two institutions may receive the same number of cases and these may be of a precisely similar character, and yet the rate of mortality in the one may greatly exceed that of the other, owing to the cases of fatal organic disease being discharged after a residence of only a few days, in the one institution, and being kept till they terminate in death in the other. The cause of the difference in the rates of mortality of such institutions would be at once explained when the average duration of residence in the two institutions was compared. In some of the reports of hospitals which have been published, the rate of mortality has been calculated upon the number of beds which they contain. This method is, however, very fallacious, for in all hospitals the number of beds constantly occupied, is, for obvious reasons, considerably less than the number provided; and the proportion which the number occupied bears to the total number, varies considerably in different institutions. Thus, in St. Thomas's Hospital, which contains 498 beds, the number constantly occupied during the years 1847 and 1848 was only 409; in the Chester Infirmary, of 100 beds, 73 only were, on the average, occupied during the years 1848 and 1849; and at the Royal Free Hospital, which contains 143 beds, in consequence of the want of funds, only 36 were in constant occupation during the last two years that I was connected with that institution. It is evident, therefore, that the mean number of persons resident should always be stated in hospital reports.

The following table contains an abstract of the experience of the Royal Free Hospital, from the 25th of March 1846, to the 25th of March 1849, this period having been selected as affording a fair average of the practice of the institution. Had the report included the whole period of my connexion with the hospital, which extended to October 1849, the results would have been materially modified, by the large number of deaths from cholera.

The table includes a statement of the total number of cases admitted, and the proportion of deaths, as well as of the number which only can fairly be regarded as under treatment; the results may thus be compared with those obtained in other hospitals, the reports of some of which include all the deaths taking place in the institution; while, in others, the cases proving fatal within twenty-four hours after their admission, are excluded from calculation.

TABLE I. GENERAL STATISTICS OF THE ROYAL FREE HOSPITAL.

	1846-47.		1847-48.		1848-49.		Total.	
		Died		Died		Died		Died
Cases admitted	699	50	686	59	598	49	1983	158
Mortality per cent.		7·15		8·89		8·19		7·96
Died shortly after admiss..	10	10	6	6	10	10	26	26
Cases treated	689	40	680	53	588	39	1957	132
Mortality per cent.		5·8		7·79		6·63		6·74

MEDICAL CASES.		Died	SURGICAL CASES.		Died
Cases admitted.....	995	120	Cases admitted	988	38
Mortality per cent.		12·05	Mortality per cent.		3·8
Died shortly after admiss.	16	16	Died shortly after admiss.	10	10
Cases treated	979	104	Cases treated.....	978	28
Mortality per cent.		10.61	Mortality per cent.		2·86

MALES.		Died	FEMALES.		Died
Cases admitted.....1003		95	Cases admitted.....	980	63
Mortality per cent.		9·47	Mortality per cent.		6.4
Died shortly after admiss.	19	19	Died shortly after admiss.	7	7
Cases treated.....	984	76	Cases treated.....	973	56
Mortality per cent.		7·72	Mortality per cent.		5·75

Mean number of patients resident	35·9[1]
Mean period of residence of each patient	20·4 days.
Annual mortality of each bed	1·5

The mortality at the Royal Free Hospital will be seen from the above table to correspond with tolerable closeness to that which obtains at most of the other London hospitals, as given in the valuable report of Dr. Webster on the mortality of those institutions for the six months terminating March 1851.[2] During this period, the highest mortality occurred at St. George's and King's College Hospitals, where the rate was respectively 8·6 and 8·96 per cent.; and the lowest, at the Middlesex and Westminster, where it was 6·07 and 6·57 per cent. In the Royal Free Hospital, the mortality during the whole of the three years amounted to 6·74 per cent. of the cases under treatment, and 7·96 per cent. of the total number admitted. When the medical cases only are compared, it appears from Dr. Webster's observations, that the highest rate of mortality occurred at the Charing Cross and St. Bartholomew's Hospitals, or 14·52 and 13·58 per cent.; and the lowest at the Middlesex and Westminster Hospitals, or 8·13 and 8·73 per cent. At the Royal Free Hospital, during the period here analysed, the medical cases proved fatal in the proportion of 12·05 per cent., if the whole of the cases be calculated, and 10·61 per cent. if those under treatment only be estimated; the former rate being higher than that of any of the other London Hospitals, except the two first mentioned.

In the surgical cases, the mortality was, according to Dr. Webster's tables, highest at St. George's and St Bartholomew's, and least in the Westminster and Charing Cross Hospitals, in the former being 5·73 and 5·01, and in the latter 3·45 and 3·61 per cent. In the Royal Free

[1] The averages here given refer to the two last years, from 25th of March 1847 to the 25th of March 1849. During a portion of the first year, no report of the number of patients resident was kept; but, probably, the number maintained a similar average to the two last years, though during the first six months it was somewhat greater, and during the last smaller, than in the latter period.

[2] LONDON JOURNAL OF MEDICINE, June 1851.

Hospital, the mortality in the surgical cases was 3·8 of the whole of those admitted, and 2·86 of those under treatment, the latter rate being lower than that of any of the other hospitals, and the former being lower than any except the two stated.

The second table given by Dr. Webster, affords the means of comparison between the respective rates of mortality in the two sexes for six of the London Hospitals, including the Free Hospital. From this it will be seen, that for the whole series, the mortality is less in males than in females, or 6·78 and 6·90 per cent. respectively; or, if the Free Hospital be excluded, 6·78 in males and 7·09 in females. In the Royal Free and Middlesex Hospitals, however, the mortality among males during the period specified, was much greater than among females. At the Royal Free Hospital, during the whole of three years included in the present report, the mortality in males exceeded that in females, being, on the whole admissions 9·47 per cent. in males, and 6·4 per cent. in females; and in the cases under treatment 7·72 in males and 5.75 in females; and the excess in the mortality among the males obtained equally during each of the three years.

The comparison here instituted between the observations collected in the paper referred to, and my own statements of the practice of the Royal Free Hospital, is, however, very defective, as, not only are the two periods different, but the time embraced in Dr. Webster's report is too limited to be regarded as presenting an average view of the mortality in the London Hospitals; I have, therefore, compiled the following table, showing the movement of patients in the Chester Infirmary, St. Thomas's Hospital, and the Royal Infirmary of Edinburgh,[1] from data with which I have recently been furnished from the respective establishments. I have also added similar particulars of two of the Parisian hospitals, though the information to which I have access from those institutions, is of much older date.

TABLE II. GENERAL STATISTICS OF VARIOUS HOSPITALS.

	Cases admitted annually.	Deaths.	Mean number resident.	Mortality per cent. of cases admitted.	Mortality per cent. of 100 beds constantly occupied.	Mean period of residence.
Chester Infirmary[2]	729	45	73[8]	6·1	61·6	36 days[9]
Royal Free Hospital[3] ..	642	54	36	7·96	150·	20 ..
St. Thomas' Hospital[4]	3898	279	409	7·17	68·2	38 ..
Royal Infirmary, Edin.[5]	7224	1119	516	15·4	216·8	26 ..
La Charité, Paris[6]	7972	807	453	10·1	178·1	22 ..
Hôtel Dieu[7]	16762	1732	1010	10·3	171·5	22 ..

From this table, it will be seen that the rate of mortality at the Royal Free Hospital exceeded that at the Chester Infirmary and St.

[1] For the information in reference to the Chester Infirmary, I am indebted to my friend Dr. Thomas Davies, of Chester. For the Reports of the Royal Infirmary of Edinburgh, to Dr. W. T. Gairdner.

[2] Mean of two years, from 25th of March 1847 to 25th of March 1849.

[3] Mean of two years, from 25th of March 1847 to same date 1849.

[4] Mean of two years, 1847 and 1848.

[5] Mean of two years, from Oct. 1846 to Oct. 1848.

[6] & [7] For year 1840. Comptes Rendues des Hôpitaux, etc.

[8] & [9] I have given the data in these columns in round numbers.

Thomas's Hospital, but was less than that of the Paris Hospitals, and still less than that of the Royal Infirmary of Edinburgh. Indeed, the mortality of the latter institution, upon the total number of cases admitted, is nearly double that of the Royal Free Hospital; and this remarkable difference seems to be mainly due to the following circumstances:—

1. The proportion of females was much larger in the Royal Free Hospital than in the Royal Infirmary of Edinburgh, being as 97·7 to 100 in the former institution, and as 57·9 to 100 in the latter. The rates of mortality in females, in both institutions, is much lower than in males, or, 6·4 to 9·47 per cent. in the Royal Free Hospital, and 12·8 to 16·8 in the Royal Infirmary of Edinburgh; it is evident, therefore, that the total mortality of the former institution must, on this account, be much lower than that of the latter.

2. The proportion of surgical to medical cases is much larger in the Free Hospital than in the Royal Infirmary, or as 97·7 to 100 in the one institution, and as 37·6 to 100 in the other. The mortality in both hospitals is much less in the surgical than in the medical cases, the rate being, as before shown, in the former 3·8 and 12·05 per cent., while in the latter, the mortality in the surgical cases is 6·3, and that of the medical cases 17·3 per cent. The rate of mortality of the Free Hospital will thus be proportionately less than that of the Edinburgh Infirmary.

3. The proportion of diseases having a high rate mortality is much greater in the Royal Infirmary than in the Free Hospital; and it would probably also be found that the average age of the patients in the former institution, exceeds that of the latter. The proportion of cases of fatal organic disease which are treated to their termination; is not materially different in the two hospitals.

In comparing the mortality at the different institutions shown in the table, as calculated upon the number of beds constantly occupied, it will be seen that the rate is lowest at the Chester Infirmary, and not materially greater at St. Thomas's Hospital. At the Royal Free Hospital the rate is more than double that of the latter institution; and at the Hôtel Dieu, La Charité, and the Royal Infirmary, it is still higher. The remarkable contrast thus presented is chiefly due to the different periods during which the patients are retained in the various hospitals. Thus, comparing St. Thomas's and the Free Hospitals, it will be seen that at the former institution the patients reside, on an average, 38·3 days; in the latter, only 20·4: consequently, every bed constantly occupied had 9·5 patients in the former institution, and 17·8 in the latter. And as the rate of mortality of the two institutions was 1 in 13·9 and 1 in 11·8 respectively, the actual mortality of each bed would be in St. Thomas's ·68, at the Royal Free Hospital 1·5.

Calculations of this kind are, however, only approximative: to arrive at results strictly accurate, the comparisons should be instituted between the several classes of disease under treatment. The following tables have therefore been compiled to show the statistics of the medical cases only. The first gives the sex of the patients with the respective mortality at decennial periods of life; the second presents a statement of the cases treated in the two sexes, with their results, classed under the several forms of disease.

TABLE III.

Showing the Age and Sex of the Medical Patients treated in the Royal Free Hospital, with the rate of Mortality at the several periods of life.

Ages.	Total cases.	Total died.	Mortality per cent.		Male.	Died.	Mortality per cent.		Fem.	Died.	Mortality per cent.	
Under 5	8	4	..		2	1	..		6	3		
5 to 10	7	..	..		4	..	..		3	..		
10 to 15	24	3	12·4	7·37	14	2	14.2	9·0	10	1	10·0	5·6
15 to 20	193	13	6·7		97	8	8·2		96	5	5·2	
20 to 30	336	26	7·7		154	11	7·1		182	15	8·2	
30 to 40	179	24	13·4	10·03	109	16	14·6	11·62	70	8	11·4	8·1
40 to 50	123	14	11·3		81	13	16·		42	1	2·3	
50 to 60	58	13	22 4		39	8	20·5		19	5	26·3	
60 to 70	33	5	15·1	19·19	19	1	5·2	15·71	14	4	28·5	25·
70 to 80	8	1	12·5		5	1	20·0		3	..		
Not stated	10	1	..		5	1	..		5	..		
Total	979	104	10·61		529	62	11·71		450	42	9·33	

	Total.		Males.		Females.	
	Cases treated.	At death.	Cases treated.	At death.	Cases treated.	At death.
Mean age ..	29·84	34·5	31·12	35·3	28·20	33·3

The above table shows considerable irregularity as regards the rate of mortality at the various decennial periods, in consequence of the small number of cases treated, especially at the earlier ages. When, however, the calculation is based upon the larger number of persons included between the ages of 10 and 20, 20 and 50, and above 50, there will be seen to be a steady increase in the rate of mortality in the whole of the cases, of from 7·37 to 10·03, and 19·19, and in males from 9·0 to 11·62, and 15·71; in females, from 5·6 to 8·1, and 25 per cent. The mortality being thus lower in females than in males, at all ages except the last. In females, the mortality, as calculated upon the population at large, is considerably less than in males, and especially so at the more advanced ages; so that the opposite results at the latter period, thus afforded by the experience of the Royal Free Hospital, must be regarded as an exception, due to the smallness of the numbers calculated.

TABLE IV.

Medical Cases treated in the Royal Free Hospital, arranged according to the several Diseases.

	Total.	Male.	Fem.	Cured.		Relieved.		Died.		Mortality per cent.	
				Male.	Fem.	Male.	Fem.	Male.	Fem.	Male.	Fem.
Zymotic Diseases.											
Variola	1	..	1	..	1	..	..	..	..	..	..
Rubeola	2	1	1	..	1	..	..	1	..	..	..
Scarlatina	5	3	2	2	2	..	..	1[1]	..	..	..
Pertussis, complicated with Pneumonia ..	1	1	..	1	..	..	..	..	..	..	..
Diarrhœa	36	19	17	17	17	1	..	1	..	..	..
Dysentery	20	11	9	10	8	..	..	1	1	9·09	11·1
Cholera Anglica.....	10	6	4	6	4	..	..	..	..	..	..
Cholera Algida	125	63	62	34	37	..	..	29	25	46·	40·32

[1] Within four hours of admission.

	Total.	M.	F.	Cured. M.	Cured. F.	Relieved. M.	Relieved. F.	Died. M.	Died. F.	Mortality per cent. M.	Mortality per cent. F.
ZYMOTIC DIS. *contin.*											
Purpura & Scorbutus	5	4	1	2	1	..	..	2	..	..	..
Intermittent Fever ..	44	24	20	23	20	1	..	..	..	..	..
Continued Fever[1]	269	178	91	163	85	..	..	15	6	8·4	6·5
Rheumatic Fever	29	18	11	18	9	..	..	..	2	..	..
Erysipelas	23	18	5	15	5	..	..	3	..	..	..
	570	346	224					53	34	15·3	15·1
DISEASES OF NERVOUS SYSTEM.											
Cephalalgia	8	4	4	4	2	..	2		..		
Cephalitis	5	3	2	1	2	..	..	2	..		
Disease of Brain, resulting from disease of the internal ear..	4	1	3	..	..	..	..	1	3		
Apoplexy.....	7	4	3	..	..	1	..	3	3		
Hemiplegia	4	3	1	..	..	3	1	..	..		
Paraplegia	3	1	2	1	..	..	1	..	1		
Partial Paralysis	2	1	1	1	1	..	..	..	..		
Delirium Tremens....	2	1	1	1	1	..	..	..	..		
Chorea	3	2	1	1	1	..	..	1	..		
Hysteria	3	..	3	..	3	..	..	..	..		
Epilepsy	18	5	13	..	..	5	13	..	..		
Idiopathic Tetanus ..	2	2	..	1	..	..	..	1	.		
Mania	4	..	4	..	1	..	3[4]	..	..		
Dementia	1	1	..	..	..	1[3]	..	..	..		
Neuralgia	2	..	2	..	1	..	1	..	..		
	68	28	40					8	7	28·5	17·5
DISEASES OF THE VASCULAR SYSTEM.											
Congenital Malformat.	2	2	..	..	..	..	..	2	..		
Disease of the Heart..	19	11	8	..	..	5[5]	4[7]	6[8]	4		
Aneurism of the Aorta	3	2	1	..	..	1[6]	..	1[9]	1		
	24	15	9					6	5	40·	55·5
DISEASES OF THE RESPIRATORY ORGANS.											
Chronic Laryngitis ..	2	..	2	..	..	..	2	..	..	..	..
Influenza,—Acute and Subacute Bronchitis	76	41	35	31	26	7	4	3	5	7·3	16·1
Chronic Bronchitis, &c.	21	13	8	..	..	12	5	1	3	7·6	37·5
Pleurisy and Empyema	14	10	4	5	2	3[10]	2[11]	2	..	20·0	
Pneumonia	26	23	3	20	2	..	..	3	1	13·0	33·3
Hæmoptysis	5	3	2	3	2	..	..	..	..	..	..
Pneumo-thorax, from injury	1	1	..	1	..	..	..	..	..	..	..
Phthisis	61	39	22	..	..	27	10	12[12]	12	..	..
Affection of Chest (kind not stated)	2	..	2	..	2	..	..	..	..	..	..
	208	130	78					21	21	16·1	26·9

[1] Including typhus, typhoid, relapsing, and ephemeral.
[2] Irregular. [3] Improper. [4] Improper.
[5] One died as an out-patient; a second was discharged relieved, and was again admitted two years after, and died. [6] Died as out-patients.
[7] Two males died the day after admission.
[8] Died a few days after in St. Bartholomew's [9] Died day after admission.
[10] One discharged for irregularity. [11] One discharged for irregularity.
[12] One died the day after admission.

	Total.	M.	F.	Cured.		Relieved.		Died.		Mortality per cent.	
				M.	F.	M.	F.	M.	F.	M.	F.
Diseases of the Digestive Organs.											
Stomatitis	2	..	2	..	2	..	..	..	..		
Parotitis	2	..	2	..	2	..	..	..	..		
Cynanche Maligna	5	1	4	1	4	..	..	..	..		
Tonsillitis	2	..	2	..	2	..	..	..	..		
Dyspepsia	7	3	4	3	4	..	..	..	..		
Gastrodynia	13	5	8	4	8	1	..	..	..		
Constipation	5	1	4	1	4	..	..	..	..		
Colica Pictonum	3	3	..	3	..	..	..	..	..		
Enteritis	9	3	6	3	5	..	..	..	1		
Peritonitis	6	2	4	2	3	..	..	..	1		
Hernia and Internal Strangulation	2	1	1	..	..	..	1	1[1]	..		
Organic Disease of Stomach	1	1	..	..	..	1	..	..	..		
Cancer of sigmoid flexure of Colon	1	..	1	..	..	..	..	..	1		
Hæmatemesis	2	..	2	..	1	..	1	..	..		
Icterus	3	1	2	1	2	..	..	..	..		
Subacute Hepatitis	3	1	2	1	2	..	..	..	..		
Abscess in Acephalocyst of Liver	1	..	1	..	..	..	..	..	1		
Organic Dis[e]. of Liver	10	9	1	..	..	7	1	2	..		
Ascites & Anasarca, not otherwise reported	2	..	2	..	1	..	1	..	..		
	79	31	48					3	4	9·6	8·3
Diseases of Urinary Organs.											
Bright's Disease	14	11	3	..	..	6	2	5[2]	1		
Diabetes	1	1	..	..	..	1	..	..	..		
	15	12	3					5	1	41·6	33·3
Diseases of Uterus, etc.											
Amenorrhœa and Chlorosis	9	..	9	..	5	..	4	..	..		
Menorrhagia	3	..	3	..	3	..	..	..	..		
Dysmenorrhœa	1	..	1	..	1	..	..	..	..		
Abortion	1	..	1	..	1	..	..	..	..		
Metritis	1	..	1	..	1	..	..	..	..		
Prolapsus Uteri	3	..	3	..	..	..	3[3]	..	..		
Vesico-vaginal Fistula	1	..	1	..	..	..	1[4]	..	..		
Organic Disease of Uterus	9	..	9	..	..	..	7	..	2		
	28		28						2		7·1
Diseases of Ligamentous and Osseous Systems.											
Rheumatism — Subacute and Chronic	76	46	30	33	24	13	6				
Disease of Vertebræ	2	2	..	..	..	2	..				
Deformity of Spine	1	1	..	..	1	1	..				
	79	49	30								

[1] Died immediately after admission.
[2] Died on day of admission.
[3] Incurable.
[4] Incurable.

	Total.	M.	F.	Cured. M.	Cured. F.	Relieved. M.	Relieved. F.	Died. M.	Died. F.	Mortality per cent. M.	Mortality per cent. F.
DISEASES OF INTEGUMENTARY SYSTEM.											
Erythema nodosum ..	3		3		3						
Urticaria	3		3		1		2				
Paronychia after Fever	1		1		1						
	7		7		7						
MISCELLANEOUS.											
Secondary Syphilis ..	7	3	4	1	2	2	2				
Syncope	2	2	..	2	..	..	..				
Poisoning by Opium..	2	..	2	..	2	..	..				
„ Belladonna berries	1	1	..	1	..	..	..				
„ Oxalic acid	1	..	1	..	1	..	..				
„ Acetate of lead ..	2	..	2	..	2	..	..				
„ Chloride of antim.	1	1	..	1	..	..	..				
Asthenia & Destitution	16	6	10	..	..	6	10				
	32	13	19								
Discharged as improper immediately after admission	12	7	5								
Died before being seen	6	4	2								

General Abstract,[1] *showing the number of persons treated for different forms of Diseases, with the Mortality in each Sex.*

	Total.	Male.	Female.	Died. M.	Died. F.	Mortal. per cent. M.	Mortal. per cent. F.
Zymotic Diseases, Including Algide Cholera	570	346	224	53	34	15·3	15·1
Excluding Cholera	445	283	162	24	9	8·4	5·5
Diseases of Nervous System	68	28	40	8	7	28·5	17·5
.... of Vascular System ..	24	15	9	6	5	40·0	55·5
.... of Respiratory Organs	208	130	78	21	21	16·1	26·9
.... of Digestive Organs..	79	31	48	3	4	9·6	8·3
.... of Urinary Organs ..	15	12	3	5	1	41·6	33·3
.... of Uterus	28	..	28	..	2	..	7·1
.... of Ligamentous and Osseous System..	79	49	30	..	..	..	..
.... of Integumentary Syst.	7	..	7	..	..	..	..
Miscellaneous	32	13	19	..	..	..	..

The statistical tables, published each year by the managers of the Royal Infirmary at Edinburgh, afford the means of comparing the practice of the Royal Free Hospital with that of the Royal Infirmary. I have therefore compiled the two following tables, which show the relative number of persons labouring under the various forms of disease in the two institutions, with the proportion per cent., and the relative mortality of each class.

[1] The total number of cases included in this table does not correspond with that in the general table, as the period of time which it embraces is six months longer, and terminates in October 1849.

TABLES V AND VI.

	ROYAL INFIRMARY OF EDINBURGH.[1]		ROYAL FREE HOSPITAL.	
	Total cases.	Proportion per cent.	Total cases.	Proportion per cent.
	7446		1003	
Fevers[2]	4819	64·71	313	31·20
Diseases of Nervous System	171	2·29	68	6·77
.... of Respiratory Organs	440	5·90	209	20·83
.... of Circulatory Organs	75	1·007	24	2·39
.... of Digestive Organs[3]	226	2·99	145	14·45
.... of Urinary Organs[4]	92	1·23	15	1·49
.... of Integumentary System[5]	228	3·06	38	3·78

	ROYAL INFIRMARY.		ROYAL FREE HOSP.	
	Mortality per cent.		Mortality per cent.	
	Males.	Females.	Males.	Females.
Fevers	16·12	13·09	8·4	6·5
Diseases of Nervous System	29·12	8·2	28·5	17·5
.... Circulatory Organs	25·45	60·00	40·	4·44
.... Respiratory Organs	32·08	26·53	16·1	26·9
.... Digestive Organs	19·58	16·25	7·4	6·4
.... Urinary Organs	29·11	38·46	41·6	33·3
.... Integumentary System	12·03	13·33	22·7	..

The above tables show that the chief difference between these two institutions consists in the much larger proportion which the class of fevers bears to the whole of the cases under treatment in the Royal Infirmary in Edinburgh than in the Royal Free Hospital, and in the very much higher rate of mortality of these diseases in the former institution. Indeed, both the proportion which these cases bear to the whole of those under treatment, and their rate of mortality, is in the Royal Infirmary double that of the Free Hospital. Were the means of comparison accessible, I believe it would be found that the febrile affections do not bear a larger proportion to the whole of the cases under treatment in the other London and in the Paris hospitals, than in the Royal Free Hospital, and that the rate of mortality of these diseases is generally not higher; consequently, from this cause, the mortality of the latter institutions must be much less than that of the Royal Infirmary.

These considerations, together with the smaller proportion of female and of surgical cases in the Royal Infirmary, as before shewn, go far to explain the very much higher rate of mortality in that institution than in the various London and Paris hospitals. On analysing the statistical tables of the Royal Infirmary, it will also be seen that by

[1] From the Appendix to the Report of the Managers, Eighth Series, from October 1, 1847, to October 1, 1848.

[2] Including under this head typhus, typhoid, intermittent, and low remittent or relapsing fevers, with febrile affections of no specific character, commonly termed ephemera or febricula.

[3] Exclusive of cholera epidemica.

[4] Exclusive of diseases of the bladder, urethra, etc.

[5] Including the eruptive fevers.

far the largest proportion of cases of fever there treated are cases of typhus. Thus, of the 4,819 cases treated during 1848, 4,694 were cases of typhus; 101 cases of febricula; 3 of dothinenteritis, or typhoid; and 21 of intermittent fever; while of the 313 cases of fever treated in the Royal Free Hospital, during the three years here reported upon, 44 were cases of intermittent fever, a very large proportion were cases of typhoid, remittent or relapsing, or ephemeral fever, and but very few cases of true typhus occurred. At present, however, I am not able to give the proportions of these several forms of disease; though, should leisure permit, I shall hope to do so hereafter.

THE USE OF THE THYMUS GLAND:

AN ORIGINAL THEORY, WITH EXPLANATORY REMARKS.

By HENRY G. WRIGHT, M.D.

THEORY.

I. At the period of evolution of the human fœtus, the upper portion of the body is developed to a very considerably greater extent than the lower, as, during intra-uterine life, the former alone is required for the purposes of existence.

II. After birth, these *hypo*-developed portions of the frame (namely, lower extremities) take on a rapid genesis, to bring them to the comparative standard required for the fulfilment of their presently-to-be-allotted duties; this period of increase, during which they grow with greater rapidity than the rest of the body, extending over about the first two years of mundane life.

III. The source of production of added portions of the human frame, from its earliest intra-uterine cellular genesis, is corpuscular: a strong hypothesis hence arises, that the corpuscular portion of that fluid which supplies animal pabulum for conversion,—videlicet, the blood,—is the source of elaboration into new definite existence.

IV. The increase of the lower extremities, above referred to, goes on with greater rapidity than that of any other considerable portion of the body, in a state of health, at any one period of life; hence the amount of convertible matter required must be proportionally large, whereas no organ has yet been demonstrated as specially endowed with the power of supplying this large required amount of material. The thymus gland, I would suggest, is the organ destined for the supply of pabulum (namely, corpuscles), in order to compensate this large demand.

For the more systematic arrangement of the numerous considerations which the crude theory embraced in the foregoing paragraphs admits of, I will embody, under the following heads, those observations which appear more directly to bear upon, and elucidate, the view above proposed.