Third report of the Clinical Hospital, Manchester : containing results on physical development, hooping cough, and transmitted diseases / by James Whitehead.

6

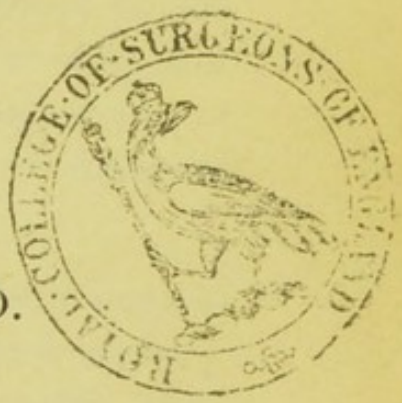
THIRD REPORT

OF THE

CLINICAL HOSPITAL,

MANCHESTER.

CONTAINING RESULTS ON PHYSICAL DEVELOPMENT, HOOPING COUGH, AND TRANSMITTED DISEASES.



BY

JAMES WHITEHEAD, M.D.

LONDON:

JOHN CHURCHILL, 11, NEW BURLINGTON STREET.

1859.

TO THE COMMITTEE OF THE CLINICAL HOSPITAL.

GENTLEMEN,

Since the last report was presented to your notice, prepared by the joint labours of my late colleague and myself, we have had to deplore the loss of our most active and efficient member. Dr. Merei succumbed prematurely under a load of affliction, at a time when his temporal prospects were brightening into prosperity, promising a career of usefulness and distinction. His character was remarkable for the strictest probity, generosity, and honour, in every relation of life, and his heart full of kindness and compassion for the afflicted.

By Dr. Merei's death an additional weight of labour has devolved upon myself; but it is gratifying to state that I am ably assisted by the energetic and willing services of Dr. Gumpert, who has recently been appointed Assistant Physician.

Should the present report satisfy you that the institution is capable of conferring really charitable and sanitary benefits, in places where these are certainly more than moderately needed, it is hoped that you may succeed in obtaining the means requisite for continuing and extending its usefulness.

J. W.

Manchester, January 31*st*, 1859.

CONTENTS.

ERRATA.

At page 8, line 8, *after* "Sweden, 21½ per cent.," *add* "for the towns, but only 7½ per cent. for the entire population."

At page 15, last line but one, *after* "transpiration," *add*, "and not solely to insect bites."

For "Table VIII.," on pages 73, 74, 76, 78, and 80, *read* "Table X."

For "Table IX.," on pages 92, 94, 96, 98, 100, 102, and 104, *read* "Table XI."

REPORT.

NUMBER AND QUALITY OF THE PATIENTS; THEIR SOCIAL CONDITION.

THE continued operations of the Clinical Hospital having afforded a certain accumulation of data on the several subjects brought under notice, it is deemed desirable, at the end of this the third year of its existence, to present to the professional public another brief account of such of the results obtained as appear, in the estimation of the writer, calculated to prove of practical worth. It may be well *in limine* to caution the reader against large expectation; for the labourers in this field having been few, the number of patients has, in consequence, been of necessity limited; so that imposing masses of evidence on any subject need not be looked for.

But, although the number of patients may be considered small, the amount of labour bestowed upon them can scarcely be said to have been so. Each case, to whatever class of society belonging, has been impartially investigated, as to its history and every available collateral circumstance, and treated in accordance with its requirements, with such care and consideration as its necessities seemed to demand:—the conditions of admission being that the patient should be kept constantly under notice until an issue was determined. This plan of procedure, although by no means fulfilled in every case, was observed with tolerable exactness by the

majority, and seems to be almost the only means whereby to obtain results likely to prove of reliable scientific and sanitary value.

Number of Patients.

The patients entered on the books, from January, 1856, to the end of October, 1858, amount to 2,584, including 288 re-admissions—children who had formerly been under treatment, and cured or relieved, but brought again under notice, after longer or shorter intervals, either for relapse, or for other forms of disease, and claiming special attention in consequence of their recorded physiological history. This number of registered patients, however, does not by any means represent

Number of applications.

the number of applications, as it frequently happens that these greatly exceed the number of admission cards to be distributed; so that, at a moderate computation, for the 2,584 persons admitted, 5,000 at least must have been rejected. Indeed, the number of patients that might have been admitted, had unlimited freedom been granted, would, instead of 2,584, have exceeded 10,000. The following table represents their respective numbers at the several ages indicated:—

Table I.

Number and ages of the patients admitted.

Under 2 months	73							
From 2 to 4 months	111							
„ 4 „ 6 „	117	First six months	301					
„ 6 „ 12 „	341	.....	341	Under one year	642			
„ 1 „ 2 years	593	.....	593	Under two years	1,235			
„ 2 „ 3 „	373	.....	373	Under three years	1,608			
„ 3 „ 4 „	256							
„ 4 „ 5 „	179	.....	571					2,179
„ 5 „ 6 „	136							
„ 6 „ 14 „	405	.....						405
	2,584							2,584

It will be seen from this table that the greatest number of patients were children from 6 months to

3 years of age, the average age of the whole is $3\frac{1}{2}$ years. Ages of Patients.

Of the above number there was a majority of males over females, in the proportion of 8 to 7; about one-fifth were children of Irish parents, and a few the offspring of foreigners. The actual number of these and of premature and illegitimate births stands as follows:— Of 2,584 patients, there were:—

Males	1,378
Females	1,206
Children of English parents	2,043
„ of Irish parents	514
„ of Foreign parents	25
Premature births	13
Twin births	20
Illegitimate births	32

The proportion of premature births is about the same as stated in the first report, and undoubtedly tells favourably for the constitution and general health of the women. The instances of illegitimate births have also maintained nearly the same proportion from the commencement throughout, being decidedly small; and it is pleasing to advert to this circumstance, as being highly creditable to the working classes of this city,— exposed as they are to unusual temptations, when compared with the number of such occurrences in continental hospitals. The per centage of these, as here represented, is $1\frac{1}{2}$; while in similar institutions on the continent it frequently amounts to 20 or 25 per cent., and in some stands higher. It must be remarked, however, that this great disparity in regard to illegitimate births between England and the continent does not

Premature and illegitimate births.

Per centage of the illegitimat

represent that which obtains generally, but only what is met with in hospital practice. The state of the case is doubtless widely different in our Union hospitals, which are the great receptacles for the unfortunate of all kinds. The average proportion of illegitimate births for all England is $6\frac{3}{4}$ per cent., ditto for France, $7\frac{3}{4}$ per cent., ditto for Norway, $7\frac{1}{2}$ per cent., ditto for Austria, $12\frac{1}{2}$ per cent., ditto for Sweden, $21\frac{1}{2}$ per cent. These are the proportions for the whole population; but in most places on the continent the average obtained in hospitals is much above the general estimate, as many of these establishments serve the purposes of both hospitals and poorhouses, and, consequently, receive the unfortunate especially. For instance, in the report of the children's hospital of Munich, for 1855, of the patients received for treatment during that year, more than 50 per cent. were illegitimate, while the per centage for the whole kingdom (Bavaria), was 26; so that the average on this subject as met with in hospital practice, whether in this country or on the continent, cannot be taken to represent the question for the whole population.

Circumstances of Parents and dwellings.

The unfavourable conditions under which children are too frequently placed, are both various and difficult to remedy:—such are unhealthy localities, closely built streets and alleys, overcrowded dwellings, cellar residences, want of ventilation, which seems often to be studiously avoided by keeping the windows and doors closed, and stuffing the broken panes with rags; strong prejudices and superstitions; neglect of personal cleanliness, and ignorance of cookery, even in its simplest processes.

In addition to these disadvantages, more than 10 per

cent. laboured under misfortunes occasioned partly by unavoidable circumstances, partly by culpable practices on the part of the parents, as represented in the following statement.

Of the 2,584 patients, there were:—

Destitute children.

Orphans	9
Children of mothers dead	20
Children of fathers dead	88
Children of fathers who had left home (for reasons not in every case blameable)	35
Ditto, in a state of extreme uncleanliness and neglect	87
Children deserted by the mothers	2
Of the neglected were illegitimate	12
Of the neglected were orphans, or those whose fathers were absent	9
	262
	10 per cent.

Sanitary condition of districts, &c.

On the sanitary condition of districts, localities, and dwellings, I am not at present prepared to dilate: the facts thus far accumulated being too limited to warrant a comparative conclusion thereon. I shall therefore content myself with a few remarks on this subject, derived from an intimate acquaintance with some of the districts and their populations during a number of years past, and especially from my renewed peregrinations and home-visits among them.

There is no doubt that an improvement in the condition of the poorest classes has taken place within my own recollection; they have acquired cleanlier habits, their habitations are less crowded, and they are better fed, and more contented, which is saying much for

people who have had to struggle through life with privations and social disadvantages of an aggravated kind. But their condition, in many respects, is still very bad, though not unimprovable.

Districts.

The districts from which the patients of the Clinical Hospital are chiefly derived, are by far the poorest and the most destitute of refining influences of any in the town. The proportions from each stand as follows :—

Patients from the	Ancoats district	26½	per cent.
,, ,,	Oldham Road	21½	,,
,, ,,	Rochdale Road	16	,,
,, ,,	Bradford Road.....	8½	,,
,, ,,	London Road	9	,,
,, ,,	Piccadilly and vicinity	8½	,,
,, ,,	Others collectively ..	10	,,

A cause of moral and social depravity.

I entertain the conviction that the desertion of the town by the influential classes, which has taken place to so great an extent of late years (caused doubtless by the very natural desire to breath a purer air), has operated incalculably to the disadvantage of the poor, and may be reckoned among the chief causes of the rude and depraved moral tone painfully evident in some quarters, and of the neglected education of the generation now rising. When, some thirty or forty years ago, the population of the parish of Manchester numbered less than two-thirds of its present estimate, the merchants, manufacturers, professional men, and owners of property, resided within its precincts. Then each circle of workpeople and dependents were constantly within the beneficent supervision of their employers and landlords, by whom they were aided in distress, comforted under visitations of affliction, and the education of

their children was cared for. The Sunday schools had frequently, if not constantly, the presence of those who, possessing the advantages of a polite education, and the inestimable blessings of parental enlightenment in matters of domestic economy and the discipline of daily life, were able to exercise a humanising and encouraging influence on the children, whose homes also were visited from time to time, and made happier by it. Now that the boroughs contain more than four hundred thousand people, there are but very few families of wealth or influence to be found in them, and some large districts are utterly deserted in this respect. A few members of the medical and clerical professions are all above their own class, except the shopkeepers, with whom the miserable and unfortunate are ever brought into contact; and even this happens but seldom, and almost always under circumstances of affliction. The gladness with which they receive these occasional visits, their willingness to profit and be encouraged by them, and their gratitude for instructions imparted, are evidences of how much might be effected by a more extended and well directed labour towards increasing their comfort and usefulness.

Principal district —its population.

The first four districts named in the preceding statement, constitute so many sections of one large district which forms the east quarter of the town, and from which 72 per cent. of our patients are derived. This district measures about a mile in each direction, and comprises an area of six or seven hundred acres, nearly all of it thickly built upon, and containing, at a moderate computation, a population of sixty or seventy thousand people. It is traversed by two large thoroughfares, Oldham Road and Rochdale Road, and is bounded on the

west by another more than a mile in length—a straight line of street extending from the south end of Ancoats to Ducie Bridge. The two great thoroughfares, running at right angles in an easterly direction from this boundary, are chiefly occupied by shopkeepers and publicans, from the second to the fifth degree of respectability; all the rest of this quarter consists of small cottages and manufactories. A certain proportion of the cottages are tenanted by respectable mechanics, foremen, &c., but the great majority are occupied by the poorest class, many of them in destitute circumstances, with precarious means of obtaining a livelihood, and not a few with no specified occupation at all.

Character of the district.

Not in all this district is there to be found the residence of a family of influence; it does not contain a hospital or dispensary for the relief of the sick—with the exception of a branch poor-house;* the literary institutions are limited to one small mechanics' institute in a remote corner, and an insignificant Lyceum; the places of worship collectively would, probably, not contain more than one twentieth of its population; and there is not a yard of ground within it set apart for the purposes of healthful exercise or recreation. The only places of resort for relaxation and for social and convivial intercourse, are the inns and beer-houses, which are numerous and liberally supported. It is an object worthy of being striven for, that these demoralising retreats may, at no distant date, be superseded by some social arrangement capable of affording a means whereby to enlighten and humanise without curtailing pleasureable enjoyment. For procuring rational amusement,

* The Ardwick and Ancoats Dispensary, although extending its benefits to one corner of this district, is not situated within it.

indeed, the poor have but small means, and therefore it is that they resort to the beerhouse; were an alternative offered in an acceptable shape, enactments to enforce sobriety would probably not be needed. Large masses of athletic men and young people, with no settled notions about religious and moral obligation, uneducated, and left to themselves, require a cautious management.

Dwellings.

The dwellings of an immense number of the poorer classes are small, over-crowded, uncleanly, ill-ventilated, and swarming with insect vermin. It is to be regretted that the corporation, who have so well managed the streets and drainage, and have enforced a periodical renovation of the exterior of buildings, do not extend their power to the healthful requirements of the interiors. I inquired of one tenant who had occupied the house where I found her ten years, when the walls had been whitewashed, and the wood-work painted. She replied, not once since she entered; and I felt certain, from the appearances which had led to the inquiry, that she spoke the truth.

Cellar residences.

I put the same question to a cellar resident, who said that she had whitewashed the walls at her own expense when she entered three years ago, because they were black, but they had not been done since. This cellar was occupied by ten persons, consisting of two families and an old mother; it had two compartments, of which one had scarcely any daylight admitted into it, and the walls of both were covered with marks of destroyed vermin. From these families we treated, in the space of two months, three distinct cases of diarrhœa, two of bronchitis, and one of inflammatory croup, all of severe character, threatening a fatal issue. Disease had been equally rife among them during some years previously,

attributable, doubtless, to over-crowding and filth. Many cellar residences exist, in the same quarter, very similar to this in quality and number of inmates.

Superstitions and prejudices.

Superstitions and prejudices, prevalent among some of the lowest orders, operate in a remarkable manner to the detriment of infant life and health. When a child is seized with fever or other malady of severe character, it is generally deemed by the parents to have received its "death stroke," and its extinction is waited for with easy resignation, without a thought of seeking remedial aid beyond their own resources. Thus, many cases of acute inflammatory and febrile affections are brought after they have existed many days or weeks, and often already in a hopeless state, with the ostensible object of obtaining medicine to soothe their last moments, but more frequently for the real purpose of being able to obtain a certificate of the cause of death. Several such children have been in a dying state when entered on the books. On account of impositions having been occasionally practised in this way, we make it a rule never to certify that a child is dead unless known to be so from actual observation; but only to state that such a patient has been recently under treatment for a disease specified.

Effects of superstition.

From the moment the idea seizes one of these mothers that her child's malady is to be fatal, all attention to cleanliness, and the comforts derivable therefrom, is discontinued, under the belief, as alleged, that exposure of the skin would be the means of hastening the fatal issue. One case recently brought—not a solitary instance, but only one out of many—had for eight or nine weeks laboured under severe bronchitis with low fever, and latterly had eczema of the scalp; its death

had, during all this time, been daily expected. This child, as the mother unhesitatingly stated, had not had the skin on any part of its body one time washed since the commencement of the disease, a period of more than two months. The entire surface was incrusted with filth, which was probably the cause of the protraction of its ailment, and certainly so of the skin disease, for so soon as it was thoroughly cleansed with soap and water, the patient began to mend, and was speedily cured.

Skin spots, their causes and character.

A maculated state of the skin is frequently met with in the children of this class of people, consisting of small circular spots the size of face freckles; not, however, occupying the face and hands as freckles do, but every other part of the body except the feet. They seem to infest parts covered by the clothing, while freckles are only seen on parts exposed. They have a purple colour, like the maculæ of typhus—not a pale yellow like freckles, and are unassociated with any form of disease saliently expressed; but they seem, nevertheless, to indicate a depraved habit of body. The skin has a sickly, opaque pallor, the flesh is flabby, the temper fretful, and the energy subdued. The parents appear to regard their presence as natural and unavoidable, as they are never the subject of treatment, nor is attention directed to them when the body is examined for other purposes. They seem to be peculiar to the lowest classes, and are caused by sloth and personal neglect, as they are never met with in the offspring of the cleanly and thrifty.

Skin spots a disease.

There is no doubt that this *macula cachectica* is in reality a disease of the skin, due, proximately, to interrupted cutaneous transpiration. Its cause is uncleanliness. Such children are seldom washed, except the hands and face,

oftener than once in many weeks, and even then very imperfectly, and without the use of soap. When the children get older, and the washing process is left to themselves, it is still less perfectly done, and the whole body is not washed, in the vast majority of instances, once in several years. In such persons the spots which appeared in infancy are often seen up to adult life. The linen is in some instances worn by these people unchanged until it falls off in rags; or when it does occasionally get washed, soap is very sparingly used, frequently not at all, and the articles, even when considered clean, are always offensive to the smell. The clothing of many of these poor creatures—mothers and children both—are occasionally so loaded, by long accumulation, with filth, that their approach can be detected at a distance by an offensive effluvium, the evidence, probably, of a putrefactive process actively going on in their garments, and this noisome and sickening odour is perceptible in the room for some time after their departure.

Use of ardent spirits in disease.

The practice of giving spirituous liquors as medicine to sick children is very prevalent among some of the lowest orders. I lately had occasion to visit frequently a child two years old, daughter of poor parents, residing in a wretched house in a close unhealthy court. On admission, the patient had been for eight weeks labouring under dysentery and hooping-cough, with low fever. Having, on each of a succession of visits, found the patient in the same unsatisfactory state, namely, rapidly emaciating, with great heat of skin, and insatiably thirsty, I detected on one occasion the smell of spirit when near her. On inquiry, the mother freely stated, apparently unconscious of having committed an error, that the spirit which the

child had taken during the last three days was gin, and she believed it had done much more good than any of the other kinds previously tried. Those previously used, and here alluded to, were first brandy, then whisky, then rum; but three days ago she fortunately remembered that gin had been very efficacious in an illness of an elder child, now five years old, so she at once procured some of the best, and had given it freely. It appeared that during the preceding four weeks at least, unknown to me, this child (two years old), had taken from four to eight doses per day of ardent spirit—the dose probably meaning as much as the child could be made to swallow at a time—given under the conviction, conscientious I do not doubt, that it might prove beneficial, as its efficacy was commonly believed in for such complaints. The child died a few days later. The parents, from what I saw, appeared to be sober, frank in expression, but ignorant, slothful, and simple to the last degree; yet, strange to say, contented and happy. This case is not a solitary instance of its kind, but an example of a custom extensively prevalent. The practice of opium drugging may claim attention on some future occasion.

Cookery—defective knowledge thereon.

It would supply an important desideratum if a means could be adopted whereby to instruct poor mothers in the art of plain cooking. A multitude of homes are made miserable by the want of a little knowledge on this subject. Many of the mothers of the patients are women who have been employed in the manufactories, from early morning till late at night each day, from a period of their lives dating but a little above infancy, having had no opportunities of acquiring information on household management; and even if they had had

time for this purpose, the means, in most instances, could not have been supplied, as the majority of them are daughters of mothers who were similarly circumstanced. In a state of childish simplicity as to knowledge of the most ordinary kind, they are taken from their daily avocations to be made wives, and the immediate consequence is, misappropriation and waste from sheer incompetence; then follow discontent, strife, disgust, quarreling, and desertion of home.

Cookery in sickness.

Ignorant as they are in the art of making an ordinary meal acceptable to the toiling husband in a state of health, their incapability is still more lamentable in the common accident of sickness. Their want of tact and common skill, and the utter bewilderment displayed under circumstances of this kind, it is painful to behold. I have frequently seen packets of arrowroot, sago, and other nutrient articles, supplied gratuitously in cases of sickness, thrown about and entirely wasted, from the mere want of knowing how to prepare them for use; and pieces of good bread are often seen squandered on the floor and wasted, which a thrifty housewife would store up and make into a nutritious and relishable pudding.

Medical difficulties.

It is not difficult to understand how arduous a task it must be on the part of a medical man to cope with serious forms of disease under disadvantages like these, coupled at the same time with prejudices and superstitions which theorists believe existed only in by-gone ages.

Nurses.

A hospital, established for the benefit of such a population as is here represented, should be provided with a staff of efficient female nurses, who could be sent out, on needful occasions, to impart instruction on

domestic management. Such a provision might be the means of effecting great good, and, under the direction of the judicious physician, would succeed in lessening at the same time his labours, and of mitigating personal suffering, by teaching how, in many instances, disease may be averted or checked at its onset; or how to deal with it when it does come, and shorten its duration.

Missionaries.

I am persuaded that the efforts of missionary societies would be far more fruitful of results, if aided by a section of judicious labourers, devoted to the alleviation of temporal necessities.

OF PHYSICAL DEVELOPMENT.

First report.

The few facts relating to this subject, and the results therefrom deduced, which were stated in the Report of 1856, tended to show that a large proportion of the diseases of infant life arise from a faulty condition of the developmental processes, and that these diseases are susceptible of prevention; inasmuch as the faulty condition which causes them may be more easily and naturally rectified by hygienic than by medicinal agency.

It was not assumed, however, that the experience then recorded, which had been accumulated in the short space of nine months, was sufficiently ample to warrant a conclusion on so important a subject; but it very significantly pointed to the bearings of a problem of which the solution might be determined by extended experience.

With this object in view, and in accordance with the scheme originally projected by the late Dr. Merei and myself, the inquiries have been systematically pursued, and additional facts obtained, which, though still

comparatively limited, may nevertheless conduce to render the conclusions more reliable in their scientific application.

As the additional materials now to be produced are intended to be incorporated with those of the first report on this subject, some of the observations then offered will also be repeated, modified or qualified as the results may seem to necessitate.

Objects of investigation.

The objects aimed at in this particular branch of inquiry are: 1st—The laws of physical development in infancy, as indicated by the age at which the teething process commences, and that at which it is finally accomplished; the growth of the bony structures, as shown by the age at which that of the skull is completed; the age at which the faculty of walking is attained: all in a state of health. 2nd—The manner in which one or more of these processes may be delayed by morbid agencies, and which of such agencies is the most commonly operative in its interference with the natural efforts.

Development. Good. Medium. Bad.

The actual states of development have deen divided into the *good*, the *medium*, and the *bad*. The children marked as being of *good* development are those brought under observation for disorders of local or of acute character; of climatic, zymotic, or adventitious origin;—not of inherited or constitutional tendencies to disease,—in whom the process of development has not previously been interfered with, whose bodily health is, as a general rule, faultless, and whose parents are healthy. Those of *bad* development are they whose health has been deranged by inherited weakness or tendency to disease, by want of a due supply of breast milk, by faulty diet, poverty, unhealthy locality, or

neglect. Those of *medium* development are such who, in any of these respects, cannot be classed with either of the preceding. This last-named class is not, therefore, taken into consideration in the general estimate.

Of 2,584 patients the development was—

Good in	1,030
Bad in	615
Medium in	541
Unknown, or the accounts not reliable, in	398

The two last items, amounting to 939 individuals, are consequently rejected; the two first, representing the two extremes, being alone serviceable in drawing conclusions.

THE TEETHING PROCESS.

It may be stated that the whole number of children whether of *good* or *bad* development are not all available to denote the period of teething, because some of them were as yet too young, and in some the accounts were incomplete and unavailable.

The following table represents the periods of the teething processes as they occurred in all the reliable cases:—

TABLE II.

A.

Comparative tables on development.

In 763 children of GOOD development the first pair of teeth appeared—

At 2 months in	8
„ 3 „	49
„ 4 „	85
„ 5 „	85
„ 6 „	175
„ 7 „	100
„ 8 „	98
„ 9 „	81
From 10 to 12 months	64
„ 12 to 14 „	18
After 14 months	0
	763

In 435 children of BAD development the first pair of teeth appeared—

At 2 months in	4
„ 3 „	10
„ 4 „	24
„ 5 „	26
„ 6 „	30
„ 7 „	31
„ 8 „	36
„ 9 „	63
From 10 to 12 months in	107
After 12 months	104
	435

B.

In 83 children of GOOD development at the age of from 12 to 13 months, it was ascertained that

1 had no teeth	0
5 had	2
7 „	4
24 „	6
24 „	8
17 „	10
3 „	12
2 „	14
	83

In 72 children of BAD development at the age of from 12 to 13 months, it was ascertained that

24 had no teeth	0
16 had	2
16 „	4
7 „	6
7 „	8
2 „	12
	72

C.

Of 316 children of GOOD development it was ascertained that at 2 years of age—

1	had.....	12 teeth.
4	„	14 „
13	„	16 „
18	„	18 „
280	„	20 „
316		

Of 137 children of BAD development it was ascertained that at 2 years of age—

3	had	6 teeth.
9	„	8 „
16	„	10 „
25	„	12 „
21	„	14 „
28	„	16 „
5	„	18 „
30	„	20 „
137		

D.

Of children of GOOD development it was ascertained that the whole teething process was accomplished at ages before 2 years, as follows :—

At 12 months	in.....	1
„ 14	„	2
„ 15	„	3
„ 16	„	4
„ 18	„	24
„ 19	„	2
„ 20	„	11
„ 21	„	5
„ 22	„	7
„ 23	„	3
		62

Of children of BAD development it was ascertained that the whole teething process was accomplished at ages before 2 years, as follows :—

At 20 months	.....	1
„ 21	„	1
		2

E.

Of children of GOOD development it was ascertained that the whole teething process was accomplished at ages after 2 years, as follows :—		Of children of BAD development it was ascertained that the whole teething process was accomplished at ages after 2 years, as follows :—	
At 25 months in	2	At 26 to 30 months	29
„ 27 „	3	„ 31 to 36 „	20
„ 28 „	2	„ 39	1
„ 30 „	5	„ 48	1
„ 32 „	1		
„ 36 „	1		
	14		51

Teething process in those of good development.

The preceding table shows that in the great majority of children of *good* development, namely, in 600 out of 763—(79 per cent.)—the teething process had fairly commenced before the eighth month was past; and in only 21 per cent. after the eighth month, namely, in 81 of them at eight to nine months; in 64 from the ninth to the 12th month; and in none was it delayed till after the fourteenth month.

Teething process in those of bad development.

In children of *bad* development only 161 out of 435 —(37 per cent.)—cut their first teeth before the completion of the eighth month; and in 63 per cent. (in contrast with 21 per cent. of the former group) it commenced after the eighth month, namely, in 63 at 9 months; in 107 at ten to twelve months; and in 104 after twelve months.

Comparisons.

At the age of 12 to 13 months, 83 patients of *good*, and 72 of *bad* development presented themselves; of the *good* only one had no teeth; of the *bad*, 24 had no teeth, and the contrast is equally great as to number at respective ages in all the rest.

At the age of two years, of those of *good* develop-

ment, 88·6 per cent. had all their teeth; while of those of *bad* development only 21·8 per cent. had accomplished the process. Of the former group, only one had so few as twelve teeth at two years, but among the second group 25 had no more than twelve at that age.

Sixty-two children of *good* development accomplished their teething process earlier than the age of two years: namely, one at the early age of twelve months, two at fourteen months, three at fifteen months, and in 47 before the end of the twentieth month. In fourteen, it was delayed beyond the age of two years.

In 53 children of *bad* development, two only completed their teething before two years of age—one at 20 months, and one at 21 months; while in 51 it was delayed beyond the twenty-sixth month.

Children of healthy parentage.

From the above statements, it will appear, that in children possessing the advantages of mature intra-uterine growth, untainted parentage, proper nourishment, and healthy locality, the teething process ought to commence at from five to eight months, and that the accomplishment of its different stages at the periods mentioned gives fair promise for the due attainment of the other processes presently to be mentioned.

State of the teeth at fourteen months.

From these data it may be inferred that at the age of fourteen months a child should have ten teeth or more, and that six teeth are the minimum number compatible with good development and favourable prospects at that age.

Ditto at twenty months.

The complete irruption of the whole twenty teeth was accomplished, in children having a favourable state of the developmental processes—in nearly 90 per cent.

at the age of two years; and as in a considerable number of them this process was completed much earlier, statistics will warrant the conclusion that the teething process should, as a rule, be completed in healthy children at the age of two years.

Precocious dentition.

It seems worthy of notice that *precocious dentition*—that is, the irruption of the first teeth before the fifth month, had not in every case a favourable significance. Among the patients comprised in the above records 180 were of this category, having commenced teething at two, three, and four months. Of these, 38 were of *bad* development, in many of whom the process was afterwards interrupted; the next teeth after the first two, not appearing until many months afterwards, sometimes not until very late. In several instances in which the first two teeth were cut at two months, the next did not appear until after the age of two years. This precocious dentition would appear, therefore, according to the above data, to give little promise for the favourable progress of after development, inasmuch as among the number recorded of this class, a considerable proportion were afterwards badly developed altogether.

Occasional unfavourable consequence of precocious dentition.

On the contrary, the precocious irruption of *all* the twenty teeth is the constant attribute of an excellent state of development. Not a few of the children who accomplished the teething process at sixteen or eighteen months or earlier, were able to walk freely at nine months, and were exceedingly strong in all their physical faculties.

Disorders of teething.

As regards the disorders of teething—the alleged disturbances, namely, which are said to be caused by difficulties of protrusion and over-tension of the enveloping gum, it appeared evident, in many cases, that

both the concomitant ailments and the retardation of teething depended more upon the faulty state of the developmental processes generally, than upon local irritation, as it was in but a few instances, and these only in infants of highly excitable and nervous temperament, that scarification was followed by relief. These disorders are doubtless due to constitutional rather than to local causes.

Congenital teeth.

Three children had each two teeth in the lower jaw at birth. In two of these it was found necessary to remove them because of the injury they inflicted on the under surface of the tongue, while sucking; in the third, now two years old, the congenital teeth remain, the whole teething process being completed, and the child well-grown and healthy.

PROCESS OF OSSIFICATION.

Osseous growth.

At birth, the state of the osseous system is materially different from its condition a few months later, and widely so from that of advanced childhood and adult life. In the full-grown fœtus the bony structures contain a preponderating amount of the animal over the earthy material, and are consequently soft and yielding. Their extremities, processes, surfaces, and margins, contain but very little, and in some parts no earthy matter at all, being composed of soft cartilage and membrane, in which, by a physiological formative process, are deposited particles of the bony element, by the gradual increase of which they are changed from cartilage and membrane into solid, resisting bone. The muscles and sinews also, which at birth are altogether insufficient in power for locomotor purposes, undergo a gradual change, by the addition of fibrinous consolida-

tion and innervation, intended to fit them for more powerful action.

Process of ossification.

This developmental agency, called in its application to the skeleton, the process of ossification, is earliest manifested in the growth of the skull; not because it is more active in this region of the body, but because it is more tangible here, being less obscured by the soft structures.

Sutures and fontanelles in the fœtus.

In the full grown fœtus the posterior fontanelle—the part occupied by the junction of the occipital with the two parietal bones—an open space at seven months of intra-uterine life, is nearly closed at birth, and consequently can have but little significance in the after development of the osseous system; but the two great sutures—the sagittal, extending from the posterior fontanelle to the root of the nose, and the coronal, extending from one temple to the other, with the wide space found at the rectangular junction of these two—are always open at birth; that is to say, they are always void of bony deposit, being closed in by membrane only. It is by this construction that the soft side bones of the fœtal head are made capable of movement at this particular period of life, and susceptible of compression and of overlapping in a way to diminish the bulk of the head in its transverse dimensions, so as to render its transit easy and safe during parturition. It is by this accommodating mechanism, also, that the brain is enabled to expand, without injurious compression, during its rapid growth in infant life; and it is by the timely closing in of these spaces by bony deposit that we are enabled to judge of the healthy or unhealthy, favourable or unfavourable, development of the system generally.

Error in the first Report.

It was stated in the first report that the fontanelle appeared to have the largest dimensions not at birth, but at the age of five to seven months. This statement it is necessary to retract, as additional inquiry has shown that it was founded upon insufficient and mixed data. The error had occurred in having estimated the measurements of healthy and unhealthy children conjointly; whereas it is necessary to view the question in its purely physiological bearings, setting aside the morbid and abnormal examples as irregularities. A mistake was committed also in having estimated the dimensions of the fœtal fontanelle immediately after birth, when it is much diminished, instead of twenty-four hours later, when the circulation has fully effected the expansion of the tissues, and the brain and cranial bones have had time to recover from the compression and temporary displacement they have suffered in transitu, and to resume their normal relations.

Dimensions of the fontanelle in the fœtus.

In one hundred mature infants examined 24 hours after birth, the sagittal suture was found open (membraneous) from the posterior fontanelle to the lower part of the frontal bone, and had an average measurement of a little more than $5\frac{1}{2}$ (5·6) inches; it varied but very little in different individuals, and was the same in both sexes. The shortest measurement was $4\frac{1}{2}$ inches, but only in one child, who was every way small, and whose head was below the average size, measuring only 12 inches in circumference. The coronal suture measured a little more than 3 (3·08) inches, and was very nearly the same in every child. The great central space, diagonally, measured from $1\frac{1}{2}$ to $2\frac{1}{2}$ inches.

Progress of ossification.

The ossifying process at the outer extremities of the sutures progresses with remarkable rapidity during the

early months, as at the age of one month the sagittal was found to have become shortened from $5\frac{1}{2}$ to from $3\frac{1}{2}$ to $4\frac{1}{2}$ inches, and the coronal to $2\frac{1}{2}$: always, it must be understood, in children of good development. At the age of two months the measurements were: sagittal, 3 to 4; coronal, $2\frac{1}{4}$ to $2\frac{1}{2}$. At from three to six months the central space became reduced to a diamond shape, whose average measurements were: between the points, 3 by 2, and between the sides, $1\frac{1}{2}$ or 1. After six months, the child, being subject more or less to the influence of a faulty alimentation, the diminution was less regular.

Closure of the fontanelle.

With regard to the complete closure of the fontanelle by osseous tissue, in 191 children having a *good* development, the process was accomplished at 16 months in 101, and in 72 of this number at periods varying from one to nine months earlier. In 90 of the same group it was not closed at 16 months, nor for an average period of four months later; so that the average age at which the fontanelle becomes closed in this class of children, as appears from these figures, will be, not 13 months (as was assumed in the first Report), but $14\frac{1}{2}$ months.

Fontanelle in the badly developed.

In 317 children of *bad* development the fontanelle was closed at the end of the sixteenth month in only 15 individuals, and remained open at that age in 302; but in more than 220 it was found still open after 20 months, and in some as late as 3 to $4\frac{1}{2}$ years.

Comparison.

As a rule, a child of good development, with closure of the fontanelle at $14\frac{1}{2}$ months, has usually at the same time (or ought to have) about 14 teeth, and has been able to walk firmly several weeks or months; while in one having at this age the fontanelle largely open, it

frequently happens that not more than two to six teeth have appeared, and he is unable to walk; and even at the age of two years when the teething process should be completed, the fontanelle being still open, there are generally not more than 8 to 12 teeth.

Conclusion.

The closure of the fontanelle, therefore, gives a fair indication of the state of the developmental processes, being accompanied, generally, with the exception of a few cases of irregularity, by a corresponding condition of dentition, of the faculty of walking, and of the whole physical frame.

Over-intense ossification.

An irregularity in the development of the osseous system is occasionally met with, which, in its peculiar character, stands in extreme contrast with retarded growth, but which, judging from actual experience, is comparatively more disastrous than it in its consequences. This abnormal condition consists in an exuberant growth of the bony structures—to over-intense ossification. It is highly probable that in this precocious growth the whole skeleton participates, but to the extremities and the locomotor organs it can prove no way detrimental. It is the brain which suffers in these cases, its expansion being hindered during its rapid growth in infancy by the sutures and fontanelle having been too early closed in by bone, and solidified.

Cases of over-intense ossification.

It was stated in the first Report that one such case had then occurred; this being the only instance of the kind which either my late colleague or myself had ever witnessed. Since that statement was made three other cases have been brought under observation, and a fourth, with fatal issue, belonging to one of the families concerned, was noted; making in all five cases

of *over-intense ossification.* Case $\frac{1}{131}$, already recorded, was a child $3\frac{1}{4}$ years old when brought to the Institution, presented unequivocal signs of compression of the brain. "He looked dull, the head hanging constantly forward on the chest; mouth open; and he had constant salivation. The circumference of the skull was 17 inches, that of the chest 19 inches; great predominance of the chest for the age; skull, relative to the size of the body, of small dimensions, but very convex. On the top of the skull, in the place of the fontanelle, and part of the sagittal suture, the bone was completely solid, and elevated, so as to form a rounded ridge, to the height of half-an-inch. The mother stated that he was a strong healthy child to the age of eight months, after which the present disorder developed itself. The child cut his first teeth at six months, and at 14 months had all the 20; he walked firmly at nine months, but lost afterwards this power. Two other children of this mother cut their first teeth at six months, had all the 20 at from 14 to 18 months, and walked firmly at nine months. She was a strong woman, and said she had always had as much milk as would have sufficed to sustain two children at the same time. She had given the breast alone to each of her children to the fifteenth or eighteenth month. This child died of convulsions. The explanation we give of this condition is, that by a precocious solidification of the skull, the growing brain became compressed; but while the sutures and fontanelle were still in a yielding condition, the lateral bones being firm, the ridges were formed by the growing brain, compressed in every other direction, and finding less resistance in the situation of the sutures, protruded itself in these parts, which became

rapidly ossified also; thus preventing further expansion for the accommodation of its subsequent increase."

Of the three similar cases which have since occurred, one ($\frac{5}{409}$)* with fontanelle closed at seven months, died of convulsions; another ($\frac{6}{5}$), fontanelle closed at nine months, suffering from intense diarrhœa, survives; and a third, now four months old ($\frac{6}{375}$), with fontanelle quite closed, suffers from fits of screaming, ending in convulsions. The mother of this child states that her previous infant had a similar condition of skull at four or five months, and died of convulsions.

GROWTH OF THE SKULL AND CHEST.

Head and Chest.

The dimensions of the skull and chest, actual and relative, furnish very ample and most important indices of the power of the system in early life, and of its prospects for the future. The teething process may be late, even the faculty of walking retarded, or the ossification of the skull delayed to a certain extent; but if the brain and lungs, whether large or small, be proportionately developed, the prospects for the future may still be good.

Cerebro-thoracic balance.

The cerebro-spinal system is a great consuming organ, appropriating in early life an immense amount of material, which is furnished by the digestive organs and lungs. If the supply be equal to the demand the progress of growth of the one keeps pace with that of the other, the general health is good, and the promise for the future favourable. When from any cause loss of balance takes place, the detriment inflicts itself chiefly upon the muscular and secretory systems, for

*These figures refer to the book and page where the cases named may be found.

the brain continues to appropriate and grow with undiminished vigour, while the locomotor powers fail from impoverishment. The first of these conditions is commonly associated with all the attributes of good, the latter with those of bad development.

The dimensions of the skull and chest, actually and relatively, in the two opposite states of a favourable and unfavourable development, have been ascertained as correctly as was practicable, and arranged in tabular form. With a view to approach an accurate conclusion, all cases of hydrocephalus, hypertrophy of brain, and idiocy, have been excluded.

Mode of measurement.

The measurements of the head are made horizontally, around the most prominent parts of the parietal eminences, and a little above the eye-brows; those of the chest also horizontally, passing about three quarters of an inch below the nipple, thus escaping the lower angles of the scapulæ.

Shape of head.

In children of *good development* the shape of the skull is oval, with gently curved outlines, the convexity across the summit being regular, without any unusually salient frontal or lateral eminences.

Shape of head.

In the *badly developed*, the majority do not present any striking anomaly, and frequently, indeed, have the head well shaped. But in the less favourable cases the skull is flattened at the summit, with projecting parietal and frontal eminences, giving to it the appearance of being angular and flat. This characteristic feature is seldom, if ever, noticed before the age of seven months, commonly between the ages of one and two years, and is almost always the indication of checked development, great weakness, and frequently of the existence of rickets.

Shape of healthy chest.

The shape of the chest in children well developed is generally full, and equably rounded from the angles of the ribs behind, to the cartilages in front; the sternum flattened or slightly depressed, and the abdomen not projecting beyond the level of the lower ribs. In some children, healthy and well grown, at the age of six or nine months or earlier, there is occasionally seen a slight semicircular depression at the lower part of the chest laterally in front, below the mammary glands; but this in infants is often owing to tumidity of the abdomen; and in children of only a few months old, indications of what the developmental condition is likely to be afterwards, are not very trustworthy.

Chest in the unhealthy.

In children badly developed, the chest is often found compressed laterally, the ribs from the sixth to the tenth, below the mammary glands, being pressed inwards, forming a shallow cavity. In some cases this depression seems to be occasioned by tumidity of the abdomen, by which the lower margin of the chest is drawn forward and outward, but more commonly it is doubtless due to actual impairment of the developmental tone, and insufficient supply of material for the growth of the solid structures. Sometimes the yielding and consequent flattening implicates the whole chest antero-laterally, with simultaneous projection of the sternum and costal cartilages, constituting the pigeon-breast deformity, and is frequently associated with other unequivocal signs of rickets.

Table III.

Absolute and relative measurements of the skull and chest at progressive ages from birth to the 12th year, in children of *good* development—type of health :

Favourable dimensions.

Number of cases.	Age.	Head.	Chest.	Difference between Head and Chest.
		Inches.	Inches.	inch.
100	One day.	13·75	12·94	Head more than Chest 0·71
66	6 to 12 weeks.	15·25	14·25	„ „ 1·00
75	6 „ 8 months.	16·68	15·58	„ „ 1·10
71	11 „ 13 „	17·80	17·20	„ „ 0·60
67	21 „ 24 „	18·38	17·85	„ „ 0·53
50	34 „ 36 „	18·70	18·61	„ „ 0·09
60	4 „ 4½ years.	19·20	19·72	Chest more than Head 0·50
46	6 „ 6½ „	19·51	20·76	„ „ 1·25
40	9 „ 10 „	19·56	21·31	„ „ 1·75
31	11 „ 12 „	20·00	23·46	„ „ 3·46

Deduction.

The above table represents the physical condition of children placed under favourable circumstances—not that of all conjointly brought for treatment ; the measurements may therefore be assumed to be those, or nearly so, which all children in a state of health should possess at the respective ages specified.

Bad development, characteristics.

In children having the assemblage of conditions constituting *bad* development, namely, delayed irruption of the teeth, retarded ossification of the skull, late walking, and defective innervation, the difference in the dimensions of these two great cavities are given in the following table.

Table IV.

Absolute and relative dimensions, at progressive ages, of the skull and chest in children of *bad development*,—the type of scrofulous cachexy, tuberculosis, and atrophy, from defective nutrition and other causes :—

Age.	Head.	Chest.	Difference.	
One day.	13·75 inchs	12·94 inchs	Head more than chest	0·71 inch
6 to 12 weeks	14·70 „	13·00 „	„ „	1·70 „
6 to 8 mos.	16·10 „	14·10 „	„ „	2·00 „
11 „ 13 „	17·35 „	15.47 „	„ „	1·88 „
21 „ 24 „	18·30 „	16·36 „	„ „	1·94 „
34 „ 36 „	18·40 „	17·20 „	„ „	1·20 „
4 „ 4½ yrs.	19·00 „	18·50 „	„ „	0·50 „
6 „ 6½ „	19·50 „	19·66 „	Chest more than Head	0·16 „
9 „ 10 „	19·25 „	20·50 „	„ „	1·25 „
11 „ 12 „	19·75 „	21·50 „	„ „	1·75 „

Unfavourable dimensions.

Disparity between head and chest.

It will be seen from the preceding tables, that the dimensions of the head do not differ very materially, the healthy from the unhealthy. The disparity is principally noticeable in the size of the chest, the lungs being the organs which earliest and most commonly suffer under a state of impaired nutrition. At birth, the measurements are the same for both groups, the health and development being, as a general rule, perfect, in the full-grown fœtus. This, then, is the starting point, whence it is interesting to notice the relative growth of the two cavities respectively—especially the chest, under the influence of favourable and unfavourable agencies.

Growth of the brain and chest.

The most rapid growth of the brain takes place during the last four months of intra-uterine life; the

fœtal head, at $4\frac{1}{2}$ to 5 months, measuring about 6 inches, and the weight of the brain being about 6 or 8 ounces; while that of the full grown fœtus measures 14 inches, the weight of the brain being about 25 ounces.

The most rapid growth after birth takes place during the first two months; the next during the second two months, the next during the third two months, and so on to the end of the first year, after which it gradually decreases in rapidity of growth.

It has been shown, that at birth the average girth of the head exceeds that of the chest by eight-tenths of an inch. From this time the march of growth is nearly in parallel order—the chest augmenting a little more rapidly than the head, except in earliest infancy,—to about the age of $3\frac{1}{2}$ years, at which period, in those of *good development*, the measurements are equal. The following figures represent the actual and relative increase of these two cavities during this period:—

Table V.

Rapidity of growth in infancy.

Relative growth of the head and chest at particular periods during the first $3\frac{1}{2}$ years of life:

Head, its circumference at birth.....			13·75 inch.
Increase during the first month	1·00	First year	
„ „ second „	0·81		4·3 „
„ two to six months,	1·40		
„ six to twelve „	1·10		
„ second year.....			0·5 „
„ third and first half of the fourth year.....			0·6 „
			19·15

CHEST, its circumference at birth.....		12·94 inch.	
Increase during the first month	0·75	First year	
„ „ second „	0·60		4·22 „
„ two to six months,	1·25		
„ six to twelve „	1·62		
„ second year.....		0·65 „	
„ third and first half of the fourth year.....		1·30 „	
		19·11	

Increase during first year.

The most striking feature in the above statement is the extraordinary amount of increase which the lungs and brain undergo during the first year of life, and the singular activity of the nutritive functions, in the preparation of the required material. The augmentation in the weight of brain and lung tissue, if accurately known, would probably present still more remarkable features.

Equal dimensions of head and chest attained.

In the *badly developed*, the equality of dimensions of skull and chest which, as above represented, takes place in the healthy at about $3\frac{1}{2}$ years, is not attained, as is proved by statistical evidence of a similar kind, until two years later—namely, at the age of about $5\frac{1}{2}$ years.

Dimensions at birth and in early infancy

As a rule, the developmental processes progress much more regularly and evenly during the first two or three months than they do afterwards; the child, at a later period, being exposed to the damaging influences of improper diet, atmospheric impurities, neglect, uncleanliness, infectious diseases, and a multitude of injurious agencies. In one child the measurement of the head at birth was 14·12 inches; at the age of thirty days it was 15·25; increase in the first month one inch and an

eighth. At the age of two months the circumference of the head was 16 inches.

In another at birth the circumference of the skull was 14·25; at the age of thirty days it was 15·15. In one measuring 13·5 at birth, the chest also 13·5, the measurements at the age of thirty days were 14·5, and 14·35 respectively. And so it was in every case examined, amounting to about thirty, the increase during the first month, the children being healthy and having a suitable supply of breast milk, being seldom less than one inch.

The expansion of the chest during the same period was somewhat less rapid, as in the first named of these cases, the trunk, which measured at birth 12·5 inches, at the age of thirty days measured only 13·25; thus, while the brain had increased more than one inch, the chest had grown only three quarters of an inch, the child being quite healthy, and having a sufficient supply of breast milk. In one case in which the brain and chest had each a girth of 13 inches at birth, at the age of thirty days the skull measured 14, and the chest 13½ inches. The growth of the chest advances more rapidly after the sixth month, and in the well developed nearly at a parallel rate with that of the brain, until towards the end of the teething period, but not equalling that of the skull until the fourth year. After the fifth year the chest begins to exceed in its dimensions those of the head, and this predominance goes on rapidly increasing up to the twelfth year, at which period its measurements exceed by more than three inches those of the head, and so it continues in advance, in healthy individuals, to adult life. In one remarkable instance, a female 12½ years old, well developed, the girth of

Predominance of chest.

the chest was six inches more than that of the head.

But taking children of all castes and conditions, including irregularities, it was only after the seventh year that the predominance of the chest over the head was constant, and from this age it yearly increased, not excepting badly developed individuals.

Re-measurements.

The re-appearance of patients after longer or shorter intervals has afforded opportunities of making re-measurements, and thus of ascertaining the amount of increase which has taken place during certain periods of infant life. It may not be uninteresting to adduce a few of these examples.

Good development.

Case $\frac{4}{369}$, a male, good development; at two months, the head measured $15\frac{1}{4}$ in.; chest, $15\frac{1}{2}$; at nine months, head 18, chest, $17\frac{1}{4}$; increase in seven months; head, $2\frac{3}{4}$ in.; chest, $1\frac{3}{4}$ in.

Case $\frac{6}{400}$ male, good development; at three months, head, $15\frac{3}{4}$ in.; chest, 15 in.; at 26 months, head, $18\frac{3}{4}$ in.; chest, $19\frac{1}{4}$ in.: increase in 23 months, head, 3 in., chest, $4\frac{1}{4}$ in.

Case $\frac{6}{348}$, male, good development; at ten months, head, $17\frac{1}{2}$ in.; chest 16 in.; at three years, head, $19\frac{1}{2}$ in.; chest, 19 in.: increase in the space of 26 months, head, 2 in.; chest, 3 in.

Case $\frac{6}{329}$, female, good development; at fourteen months, head, 17 in.; chest, 15 in.; at two and a half years, head, $18\frac{1}{4}$ in.; chest, $18\frac{1}{2}$ in.: increase during sixteen months, head, $1\frac{1}{4}$ in.; chest, $3\frac{1}{2}$ in.

Case $\frac{6}{402}$, male, good development; at four and a half years, head, 19 in.; chest, $18\frac{1}{4}$ in.; at six and a half years, head, 20 in.; chest, $20\frac{1}{4}$ in.; increase in two years, head, 1 in.; chest, 2 in.

Case $\frac{6}{421}$, male, good development; at seven years,

head, 18½ in.; chest, 19¼ in.; at nine years of age, head, 19¾ in.; chest, 21½ in.: increase in two years, head, 1¼ in.; chest, 2¼ in.

Medium development.

Case $\frac{4}{215}$, male, medium development; at five months, head, 18 in.; chest, 17½ in.; at thirteen months, head, 19 in.; chest, 17½ in.: increase during eight months, head, 1 in.; chest, stationary.

Case $\frac{6}{340}$, the same patient as the preceding, brought subsequently under treatment for retarded development; at thirteen months, head, 19 in.; chest, 17½ in.; at thirty-one months, head, 19½ in.; chest, 19 in.; increase during 18 months, head, ½ in.; chest, 1½ in. The process of growth in this child seemed to be stationary for a time, but under the use of cod-liver oil its condition improved rapidly, and at the age of thirty-one months had acquired the attributes of a good development.

Case $\frac{6}{367}$, female, medium development; at three years of age, head, 18 in.; chest, 17¾ in.; at four years and eight months, head, 19 in.; chest 19 in.: increase in twenty months, head, 1 in.; chest, 1¼ in. The growth in this child had been arrested, and she laboured under languid functions. The health was restored by means of chalybeates and a carefully regulated diet.

Bad development.

Case $\frac{4}{32}$, female, bad development; at seventeen months, head, 18 in.; chest, 16¼ in.; late teething and delayed walking, rachitic. By means of cod-liver oil, and suitable diet, she improved rapidly, and at twenty-seven months the measurements were, head, 18½ in.; chest, 17½ in.: increase in ten months, head, ½ in.; chest, 1¼ in.

Case $\frac{4}{108}$, male, bad development; at twenty-five months, head, 19 in.; chest, 17 in.; fontanelle largely

open; had only twelve teeth, and was unable to walk; growth arrested. Under cod-liver oil rapid improvement; at four years three months, head, 19¼ in.; chest, 20½ in.

Case $\frac{4}{106}$, female, bad development; at three years of age, head, 19 in.; chest, 15 in.; 18 teeth—began to walk only at two years, and even now walks imperfectly; chest, shallow and compressed; growth arrested. Under the use of cod-liver oil rapid improvement took place, although interrupted by measles and bronchitis, and at three years and seven months the measurements were, head, 19¼ in.; chest, 17 in.: increase in seven months, head ¼ in.; chest, 2 in. A remarkable instance of developmental effort in the right direction.

Case $\frac{6}{193}$, male, bad development; at five months, head, 16 in.; chest, 14½ in.; at twenty-two months, head, 18 in.; chest, 15 in.: increase during seventeen months, head, 2 in.; chest, ½ in. This child, although suckled till twenty-one months' old, had not been able to walk, the teeth began to protrude only at twelve months, and the fontanelle was still open 1 in. at twenty-two months. The slow growth of the chest in comparison with that of the head shows a bad condition.

Irregularities, deviations from the above general rules, were frequently met with, both of a favourable and unfavourable kind, of which the two following—each of an extreme character in its way—may be cited: Irregularities.

Case $\frac{2}{146}$, male, good development; at the age of three years, head, 17½ in.; chest, 21¾ in.; chest exceeding head, 4¼ in. The teething process was early completed; he walked firmly at ten months. These relative dimensions are rarely exceeded at ten or twelve years of age.

Hypertrophy of the brain.

Case $\frac{1}{9}$, male, bad development; at three years of age, head, 21 in.; chest, 18 in.; fontanelle imperfect; had only sixteen teeth; could not walk, and had fits. The child had hypertrophy of brain, but not hydrocephalus. Under the effects of cod-liver oil and iron he improved rapidly; was able to walk after a few months, the remaining teeth protruded, the fontanelle became firmly ossified, and the convulsions with which he had been affected from infancy, entirely ceased. At the age of four years and four months, the health having been for some months unexceptionable, the girth of the skull measured half an inch less than it did on his admission, being 20½ inches, while the chest had increased 1½ inch, being 19½ inches. The last re-measurement was made on Nov. 5, 1858, at six years of age, when it stood as follows: head, 21¼ inches; chest, 20½ inches. The health is good, the locomotor powers vigorous; his intellectual faculties quick and promising, and he is remarkably intelligent. The diminution in the cranial bulk doubtless indicated consolidation of structure, from a healthier tone imparted by the remedial measures employed.

Expansion of brain tissue.

Disordered development seems to be largely represented by an undue expansion of the brain tissue. A great majority of the patients brought to us, who were actually badly developed, were from one to three years old, and most of these were in a very diseased condition. After this period, in those who survived, the growth so generally improved that less than 15 per cent. of these were afterwards badly developed, and later, a still smaller proportion.

Male and Female in contrast.

As a concluding observation on this subject, it may not be uninteresting, in a physiological view, to notice

the difference between the head and chest in the male and female contrastingly. In the female the capacities of these cavities are below those of the male from birth, throughout the several periods noticed to the 12th year, and probably continue so to adult age. A few exceptions occur now and then, but these appear seldom. The following table represents these dimensions in contrast:—

Table VI.

The differential measurements of the skull and chest at progressive ages, in the male and female respectively, including all conditions of development:—

Age.	Male.		Female.		Difference, male as compared with female.	
	Head.	Chest.	Head.	Chest.	Head.	Chest.
	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
One day.	13·81	12·88	13·72	13·00	+0·02	−0·12
6 to 12 weeks.	15·00	14·03	14·47	13·45	+0·53	+0·58
6 „ 8 months.	16·75	15·25	16·46	14·93	+0·29	+0·32
11 „ 13 „	17·73	16·27	17·00	15·63	+0·73	+0·64
21 „ 24 „	18·40	17·00	18·18	17·18	+0·22	−0·18
34 „ 36 „	18·90	18·80	18·40	18·40	+0·50	+0·40
4 „ 4½ years.	19·40	19·80	18·80	18·80	+0·60	+1·00
6 „ 6½ „	19·00	20·70	19·10	19·80	−0·10	+0·90
9 „ 10 „	19·75	21·40	19·20	21·00	+0·50	+0·40
11 „ 12 „	20·00	23·70	19·60	22·10	+0·40	+1·60

Comparative dimensions in male and female.

At birth the female chest, as a rule, exceeds in circumference that of the male; but this does not indicate

Predominance of female chest at birth.

a greater capacity of lungs, being caused by a greater bulk in front externally, due to the increased substance accumulated about the mammary glands, which are comparatively larger at birth than for some years afterwards.

THE FACULTY OF WALKING.

This subject was briefly noticed in the first report, but at that time the amount of evidence accumulated was not sufficient to warrant a general conclusion. The data at present in possession are somewhat more ample, and as the results furnished by these additional materials so nearly correspond with those of the first group, it may be inferred that the deductions now to be stated will very nearly represent the law on this subject as it generally obtains in this country.

Causes of delayed walking.

The period at which the power of walking becomes fairly established is the most trustworthy index of a favourable or unfavourable developmental condition. In order properly to estimate the value of this faculty, however, it is necessary carefully to examine into the causes of delayed or interrupted innervation, and to distinguish that which depends upon constitutional, from that which arises from accidental, and acute or temporary agencies; because a child may possess all the attributes of a good development, yet the power of walking be delayed or interrupted by causes of temporary character, which are susceptible of speedy removal.

Loss of the walking power.

The loss of the faculty of walking, after it has once been established, and especially if this be associated with impairment of the general tone, and not due to acute disease, is always one of the first palpable signs of an incipient check in the process of development.

The following table presents the results of careful inquiries in 1,174 cases relative to this subject:—

TABLE VII.

In 710 children with a *good* development,

					Walking
At the age of	7	months,	began to walk	1	
,,	8	,,	,,	1	
,,	8½	,,	,,	2	
,,	9	,,	,,	48	
,,	10	,,	,,	77	
,,	11	,,	,,	133	
,,	12	,,	,,	188	
,,	13	,,	,,	75	
,,	14	,,	,,	90	
,,	15	,,	,,	57	
,,	16	,,	,,	21	
,,	17	,,	,,	5	
,,	18	,,	,,	7	
,,	20	,,	,,	5	
None later than at the 20th month.				710	

Of 137 children with a *bad* development,

			Began to walk.	Did not walk.
At the age of	9	months	0	0
,,	10	,,	2	0
,,	11	,,	4	0
,,	12	,,	18	6
,,	13	,,	4	6
,,	14	,,	17	6
,,	15	,,	25	13
,,	16	,,	30	16
,,	17	,,	27	11
Between	18 months and 3 years		200	61
After the 3rd year			16	2
Of the last named 16, however, 15 were ricketty.			343	121
			464	

Walking power in the healthy and unhealthy.

The above statement shows a remarkable difference as to the period at which the faculty of walking was acquired in the well and the badly developed. Of the 710 children of good development, 672, 94½ per cent., were able to walk freely before the fifteenth month was over, and only 5½ per cent. were unable to walk at that age.

Of 464 children of bad development, only 70, *i. e.* 15 per cent., could walk at the age of fifteen months, and 85 per cent. (in contrast with 5½) acquired this faculty after fifteen months.

Of the 710 children of good development, only 12 (less than 2 per cent.) began to walk at eighteen months or later; while of 464 badly developed, 216, 46 per cent., began to walk at eighteen months and later.

Of the 710 of good development, 52 walked before the end of the ninth month, 77 at ten months, 133 at eleven months, and 188 at twelve months, making altogether 450 (63 per cent.) by the end of the twelfth month; while of the badly developed, none walked at nine months, 2 at ten, 4 at eleven, and 18 at twelve months, making 24 (5 per cent., in contrast with 63 per cent.) by the end of twelve months.

The ability to walk at the age of twelve or thirteen months is therefore a certain indication of good development, and of favourable prospects for the future.

SIGNS OF GOOD DEVELOPMENT.

Age of one month.

At the age of *one month*, in children favourably developed, the margins of the sagittal suture at each extremity are already in apposition, and its length shortened one inch or more; the abdomen, although

exceeding the chest in girth, should not be tumid; the child should be fully satisfied with a breast meal every 2 or $2\frac{1}{2}$ hours; the food should not be returned in any quantity, and the aggregate hours of sleep should be at least twenty out of the twenty-four.

Age of two months.

At *two months* old, the sagittal suture should be reduced from $5\frac{1}{2}$ to $3\frac{1}{2}$ or 3 inches; the girth of the head should be 2, and that of the chest $1\frac{3}{4}$ inches, more than they were at birth; the breast milk alone should satisfy the appetence entirely; the body and limbs should be plump and rounded, and the sleeping hours eighteen to twenty out of twenty-four.

Age of five to six months.

At from *five to six months*, the sagittal suture should be reduced to 2 or $2\frac{1}{2}$ inches, and the coronal to $1\frac{1}{2}$ or 2 inches, so that the fontanelle at this period has a diamond shape, with its sides encroaching upon the space with slightly curved outlines; the abdomen should be less prominent; the girth of the head and chest each $2\frac{1}{2}$ to 3 inches more than at birth; the breast food should fully satisfy his wants at intervals of $2\frac{1}{2}$ to 3 hours, and he ought to sleep seventeen to nineteen hours.

Age of eight months.

At *eight months* there should be two teeth; the fontanelle should not exceed 1 to $1\frac{1}{2}$ inches in each direction; the flesh should be firm, the movements of the limbs vigorous, with an inclination to feel the ground with the feet; the sleep should be about sixteen hours, and the circumference of the skull not exceed that of the chest by more than $1\frac{1}{2}$ inch.

Age of fourteen months.

At *fourteen months* there should be eight or more teeth; the fontanelle closed with bone; the skull not exceeding the chest in its girth more than 1 inch; the prominence of the abdomen perceptibly reduced; the

child should be able to walk, and should sleep placidly fifteen or sixteen hours in the aggregate.

Age of two years.

At *two years* of age all the twenty teeth should have protruded; the skull not exceeding the chest more than $\frac{3}{4}$ inch; the abdomen not protruding beyond the level of the chest; and the abdominal functions regular, not requiring the use of medicine.

Age of three years.

At *three years* the chest in girth should nearly equal that of the skull; the teeth should be sound, the breath sweet, the limbs straight, the wrists and ankles not bulky, the appetite not voracious, without craving for food or drinks in the intervals.

Age of four years.

At *four years* the circumference of the chest should exceed that of the head by half an inch; the stature should become more rapidly increased; the limbs, although apparently thinner, should have the muscles firm, and the extremities of the long bones not notably bulky. The abdomen should not be tumid, as is frequently the case at this and earlier ages, from disordered functions and the presence of worms.

Age of eight to twelve years.

At *eight years* the girth of the chest should exceed that of the skull by 2 to 3, and at *twelve years* by 3 to 4 inches.

Size of the face.

The face should be larger, in appearance at least, than the forehead, especially during the first three years; the shape of the skull not angular or flat, but rounded at the sides, with a proportionably elevated summit, and the chest regularly rounded, without lateral compression.

Deviations.

Deviations from this general rule do not unfrequently occur in children of good development, but without a bad significance. The most frequent of these irregularities is retardation of the teething process, sometimes

to a considerable extent; but in such cases, if the fontanelle be early closed, and the faculty of walking duly advanced, there is no need to fear about the after progress.

VACCINATION.

Enquiries—difficulties.

In a considerable number of instances the particulars respecting vaccination could not be satisfactorily elicited, partly because the subject was less constantly noticed during the first year of the institution, and partly owing to the circumstance that some of the children, when brought for admission, were unattended by their own mothers, so that satisfactory particulars could not be obtained, and in some instances the mothers themselves had forgotton all about it, with the exception of the fact that the operation had or had not been performed.

Of 1,717 cases particularly investigated, there were,

Vaccinated	1435		
Not Vaccinated	282		
Ages of the non-vaccinated, under 3 months	87	282	$16\frac{1}{2}$ per cent.
" " 3 to 6 months	58		
" " 6 to 12 "	40		
" " 1 to 2 years	55		
" " 2 years and upwards	42		

Inculpation of Vaccination

In a considerable number of instances the mothers inculpated vaccination as the cause of the diseases under which the children laboured; but in a certain proportion of these, after patient investigation, no satisfactory grounds could be obtained to substantiate the imputation.

Disease conveyed by vaccination.

In 34 of the inculpated cases, however, the evidence appeared sufficiently convincing to warrant the belief that a taint had been communicated; and in 14 of these the disease thus implanted was of true syphilitic character, as the nature of the symptoms and the mode of its derivation convincingly demonstrated. In the remaining 20 cases, whose whole history was less clear, the symptoms in the child were so precisely like those of constitutional syphilis, and so unlike, in several of their features, any other form of disease, that the treatment employed was that commonly used in syphilitic disease, and in most of the cases was attended with satisfactory results. The 14 cases mentioned as decidedly syphilitic, will be found particularised in Table XI.

That the diseases alluded to were due to vaccination is rendered further probable by the fact that the parents and the rest of their children—where other offspring existed—were found, after careful inquiry, to be free from such affections.

Prophylactis of vaccination.

The intrinsic and prophylactic virtue of vaccination is by no means rendered doubtful by these unfortunate cases; for it indubitably lessens the susceptibility to attacks of small pox, without impairment of the constitutional tone, and probably without increasing its liability to other diseases. The facts thus far accumulated—limited it must be confessed—go to confirm this belief.

Vaccinated.

Of the 1,435 children who had been successfully vaccinated, only seven (less than ½ per cent.), had small pox afterwards, and many of these had already attained the age of 6 to 13 years. One of these seven was, shortly after the attack, very superficially marked, but so slightly that the spots will probably disappear; the other six were not marked at all.

The non-vaccinated.

Of the 282 who had not been vaccinated—having an average age of twelve months, but 97 being above the age of twelve months—seven of them, equal to 3 per cent., had already had small pox. All the seven were more or less marked, and three of them were deeply pitted.

Susceptibility to small-pox.

Further, it is known that the susceptibility to small pox in those who have not been vaccinated, having escaped the disease in infancy, increases as life advances, to the age of 20 or 30 years, and the deformity and delicacy of constitution thereby entailed are generally greater after infancy and childhood; while those who have been successfully vaccinated in infancy enjoy, for a number of years at least, total immunity. And although this immunity may become weakened by lapse of time, so as to allow an invasion of small pox, the attack is always less severe, and the sequelæ milder, and the system may be again rendered invulnerable by re-vaccination.

Infection by vaccination.

The occasional presence of eruptions on the skin, and other forms of disease as an entailment, apparent or actual, of vaccination in a family not previously subject to such affections, undoubtedly operates in the minds of many very much to the depreciation of the procedure as a preventive and healthful measure; and certainly, in not a few instances, there would seem to be just and sufficient reason for such prejudice. But the cause of this is not to be found in the vaccine virus in its pure state: it is due to a morbid material superadded, in its nature peculiar and extraneous.

Infection conveyed by vaccination.

The noxious matter commonly conveyed by vaccination is the syphilitic poison. A child of naturally vigorous constitution, whose blood is tainted with the

poison of syphilis, may retain the outward appearance of health up to three, six, or twelve months, or even to two or three years, or longer, before a characteristic outbreak shows itself. The parents of such a child may also have the semblance, to superficial observation, of faultless health, although still possessing the seeds of this malady in a degree sufficient for its transmission to their offspring. It is from such sources that mischief is often derived and disseminated by vaccination and other modes of implantation, and it is thus that the efficacy of this great sanitary measure has been in many instances rendered questionable.

Objections to vaccination.

The parents of one family, several of whose children have been under treatment at the Clinical Hospital, had obstinately refused to have their children vaccinated, in consequence of their first child having, in their belief, received by vaccination a complaint—eruptions, otorrhœa, and atrophy—which ended fatally. The next four children of these parents were consequently not vaccinated. All have had small pox, with disfigurement in each case. Several other parents have refused to have their children vaccinated for similar reasons.

Public vaccination.

Public vaccinators cannot be too cautious in the selection of the virus they use for vaccination. Case 34, in Table XI., a child six months old, was under treatment for inherited syphilis, and its mother, on requesting to be informed whether the child was yet in a fit state to be vaccinated, was strongly urged not to have the operation done until the cure was declared to be complete. Notwithstanding this injunction, the vaccinator's agent (who was not a medical man), called, charged with legal authority, and vaccinated the child,

contrary to the mother's expressed wishes, and to the instructions given, which she declares were repeated to him. The vesicles rose well, and appeared in a healthy condition on the seventh day, and the virus might then have been used for other children, without exciting the least suspicion of its noxious qualities, and possibly would have been so employed had this not been strictly prohibited. This child, although at the period alluded to in an improving condition, was far from being cured, and the lymph in the vesicles, notwithstanding their healthy aspect, was probably so far charged with morbid principle as to be capable of infusing into the blood of any on whom it might have been implanted for the purpose of vaccination, the syphilitic poison and all its consequences. The post of public vaccinator is, in my estimation, so important in a sanitary point of view, that it should not be entrusted to any one who is not eminently qualified by education and enlarged experience, and the subjects from whom the virus is taken should be selected by himself, their history and parentage having been in every instance carefully investigated.

Vaccinated and unvaccinated.

Contrasting the seven children who had had small pox after vaccination, with the seven who had the disease naturally, the result, as regards constitutional vigour and susceptibility to disease, is decidedly in favour of the vaccinated. One of the non-vaccinated was brought under treatment after small pox, for abscesses, having the purulent diathesis as an immediate sequel, a most dangerous condition, and one which probably never happens after the milder forms of the disease which occasionally appear in those on whom the preventive measure has been practised.

ALIMENTATION IN INFANCY.

It is scarcely possible to overrate the sanitary importance of this subject, as affecting the health and growth of the body during infant life. My late esteemed colleague had paid particular attention to it during the whole of his professional career, both in public and private practice, and had actually commenced, only a few weeks before his death, the publication of a special treatise on the subject. This publication I undertook to edit for the benefit of his family, but the task was early interrupted by two very important circumstances. In the first place the publisher, Mr. Churchill, informed me, after looking over the manuscript, that the work would not be productive of pecuniary profit, but would probably entail a loss; and in the second place I was assured that the correctness of the results obtained by chemical analysis of the specimens of milks and other secretions, which had been submitted to examination, and upon which the value of the treatise mainly depended, could not be relied upon for scientific purposes. The undertaking has consequently been of necessity abandoned for the present.

Intended publication.

Analysis defective.

A considerable amount of data on this topic has now been accumulated, but, unassociated with reliable chemical analysis, their scientific value would be materially lessened. I deem it preferable, therefore, to defer the production of these to some future occasion, when they may be presented in a more complete form.

A few general instructions on alimentation, derived from past experience, were recorded in the two preceding reports, to which the reader is referred.

SURVEY OF DISEASES.

Number of diseases.

The number of diseases which occurred in the 2,584 patients was 4,407. The manner in which the number of diseases surpassed the number or patients occurred in this wise: patients affected with rickets, retarded development, scrofulosis, requiring months or years for their treatment, had occasional supervenient attacks of climatic or inflammatory disease, as bronchitis, diarrhœa, or cutaneous eruptions; hooping cough aud measles sometimes entailed bronchitis; scarlatina, glandular affections, otorrhœa, or fever; and some patients cured of some simple disorder, had, after a lapse of time, either a relapse of the same complaint or an accession of some other totally different.

Table VIII.

The diseases, and their actual number, which have been treated since the opening of the hospital :—

Developmental Disorders—feeble and retarded developmental process, including complications with anæmia, and an apparent tendency to rickets 279

Rachitism—decided forms 107

Constitutional Debility—including slight complications with anæmia, but no disorders of development 73

Fevers—

Severe catarrhal, and gastric	143	156
Typhoid	5	
With jaundice	8	
Eruptive—scarlatina miliaris	33	103
„ rubeola	44	
„ variola	7	
„ varicella	9	
„ urticaria	10	

Anasarca—

Primary, acute		18

Affections of the Brain—

Hydrocephalus, chronic	11	34
Hypertrophy of the brain	12	
Diagnosis uncertain	1	
Compression of the brain from precocious and over-intense ossification	4	
Rheumatism of the head	3	
Cerebritis, acute	2	
Hemiplegia	1	

Spine—

Spondylarthrocacia dorsalis et dorso-lumbalis	16	26
Spina bifida	2	
Spinal meningitis	5	
Loss of spinal innervation	3	

Diseases of the Eye—

Epiphora	1	
Conjunctivitis	45	
Pterygium	2	
Inflammation of the lachrymal ducts	1	
Blepharitis	44	
Inflammations, ulcers, and cicatrices of the cornea	24	
Iritis	1	166
Scrofulous ophthalmia	18	
Blindness from syphilitic ophthalmia	2	
Rheumatic ophthalmia	6	
Ophthalmia neonatorum	19	
Strabismus	2	
Tumor of the eyelid	1	

Nose—

Coryza congenitalis	1	
Ditto simple	7	13
Ozœna	5	

Diseases of the Ear—

Otalgia	6	
Otitis	2	45
Chronic otorrhœa	37	

Diseases of the Mouth—

Scrofulous swelling of the lips	1	
Stomatitis erythematosa	14	
„ pseudo-membranosa (muguet)	4	
„ aphthosa	46	95
„ ulcero-pseudo-membranosa	27	
Gingivitis	1	
Cancrum oris	2	

Angina—

Pharyngitis, amygdalitis	15	
Diphtheria	6	22
Aphonia	1	

Diseases of the Respiratory Organs—

Laryngitis, simplex (pseudo-croup)		9	
Tracheitis,—croup		5	
Spasmus glottidis		5	
Bronchitis, acute, and chronic		712	
„ capillary	25		
Broncho-pneumonia	64	114	
Pneumonia (lobar)	25		
Acute oedema of lungs		9	
Pleurodynia		3	
Pleurisy, exudation		30	1,156
Pleuro-pneumonia		14	
Tubercles, complicated with broncho-pneumonia		16	
Tubercles, suspected, more or less evident		26	
Pertussis, complicated with bronchitis, broncho-pneumonia, tuberculosis, rachitis, or other serious form of disease		165	
Ditto, simple		46	
Emphysema		2	

Diseases of the Heart and Circulation—

Cyanosis from organic defect	4	
Displacement (by exudation)	1	
Palpitation, nervous	6	16
„ rheumatic	4	
„ anæmic	1	

Diseases of the Abdominal Organs—

Gastro-intestinal—disordered digestion (loss of appetite, sickness, costiveness, diarrhœa)	272	
diarrhœa (mucous, serous, bilious)	551	
dysentery	126	
sporadic cholera and cholerine	19	
enteritis	4	
rheumatism of the stomach	1	
habitual constipation, severe	15	
Ascites	1	
Hepatitis	7	
Chronic enlargement of the liver	13	1,116
Cystitis, catarrhal, with dysuria	11	
Eneuresis	9	
Dysuria—spasmodica	4	
dyspeptica	4	
from gravel or stone	3	
Calculus	1	
Vaginal blennorrhagia and vulvitis	10	
Hydrocele	3	
Mesenteric disease	7	
Prolapsus ani	54	
Gerçure of sphyncter ani	1	

Worms—

Seatworm	37	
Ascaris-lumbricoides	9	58
Tænia solium	12	

Dyscrasic Affections—

Syphilis hereditaria	46	
„ acquisita (14 by vaccination; 2 not known; 1 by foster-nurse)	17	63

Atrophy, without reliable signs of glandular disease 166	178		
Anæmia, high degrees 12			
Chloro-anæmia		24	
Pus poisoning after small-pox		1	248
Cyanosis symptomatica		1	
Scrofulosis — abscesses, indurated glands, ulcers, and caries		35	
Coxitis		9	
Nervous Disorders—			
Habitual headache		15	
Epilepsy		5	
Chorea		5	
Convulsion		45	
Spasms, severe abdominal		10	98
„ tonic		4	
Paralysis, essential		11	
„ symptomatic		3	
Rheumatism—			
Of the eye, head, stomach, adduced severally above			—
Cutaneous Diseases—			
Skin—Erythema		21	
Intertrigo		33	
Erysipelas		4	
Lichen		12	
Prurigo		16	106
Psoriasis simplex		4	
Scabies		11	
Pediculi corporis et supra orbitalis...		2	
Pemphygus		3	

Cutaneous Diseases—continued—

Rupia	1	
Zoster, herpetico-bullosus	6	
Icthyosis	2	
Eczema, impetigo	96	110
Tubercle and phyma simplex	2	
Acne	1	
Furuncle	2	

SCALP—Eczema and Impetigo	71	
Porrigo granulosa	8	
„ favosa	8	107
Pityriasis decalvans	12	
Herpes tonsurans	8	

External and Surgical Diseases—

Adenitis, acute, inflammatory	23	
„ chronic	30	
Phlegmons, and acute abscesses	31	
Sero-cystic tumor of the thyroid gland	1	
Periosteal tumors	2	
Arthritis, chronic	10	
Caries of bones	4	
Hair lip	4	
Nævus	3	
Clump foot	4	153
Introversion of Knees	15	
Ulcers	7	
Malformation of fingers and toes	1	
Bruises, scalds, fractures	12	
Umbilical fungus	2	
Deafness	2	
Hypospadias	1	
Angular ribs, severe	1	

Hernia—

Umbilical	12	
Inguinal	23	39
Scrotal	4	

In 2,584 patients, total of diseases.....4,407

Causes of death—their classification.

The deaths, particularised in the following table, amount to 217, a little more than 8 per cent. It seemed desirable to adopt a different arrangement in the specification of these, as being likely to afford a clearer insight into the operation of external morbific agencies. By this arrangement some of the items are removed from the categories in which they were included in the catalogue of diseases: hooping cough for instance, classified with chest affections in consequence of its frequent complication with disease of the lungs, has been ranged in the table of deaths, with affections of zymotic origin; and diseases of the brain, whether inflammatory or dyscrasic, are classed with those of the brain and nervous system.

TABLE IX.

NUMBER OF DEATHS, AND THEIR CAUSES.

Zymotic Diseases.

DISEASE.	COMPLICATIONS.	AGGREGATE OF CASES.	AGE AT DEATH.			TOTAL OF DEATHS.	
			1st year.	2nd year.	3rd year & upwds		
Scarlatina		of 23 cases died	1	1	6	8	44
Measles	Broncho-pneumonia	of 44 ,,	...	1	...	1	
Hooping cough	Bronchitis, broncho-pneumonia, diarrhœa; convulsions, atrophy, &c.	of 211 ,,	10	16	6	32	
Typhus	Atrophy; gastric disorder	of 5 ,,	...	...	3	3	
Diphtheria		of 6 ,,	...	...	...	0	

Climatic, Febrile, and Inflammatory Diseases.

Disease.	Complications.	Aggregate of Cases.	Age at Death. 1st year.	2nd year.	3rd year & upwds	Total of Deaths.	
Bronchitis	3 simple; the rest with atrophy, developmental and gastric affections, &c.	of 712 cases died	3	6	...	9	
Broncho-pneumonia, capillary bronchitis, & lobar pneumonia	Some with retarded development and gastric disorder	of 116 ,,	5	3	2	10	
Pleurisy (3 double)	With exudation	of 30 ,,	2	1	1	4	
Tuberculosis	Some with retarded development	of 16 ,,	...	2	6	8	
Emphysema	Broncho-pneumonia	of 2 ,,	...	1	1	2	89
Stomatitis	Diarrhœa; vomiting; retarded development, convulsions, & atrophy	of 92 ,,	...	3	...	3	
Diarrhœa & cholerine, epidemical & occasional	Chronic bronchitis; ulcerations, suspected tubercle, &c.	of 823 ,,	28	11	4	43	
Dysentery	Simple and with convulsions	of 126 ,,	1	4	...	5	
Laryngeal croup		of 9 ,,	...	...	2	2	
Gastric fever	Digestive disorders	of 143 ,,	...	...	1	1	
Inflammation of liver	Jaundice	of 7 ,,	...	...	1	1	
Erysipelas	Jaundice	of 4 ,,	1	...	...	1	

Diseases of the Nervous System.

Encephalitis; Hydrocephalus; hypertrophy of brain	Atrophy, convulsions, gastric affections	of 34 cases died	1	5	...	6	
Spinal meningitis	Loss of power; cramps	of 5 ,,	1	...	...	1	14
Epilepsy, convulsion; eclampsia	Atrophy; diarrhœa, &c.	of 45 ,,	1	3	1	5	
Tonic spasm of the neck	Convulsion	one case.	...	...	1	1	
Spina bifida	Atrophy	of 2 cases died	1	...	...	1	

Dyscrasic and Congenital Disease.

Atrophy (decline, marasmus, cachexy, wasting)	Developmental disorders; bronchitis; pleurisy; abscess; diarrhœa, &c.	of 173 cases died	29	15	6	50	
Syphilis	Atrophy, diarrhœa, &c.	of 63 ,,	11	2	...	13	70
Rickets	Hooping cough, convulsions	of 107 ,,	1	1	...	2	
Phlegmon	Atrophy	of 31 ,,	1	...	...	1	
Cyanosis	Probably all from organic defect	of 4 ,,	...	1	...	1	
Cancrum oris		of 2 ,,	...	...	1	1	
Hare-lip	Atrophy	of 4 ,,	1	1	...	2	
						217	

Under 6 months of age	of 301 patients,	died 47	13·00 per cent.
Between 6 and 12 months	of 341 ,,	,, 42	
,, 1 ,, 2 years	of 593 ,,	,, 82	13·65 ,,
,, 2 ,, 3 ,,	of 373 ,,	,, 18	5·10 ,,
,, 3 ,, 14 ,,	of 976 ,,	,, 28	2·86 ,,
	2,584	217	

REMARKS ON THE PRECEDING TABLES.

The most important item in the preceding tables is undoubtedly that which represents disorders of the abdominal organs; for, although the number (1,116) of these stands below that representing chest affections, the first three groups in Table VIII.—*developmental disorders*, *rachitism*, and *constitutional debility*, and probably also some *cutaneous affections*, may be considered as belonging to the same category, as they frequently owe their origin to the same causes, namely: faulty nursing, erroneous diet, uncleanliness, impure air, and unhealthy locality. Thus considered, the number of gastro-intestinal or digestive and assimilative disorders will exceed that representing those of the chest, large as it is, by more than seven hundred. I exclude dyscrasic affections, some of which may be considered to have a similar origin; but should the last-named be taken into account in this sense, they would swell considerably the number of the class of diseases—by far the most destructive of life in infancy—which owe their origin to causes susceptible of great mitigation, if not of entire removal by hygienic measures.

The item next in importance is that which represents chest affections, amounting to 1,157 cases. This sum comprises all the cases of simple and capillary bronchitis, broncho-pneumonia, pleuro-pneumonia, pleurisy, tubercles, emphysema, and hooping cough. It will be seen that many of these were associated with gastric or developmental disorder, which became a serious complication in the fatal cases.

Bronchitis.

Of 712 cases of bronchitis, there were nine deaths, of which only three were uncomplicated; the remaining

six being associated with atrophy, retarded development, and gastric derangement, which seemed to be the principal predisposing causes of fatality. Bronchitis, therefore, cannot be considered as a decidedly fatal malady, especially in its simple form, as the deaths from this cause alone amounted to little more than 1 per cent.

Pneumonia.

Of the 116 cases of capillary bronchitis, broncho-pneumonia, and lobar pneumonia, the deaths were 10, nearly 9 per cent; some of these, also, were complicated with gastric and developmental disorders previously existing.

Tuberculosis.

Tuberculosis, commonly considered the great bane of this country, is in reality not a very common disease in infancy, whether as compared with other forms of disease in this climate, or with its prevalence in continental countries. It is commonly associated with scrofula, which is frequently regarded as its cause, and by some pathologists of eminence the two are believed to be identical. Now, the occurrence of *scrofula* in this country, and, especially in this district, is a comparative rarity. The number of decided cases of this kind which have actually been brought under treatment, is 35; less than $1\frac{1}{2}$ per cent. Were tuberculosis or scrofula as frequent in this changeable climate as is commonly supposed, their destruction to life would prove most disastrous, on account of the very frequent occurrence of bronchitis, an accession of which, in a tuberculous subject, often proves speedily fatal.

Scrofula.

Zymotic Diseases.

Of diseases arising from zymotic agency, there has been a considerable increase during the past season. Scarlatina and hooping cough have prevailed more extensively during this than the two previous years,

and the fatality has been considerable. During September and October, diarrhœa, which had been very frequent in July and August, suddenly ceased, and a form of fever, with swelling of the parotid glands set in, and prevailed extensively; but of decided cases of malignant throat fever (diphtheria) there were only six cases up to the end of October. In the treatment of this affection the early and free application to the fauces of a strong solution of nitrate of silver (one drachm of the salt to two drachms of water), and the administration of chloride of potass, or of soda, was most beneficial. Thus far, no death from this disease has occurred.

Diphtheria.

Blood diseases (dyscrasis), probably prevail in about an equal ratio at all seasons, and in the same relative proportion at all ages. They are much more frequently met with among the poor than the rich, principally because the latter possess the means of obtaining timely assistance, and of availing themselves of all the benefits which science, change of climate, and other auxiliaries, are capable of bestowing. It includes inherited and implanted taints, and all other morbid conditions caused by faulty hygiène, impure air, &c., capable of deteriorating the quality of the blood, and of impairing its nutritive properties. Scrofula, already noticed, is a disease of this class; syphilis, and other maladies, inducing a bad habit of body (cachexia, decline, wasting), sufficient to destroy life, without primary organic lesion. Rickets, and many forms of cutaneous disease owe their existence to a faulty state of the blood, induced by such causes.

Dyscrasic Affections.

Constitutional syphilis forms a considerable item both in actual number of occurrences and the proportion of deaths; and as the history of some suspicious forms

Syphilis.

of disease of this class was not so strictly scrutinised during the first year or two of these inquiries as it has been of late, the real number of these is probably greater than is represented in the table.

Dyscrasic Affections—Atrophy.

Atrophy (decline, wasting), is a disease of truly dyscrasic nature. Almost invariably it may be traced to bad nursing, erroneous diet, impure air, or want of cleanliness. I believe it to be entirely preventible by proper hygienic measures, as it scarcely ever occurs in the children of attentive and thrifty mothers. This is a most serious malady, and not of uncommon occurrence, as 178 cases of decided form were treated, of which number 50 (29 per cent.) died. Those who survived appeared to owe the preservation of their lives to an improved diet and cleanliness, assisted by cod-liver oil and chalybeates.

Rickets.

The disease of rickets occurred in decided form in 107 cases (about 4 per cent.); the deaths recorded from this cause were only two, one being associated with hooping cough, the other with convulsions. This, therefore, is by no means a fatal malady; but it now and then entails deformities which are considered by the victims worse than death: crooked limbs, stunted stature, and in some instances physical incapability.

The English disease.

Rickets is popularly regarded in most countries as peculiarly English—of English origin at least—from the mere accident that, some two hundred years ago, an eminent English physician, (Francis Glisson), had the sagacity first to discover, and, in an ably written treatise, to describe its nature, causes, and treatment. In medical works, as in common parlance, it is spoken of as the English disease (Maladie anglaise; die englische Krankeit), and on conversing with foreigners who have not

Glisson's work.

visited this country the impression respecting its prevalence and the distortions entailed by it, seems to be, that an Englishman with a straight or shapely pair of limbs is an exception. Now, regarding its actual prevalence in this country, it is highly probable that the proportion of cases as above stated (4 per cent.), may represent its maximum average as met with in large and throngly-populated towns like Manchester; but in small towns and agricultural districts it is a very rare occurrence, and in many places altogether unknown. This statement is borne out by the testimony of numerous medical men residing in various parts of the kingdom, many of them long in practice and of enlarged experience, of whom direct inquiries were made by my late colleague and myself. In Scotland and Ireland the disease is scarcely if at all known in practice, and from personal observation I do not remember to have seen one case in either of these countries. In several continental districts on the contrary, especially in Switzerland, Bavaria, the South of France, the Pyrenees, both the Spanish and French sides, and elsewhere, among groups of children seen in the streets, cases of ricketty deformity are by no means uncommonly detected. In the catalogue of diseases for Switzerland this complaint will form, I suspect, a considerable item.

Actual prevalence of Rickets.

Of the 107 cases recorded in table VIII. a considerable majority of them were in the incipient or *first* degree, having as yet only the primary symptoms, namely: enlarged wrists and ankles, physical weakness, and changed secretions, but no deformity. A smaller number had the complaint in the *second* degree, that is to say, in addition to the preceding symptoms there was, more or less, curvature of the long bones, impairment

Analysis.

or partial loss of the locomotor power, with manifest retardation of the process of ossification; but no positive deformity beyond that named, and even this was susceptible of reparation by treatment. Those who had the disease in a more aggravated form—in the *third* degree, with deformed limbs, flattened skull, distorted spine, loss of locomotor power, and highly depraved secretions, amounted to very few, and were such as had been greatly neglected in almost every instance. The group of cases denominated spondylarthrocacia (spinal disease), although apparently allied, are not cases of rickets, but constitute a distinct class, owing their existence to causes of a different nature.

Average

It will result, consequently, from this statement, that although the cases of rickets of all degrees, amount to *four* per cent., those attended with actual deformity do not average more than about *one-half* or a *quarter* per cent.

Treatment of Rickets.

It is remarkable how amenable this disease is to treatment. In those not advanced beyond the second degree, the use of cod-liver oil (when well digested), combined with chalybeates and lime water, one or the other alternately, and salt-water sponging, with friction, the morbid process was speedily arrested, the secretions became normal, and the tone of health and the locomotor power were, in the space of a few months, in great measure restored. Scarcely in any of these cases did visible deformity remain; and even many of those of the worst class underwent very favourable changes. The cases of actual deformity amount, as above stated, to a very small per centage.

On several of the groups of disease specified in Table VIII., materials and facts have been accumulated in

quantity sufficient to justify conclusions as to their pathology and mode of treatment; but it would be impossible to particularise on more than a very few of these on the present occasion. I propose, therefore, in this short sketch, to adduce such data as are available, in illustration of hooping cough and syphilis; and, should time and space allow, perhaps of one or two more. Some of the others may possibly find a place in a future report.

HOOPING COUGH.

Hooping cough, erroneously grouped in Table VIII. with pulmonary affections (but placed there on account of its frequent complications), being, according to some modern pathologists of note (Rilliet and Barthez, for instance), a pure neurosis, prevails throughout the year in greater or less frequency, and in varying intensity, being influenced by the character of the season, and the nature of prevailing epidemics. Of the 2,584 patients, 211 (a little more than 8 per cent.) had hooping cough. An abridged transcript of these is given in the following table :—

No. of Case.	Age.	Development & Habit of Body.	Diseases Complicating.	Season.	Duration when admitted.	Remedies employed in the treatment.	How long under treatment	Result.	Apparent cause of death, and sequelæ.
1	3½ years.	Healthy	Capillary bronchitis	June.	21 days.	After subduing the bronchitis with antimony and muriate of ammonia; laudanum & cod-liver oil.	38 days.	Cured.	Hooping cough, after complication ceased, cured in 20 days.
2	3 years.	Medium	Pneumonia	June.	5 months	After muriate of ammonia for the pneumonia, laudanum and cod oil.	37 days.	Cured.	No sequelæ reported.
3	4 years.	Good.	Bronchitis	June.	7 days.	Muriate of ammonia and laudanum.	.....	Not known	Treatment interrupted.
4	21 months.	Good.	Bronchitis	July.	4 days.	Laudanum in water	.....	Not known	Treatment interrupted.
5	8 months.	Delicate	Broncho-pneumonia	July.	9 weeks.	Muriate of ammonia with laudanum.	9 days.	Died.	Broncho-pneumonia.
6	7 months.	Delicate	Severe chronic bronchitis; diarrhœa.	July.	30 days.	Muriate of ammonia with laudanum.	33 days.	Cured.	At 15 months had checked development, diarrhœa, bronchitis, and double hernia; walked at 20 months. At 2 years and 9 months had diarrhœa and prolapsus ani.
7	5 years.	Medium	Bronchitis; diarrhœa... ...	August.	40 days.	Laudanum with camomile infusion.	One visit.	Not known	Treatment interrupted.
8	2½ years.	Healthy	None	January.	3 days.	Laudanum, one drop, in water, frequently.	32 days.	Cured.	No sequelæ at 4¾ years.
9	7 months.	Delicate	Gastric disorder	January.	4 days.	Ditto ditto	28 days.	Cured.	Relapsed after 4 weeks.
10	3 years.	Healthy	Bronchitis	August.	21 days.	Ditto, with creosote; emetics	15 days.	Not known	Treatment interrupted.
11	14 months.	Medium	Bronchitis; diarrhœa... ...	August.	42 days.	Ditto, with cod-liver oil ...	35 days.	Cured.	No sequelæ reported.
12	7 years.	Medium	Bronchitis	August.	.....	Muriate of ammonia, with laudanum and creosote.	14 days.	Improved.	Treatment interrupted.
13	12 months.	Medium	Diarrhœa; developmental debility.	September	30 days.	Laudanum; emetics; cod oil	87 days.	Cured.	Careless and irregular.
14	6 months.	Bad.	Bronchitis	September	10 days.	Laudanum; emetics	10 days.	Improved.	Treatment interrupted.
15	9 years.	Bad.	Constitutional debility ...	September	4 months	Cod-liver oil	14 days.	Cured.	No sequelæ reported.
16	3½ years.	Medium	Bronchitis; prolapsus ani...	December.	5 days.	Cod-liver oil; laudanum ...	31 days.	Cured.	No sequelæ reported.
17	3 years.	Medium	Pleuro-pneumonia; prolapsus ani.	September	3 days.	Emetics; Dover's powder ...	9 days.	Died.	No inspection.
18	12 months.	Bad.	Constitutional debility; diarrhœa.	September	42 days.	Cod oil and laudanum	12 days.	Much improved.	Case of relapse, after having been absent 3 months. Result not known.
19	7½ months.	Medium	Bronchitis; atrophy: badly fed.	September	21 days.	Cod oil	7 days.	Not known	Treatment interrupted.
20	2 years 8 months.	Medium	Bronchitis	September	21 days.	Muriate of ammonia, with laudanum.	19 days.	Cured.	No sequelæ.
21	5 months.	Good.	Bronchitis	October.	5 days.	Muriate of ammonia, with laudanum; emetics.	42 days.	Cured.	No sequelæ.
22	4 years.	Good.	Bronchitis	October.	4 months	Muriate of ammonia, with laudanum; cod oil.	3 days.	Improved.	Treatment interrupted.
23	9 months.	Bad.	Bronchitis, convulsions ...	October.	2 months	Musc, with Dover's powder; cod oil.	24 days.	Died.	No inspection.

TABLE VIII.—*continued.*

No. of Case.	Age.	Development & Habit of Body.	Diseases Complicating.	Season.	Duration when admitted.	Remedies employed in the treatment.	How long under treatment	Result.	Apparent cause of death, and sequelæ.
24	6 months.	Good.	Syphilitic eruptions; stomatitis.	November	14 days.	Lime water, with laudanum; cod oil.	20 days.	Died.	No inspection.
25	7 months.	Good.	Bronchitis; constitutional syphilis.	October.	7 days.	Laudanum in water	7 days.	Not known	Treatment interrupted.
26	22 months.	Good.	None of importance; prolapsus ani.	November	14 days.	Laudanum; Dover's powder	23 days.	Cured.	No sequelæ.
27	12 months.	Medium	Dysentery	November	6 days.	Cod oil	6 days.	Not known	Treatment interrupted.
28	11 months.	Medium	Bronchitis	November	42 days.	Laudanum; emetics	23 days.	Cured.	No sequelæ.
29	3 years.	Bad.	Bronchitis	November	7 days.	Laudanum	7 days.	Not known	Treatment interrupted.
30	10 months.	Good.	Broncho-pneumonia	November	14 days.	Emetics...	7 days.	Not known	Treatment interrupted.
31	19 months.	Delicate	Chronic diarrhœa; atrophy; convulsions; eruptions.	December.	7 days.	Cod oil	17 days.	Died.	No inspection.
32	4 years.	Delicate	Chronic bronchitis	December.	14 days.	Dover's powder	35 days.	Cured.	No sequelæ.
33	21 months.	Bad.	Rachitis; stomatitis	April.	21 days.	Laudanum	4 days.	Died.	No inspection.
34	11 weeks.	Delicate	Bronchitis; gastric derangement.	November	3 days.	Dover's powder	31 days.	Cured.	No sequelæ.
35	8 months.	Delicate	Bronchitis	December.	3 days.	Laudanum	19 days.	Cured.	No sequelæ,
36	3 years.	Good.	None	December.	14 days.	Antimony; vesication of spine	37 days.	Cured.	No sequelæ.
37	12 weeks.	Good.	Chronic diarrhœa...	December.	14 days.	Laudanum & Dover's powder	37 days.	Cured.	No sequelæ.
38	16 months.	Good.	Bronchitis	December.	3 days.	Antimony; laudanum... ...	7 days.	Improved.	Treatment interrupted.
39	14 weeks.	Bad.	Bronchitis	December.	2 months	Cod oil	7 days.	Not known	Treatment interrupted.
40	5 years.	Good.	Bronchitis	January.	7 days.	Antimony; laudanum... ...	7 days.	Not known	Treatment interrupted.
41	3½ years.	Good.	Bronchitis; Iliac abscess; measles.	January.	7 days.	Laudanum; vesication ...	45 days.	Improved.	Treatment interrupted.
42	18 months.	Good.	Gastric fever; measles; conjunctivitis.	January.	14 days.	Laudanum; empl. antimon.	17 days.	Cured.	No sequelæ.
43	9 months.	Good.	Bronchitis; conjunctivitis...	January.	5 days.	Laudanum	5 days.	Not known	Treatment interrupted.
44	8 months.	Bad.	Bronchitis	January.	7 days.	Laudanum; Dover's powder	45 days.	Cured.	No sequelæ.
45	9½ years.	Medium	Blepharitis; small-pox ...	January.	3 days.	Laudanum; vesication ...	49 days.	Cured.	No sequelæ.
46	14 months.	Bad.	Atrophy; bronchitis	January.	5 days.	Laudanum, cod oil; Dover's powder; zinc.	26 days.	Died.	Atrophic.
47	7 years.	Bad, Delicate	Capillary bronchitis	January.	7 days.	Muriate of ammonia; laudanum, cod oil.	39 days.	Cured.	No sequelæ. Greatly neglected.
48	16 months.	Delicate	Bronchitis; diarrhœa... ...	January.	14 days.	Laudanum	7 days.	Not known	Treatment interrupted.
49	5 weeks.	Good.	Bronchitis	January.	14 days.	Laudanum	17 days.	Cured.	No sequelæ.
50	2 years 10 months	Delicate	Bronchitis	January.	8 days.	Laudanum; vesication ...	28 days.	Cured.	No sequelæ.
51	2 years.	Delicate	None	January.	2 months	Laudanum	8 days.	Cured.	No sequelæ.
52	2½ years.	Delicate	None	February.	21 days.	Belladonna, gr. j, increased to gr. 30 per diem.	5 months.	Cured.	No sequelæ.
53	7 years.	Medium	None	February.	21 days.	Laudanum; vesication ...	3 days.	Not known	Treatment interrupted.
54	3½ years.	Bad, Delicate.	Retarded development; hemiplegia; convulsions; measles; bronchitis.	February.	21 days.	Belladonna to atropism, then cod oil.	30 days.	Cured.	No sequelæ; convulsions & hemiplegia, cured also.
55	2 years.	Medium	Retarded development ... bronchitis.	February.	21 days.	Cod oil; laudanum	7 days.	Not known	Treatment interrupted.
56	17 months.	Medium	None	June.	4 days.	Belladonna to atropism ...	7 days.	Cured.	Speedy cure. Consecutive diarrhœa.
57	23 months.	Bad.	Rachitis; bronchitis; con-	February.	42 days.	Cod oil and laudanum... ...	16 days	Cured	Convulsions also cured. Re-

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
59	19 months.	Medium	Bronchitis; [illegible] lent diathesis.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	No sequelæ.
60	18 months.	Bad.	Retarded development; bronchitis; measles.	February.	30 days.	Cod oil	18 days.	Cured.	No sequelæ.
61	13 months.	Bad.	Retarded development; atrophy; absc.; hernia; capillary bronchitis.	February.	14 days.	Muriate of ammonia; laudanum; cod oil.	29 days.	Improved.	Treatment interrupted.
62	16 months.	Bad.	Retarded development; spasmus glottidis; fits; broncho-pneumonia.	March.	14 days.	Belladonna; antimony; again belladonna.	11 days.	Improved.	Treatment interrupted.
63	10 weeks.	Delicate	Stomatitis; gastric development; convulsions.	March.	3 days.	Belladonna; laudanum; cod oil.	23 days.	Died.	Died of convulsions.
64	18 months.	Bad.	Retarded development; atrophy; broncho-pneumonia; tuberculosis.	March.	4 months	Chalybeates; laudanum; cod oil.	26 days.	Died.	Died of bronchopneumonia.
65	6 months.	Medium	None	March.	21 days.	Belladonna	7 days.	Not known	Treatment interrupted.
66	9 months.	Medium	None	March.	11 weeks.	Laudanum; cod oil	13 days.	Cured.	Consecutive diarrhœa; 16 months after, treated for parotitis and eczema; 2 years after, diarrhœa.
67	2 years 10 months	Good.	Bronchitis	March.	14 days.	Oxyde of zinc	7 days.	Cured.	No sequelæ.
68	7 months.	Good.	Dysentery (congenital parotid tumour).	April.	5 days.	Belladonna	11 days.	Cured.	4 months after, bronchitis and eczema of face.
69	8 months.	Good.	None	April.	8 days.	Belladonna	39 days.	Cured.	Concomitant and consecutive diarrhœa.
70	2½ years.	Bad.	Chronic bronchitis; enlarged liver; debility.	April.	6 months	Hydry. cu. crœta; cod oil...	58 days.	Cured.	Consecutive gastric derangement.
71	21 months.	Medium	Bronchitis; prolapsus ani...	April.	7 days.	Muriate of ammonia with laudanum, no good effect; then belladonna to atropism: effectual.	63 days.	Cured.	Hooping cured in 35 days, by belladonna: 3 months after, treated for abcess behind right ear; 4 months after, relapsed hooping cough cured in a few days by emetics.
72	15 months.	Medium	Capillary bronchitis	April.	3 months	Muriate of ammonia, with laudanum.	10 days.	Cured.	3 months after treated for diarhœa.
73	4 years.	Good.	None	April.	10 days.	Belladonna to atropism ...	30 days.	Cured.	Consecutive diarrhœa and impetigo cap.
74	5 years.	Medium	Broncho-pneumonia	April.	30 days.	Laudanum; vesication; no good effect: then belladonna to atropism.	21 days.	Cured.	Cured in 7 days by belladonna. No sequelæ.
75	3 years.	Good.	None	April.	14 days.	Belladonna; no atropism ...	25 days.	Cured.	No sequelæ.
76	5½ years.	Good.	None	April.	14 days.	Belladonna; no atropism ...	26 days.	Cured.	No sequelæ.
77	15 months.	Bad.	Constitutional syphilis; atrophy.	April.	14 days.	Calom. c̄ opio...	7 days.	Died.	Syphilitic atrophy.
78	5 years 10 months	Delicate	Bronchitis; eneuresis... ...	April.	28 days.	Laudanum; tinc. fer. mur.; belladonna to atropism.	19 days.	Cured.	No sequelæ.
79	4 years.	Delicate	Bronchitis; stomatitis; varicella.	September	7 days.	Laudanum; cod oil; belladonna to atropism.	33 days.	Cured.	Cured in 24 days by belladonna; consecutive urethritis and blepharitis.
80	3 years.	Delicate	Broncho-pneumonia; debility.	May.	14 days.	Cod oil, then belladonna; no atropism.	14 days.	Cured.	No sequelæ.
81	20 months.	Good.	Chronic bronchitis	May.	7 days.	Belladonna; no atropism ...	35 days.	Cured.	Diarrhœa, concomitant and consecutive.

No. of Case.	Age.	Development & Habit of Body.	Diseases Complicating.	Season.	Duration when admitted.	Remedies employed in the treatment.	How long under treatment	Result.	Apparent cause of death, and sequelæ.
82	13 months.	Bad.	Atrophy; retarded development; chronic bronchitis; hereditary tuberculosis.	May.	42 days.	Cod oil	4 days.	Died.	The mother died a few days before the child of consumption.
83	2 years 6 months.	Bad.	Chronic bronchitis; tuberculosis; atrophy.	May.	7 days.	Cod oil	11 days.	Died.	Consumption. 7 children, previous to this, of same family died of wasting.
84	6 years 5 months.	Good.	Chronic bronchitis	May.	7 days.	Belladonna to atropism ...	19 days.	Cured.	Bronchitis persists.
85	4 years.	Medium	Chronic bronchitis	May.	6 months	Laudanum	17 days.	Cured.	No sequelæ.
86	15 months.	Delicate	Bronchitis	May.	42 days.	Dover's powder	37 days.	Cured.	Consecutive diarrhœa.
87	5 years 10 months	Good.	None	May.	4 months	Laudanum	7 days.	Not known	Treatment interrupted.
88	2 years 2 months.	Bad.	Retarded development; broncho-pneumonia.	May.	5 days.	Laudanum; cod oil; emetics	4 days.	Died.	P. M. Extensive red hepatization.
89	2 years.	Good.	Bronchitis; atrophy; diarrhœa.	May.	21 days.	Cod oil; laudanum	21 days.	Died.	Tuberculosis.
90	17 months.	Bad.	Chronic bronchitis; retarded development.	May.	7 days.	Belladonna; no atropism ...	33 days.	Cured.	No sequelæ.
91	10 weeks.	Bad.	None	May.	7 days.	Laudanum; then belladonna to atropism.	39 days.	Cured.	Consecutive diarrhœa.
92	3 years 4 months.	Good.	None	May.	2 months	Laudanum	5 days.	Cured.	No sequelæ.
93	5 years 8 months.	Good.	Constant vomiting; costiveness.	May.	3 months	Dover's powder and castor oil	7 days.	Not known	5 children of this family previously died of chest disease.
94	16 months.	Medium	Bronchitis; checked development; extreme atrophy.	May.	21 days.	Laudanum; cod oil; belladonna, with good effect on the hooping.	16 days.	Died.	P. M. Died atrophic; lungs anæmic; no hepatization.
95	4 years 8 months.	Good.	None	May.	14 days.	Belladonna to atropism (10 grs. daily)—great tolerance	11 days.	Cured.	No sequelæ.
96	6 years.	Delicate	None	June.	2 months	Belladonna; no atropism ...	7 days.	Cured.	No sequelæ.
97	13 months.	Good.	Convulsions	February.	7 days.	Belladonna; no atropism ...	25 days.	Cured.	No sequelæ.
98	2 years.	Good.	None	June.	42 days.	Belladonna to atropism ...	14 days.	Cured.	No sequelæ.
99	2 years.	Delicate	Diarrhœa; stomatitis... ...	June.	5 days.	Belladonna to atropism; Dover's powder.	14 days.	Cured.	No sequelæ.
100	2 years 4 months.	Bad.	Bronchitis; retarded development; prolapsus ani	June.	7 days.	Belladonna; no atropism ...	11 days.	Cured.	2 months after, dysentery.
101	2 years 2 months.	Good.	Bronchitis	June.	7 days.	Relladonna to atropism ...	25 days.	Cured.	Consecutive diarrhœa.
102	9 months.	Medium	Bronchitis	June.	14 days.	Belladonna	3 days.	Not known	Treatment interrupted.
103	3 years.	Delicate	Scrofulosis; diarrhœa; prolapsus ani.	June.	63 days.	Cod oil; iodide of potas., very serviceable.	30 days.	Cured.	Consecutive diarrhœa.
104	19 months.	Delicate	Retarded development; idiocy.	June.	2 months	Cod oil	10 days.	Cured.	No sequelæ.
105	6 months.	Delicate	Double pleurisy, with exudation.	July.	70 days.	Leeches; vesication; Dover's powder, with camphor.	19 days.	Cured.	Consecutive diarrhœa.
106	6 months.	Good.	Diarrhœa and indigestive vomiting.	July.	7 days.	Belladonna; no atropism ...	7 days.	Cured.	8 months after, gastric fever and bronchitis.
107	13 months.	Medium	Diarrhœa; stomatitis... ...	May.	14 days.	Belladonna to atropism; Dover's powder, with camphor	46 days.	Cured.	Persistent stomatitis; 15 months later, diarrhœa.
108	2 years.	Bad.	Bronchitis; dysentery; constitutional syphilis.	March.	5 days.	Belladonna to atropism, muriate of ammonia, with laudanum; cod oil.	50 days.	Cured.	Consecutive boils; eczema; phlegmone submentalis.
109	3½ years.	Good.	None	July.	28 days.	Belladonna to atropism ...	7 days.	Cured.	No sequelæ.
110	15 weeks.	Medium	None	July.	14 days.	Belladonna to atropism ...	21 days.	Cured.	No sequelæ.

111	4 years 8 months.	Medium	Bronchitis	[illegible]	[illegible]	ver's powder, with camph.	[illegible]	[illegible]	[illegible]
112	5 months.	Good.	Catarrhal diarrhœa	August.	3 months	Belladonna to atropism ...	21 days.	Cured.	No sequelæ.
113	12 months.	Bad.	Bronchitis; atrophy; retarded development.	August.	4 days.	Cod oil; Dover's powder ...	54 days.	Cured.	6 months after, diarrhœa; 7 months after, miliary fever.
114	2 years 8 months.	Bad.	Broncho-pneumonia; diarrhœa; atrophy.	August.	35 days.	Dover's powder, with camphor; cod oil.	9 days.	Not known	Treatment interrupted.
115	11 weeks.	Bad.	Atrophy	September	42 days.	Laudanum; chalybeates ...	7 days.	Died.	Atrophic.
116	3 years 9 months.	Good.	Broncho-pneumonia; diarrhœa; fever.	September	42 days.	Belladonna (not beneficial); antimon. oxy.-sulphur.; Dover's powder.	21 days.	Cured.	Cured by antimony and Dover's powder.
117	2 years 8 months.	Good.	None (blepharitis)	September	5 days.	Belladonna; laudanum; irregular & often interrupted	80 days.	Cured.	Extremely careless and neglectful.
118	4½ years.	Bad.	Scrofulosis; chronic bronchitis; diarrhœa; atrophy	September	28 days.	Laudanum; antimon. oxy.-sulph.; belladonna; no atropism.	40 days.	Cured.	Cured in 29 days by belladonna, given alone; 1 month after, hooping relapsed severely, again cured by belladonna in 20 days.
119	2 years.	Good.	Broncho-pneumonia; diarrhœa.	September	14 days.	Dover's powder; sinapisms; emetics.	2 days.	Not known	Treatment interrupted.
120	16 months.	Bad.	Bronchitis; diarrhœa; prolapsus ani.	September	5 days.	Laudanum; Dover's powder, with calomel; argent. nit.,	46 days.	Cured.	Consecutive diarrhœa; otorrhœa; atrophy.
121	2 years.	Bad.	Retarded development; broncho-pneumonia; prolapsus ani.	October.	21 days.	Muriate of ammonia, with laudanum; belladonna.	5 days.	Died.	Red hepatization on both sides to great extent.
122	3¼ years.	Bad.	Bronchitis	October.	14 days.	Belladonna; no atropism ...	26 days.	Cured.	No sequelæ.
123	23 months.	Good.	Bronchitis; seat-worms; eczema; adenitis.	October.	3 days.	Cod oil; Dover's powder ...	29 days.	Cured.	Consecutive eczema fac. and parotitis.
124	12 months.	Good.	Acute œdema	October.	21 days.	Emetics; baths	7 days.	Cured.	No sequelæ.
125	4 years.	Medium	Impetigo; acute anasarca; œdema of lungs.	October.	4 months	Antimony; emetics; scam & calomel.	19 days.	Cured.	No sequelæ.
126	22 months.	Medium	None	October.	2 months	Belladonna; no atropism ...	7 days.	Cured.	No sequelæ.
127	21 months.	Good.	None	October.	21 days.	Belladonna to atropism ...	12 days.	Cured.	Consecutive Bronchitis — 5 months after, stomatitis.
128	18 months.	Good.	None	November	6 weeks.	Belladonna to atropism ...	28 days.	Cured.	No sequelæ.
129	10 months.	Bad.	Bronchitis, atrophy	November	5 weeks.	Cod oil; belladonna, did no good.	5 days.	Died.	Died atrophic.
130	23 months.	Bad.	Retarded development; diarrhœa.	November	4 days.	Dover's powder; calomel ...	23 days.	Cured.	Consecutive dysentery.
131	19 months.	Bad.	Bronchitis; fits; broncho-pneumonia; abscesses.	November	7 days.	Belladonna; cod oil	35 days.	Died.	Died of broncho-pneumonia and exhausting chronic abscesses.
132	23 months.	Bad.	Bronchitis; retarded development; stomatitis; gastric derangement.	November	7 days.	Cod oil; Dover's powder; muriate of amm.; emetics,	12 days.	Died.	Atrophic, lungs ædematous; lobar hepatization.
133	3 years 5 months	Medium	Bronchitis	November	6 weeks.	Belladonna; atropism... ...	7 days.	Cured.	No sequelæ.
134	4 years.	Good.	Bronchitis	November	4 weeks.	Belladonna; atropism... ...	11 days.	Cured.	No sequelæ.
135	2 years 11 months	Bad.	Retarded development; gastric fever; worms.	June.	7 days.	Emetic; Dover's powder; cod oil.	60 days.	Died.	Atrophic.
136	4 years.	Medium	Bronchitis	December.	2 months	Belladonna, large dose by mistake, followed by severe atropism.	58 days.	Cured.	No sequelæ.

TABLE VIII.—*continued.*

No. of Case.	Age.	Development & Habit of Body.	Diseases Complicating.	Season.	Duration when admitted.	Remedies employed in the treatment.	How long under treatment	Result.	Apparent cause of death, and sequelæ.
137	15 months.	Bad.	Chronic salivation; relapsed pertussis.	December.	3 months, relapse.	Belladonna	17 days.	Improved.	Treatment interrupted.
138	20 months.	Medium	Diarrhœa; aphtha	August.	7 days.	Pot. chlor.; Dover's powder; cam.	14 days.	Cured.	Consecutive dysentery.
139	23 months.	Bad.	Retarded development; impetigo; diarrhœa.	February.	14 days.	Belladonna; Dover's powder	30 days.	Cured.	3 months after diarrhœa—muscular twitchings.
140	5 years.	Good.	Impetigo cap.; gastric derangement.	December.	2 months	Dover's powder	17 days.	Cured.	2 months after, gastric fever.
141	7 months.	Good.	Bronchitis; prurigo	January.	14 days.	Belladonna; no atropism ...	28 days.	Cured.	No sequelæ.
142	4 years.	Delicate	None	January.	3 days.	Belladonna; no atropism ...	37 days.	Cured.	No sequelæ.
143	2 years.	Delicate	Atrophy: mesenteric hypertrophy; corneitis.	January.	5 weeks.	Dover's powder; cam.; cod oil.	18 days.	Cured.	No sequelæ.
144	9 months.	Medium	Coryza; atrophy...	January	14 days.	Belladonna to atropism ...	10 days.	Cured.	Consecutive emaciation and diarrhœa.
145	16 months.	Bad.	Chronic broncho-pneumonia	April.	5 days.	Dover's powder; cam.; antimon. oxy.-sulph.	14 days.	Died.	Died of Broncho-pneumonia and gastric fever.
146	17 months.	Bad.	None	September	5 days.	Belladonna; no atropism ...	14 days.	Cured.	No sequelæ.
147	6 months.	Delicate	Bronchitis	February.	2 days.	Belladonna to atropism; Dover's powder; emetic.	6 days	Died.	Convulsions.
148	6 years.	Good.	Bronchitis	February.	7 days.	Belladonna to atropism ...	37 days.	Cured.	No sequelæ.
149	3 years 10 months	Good.	None	February.	4 days.	Belladonna to atropism ...	35 days.	Cured.	No sequelæ.
150	3 years.	Good.	None	February.	14 days.	Belladonna	14 days.	Cured.	No sequelæ—8 months after scarlet fever.
151	4 years 2 months.	Good.	Stomatitis; otorrhœa... ...	July.	7 days.	Chlor. pot.; emetic; Dover's powder; cam.	56 days.	Cured.	No sequelæ.
152	21 months.	Good.	Diarrhœa	March.	7 days.	Belladonna to slight atropism	7 days.	Cured.	No sequelæ.
153	4 years 4 months.	Good.	None	September	21 days.	Belladonna; no atropism ...	35 days.	Cured.	No sequelæ.
154	8 months.	Good.	None	March.	14 days.	Belladonna to atropism ...	44 days.	Cured.	1 month after, diarrhœa; 2 months after, lichen.
155	2½ years.	Good.	Bronchitis; croupy dyspn.	May.	14 days.	Belladonna to atropism ...	50 days.	Cured.	Consecutive bronchitis.
156	7 years.	Bad.	Gastric fever; scrofula ...	April.	14 days.	Belladonna; Dover's powder; mist. stomach.	56 days.	Cured.	3 months after cervical adenitis.
157	5½ months.	Good.	None	April.	3 days.	Belladonna	22 days.	Died.	Died under diarrhœa.
158	3¼ years.	Bad.	Bronchitis; convulsions ...	April.	2 months	Cod oil; Dover's powder; cam.; muriate of ammonia with antimony.	14 days.	Died.	Bronchitis and convulsions.
159	7 months.	Good.	Convulsions; syphilis... ...	April.	7 days.	Leeches; calomel; Dover's powder.	7 days.	Died.	Died of convulsions and syphilitic atrophy.
160	4 months.	Delicate	Cerebral irritation; diarrhœa	April.	14 days.	Dover's powder; cam.... ...	20 days.	Cured.	Concomitant and consecutive diarrhœa.
161	12 months.	Delicate	None	April	10 weeks.	Belladonna; no atropism ...	40 days.	Cured.	No sequelæ.
162	4 years.	Good.	None	May.	21 days.	Belladonna; no atropism ...	46 days.	Cured.	Consecutive diarrhœa—after 5 months, severe hooping cough again, eczema—cured by belladonna.
163	21 months.	Good.	None	May.	30 days.	Emetics; Dover's powder; calomel; belladonna.	47 days.	Cured.	Cured in 24 days by belladonna—one month after, bronchitis; 2 months after, dysentery—cured.
164	3½ years	Medium	Adenitis	May	2 weeks	Belladonna; no atropism ...	14 days.	Cured.	Consecutive bronchitis and [illegible] after.

						atropism.			donna.
167	3 years 8 months.	Good.	None	June.	14 days.	Belladonna; no atropism ...	26 days.	Cured.	Consecutive bronchitis and diarrhœa—6 months after, Pneumonia.
168	2 years 4 months.	Good.	Bronchitis (20 paroxysms per day).	June.	3 months	Ammon. mur. and ant.; belladonna to atropism.	32 days.	Cured.	No sequelæ.
169	18 months.	Bad.	12 months atrophy; 6 weeks diarrhœa; stomatitis; varicella.	June.	2 months	Laudanum; cod oil	26 days.	Died.	Died atrophic under varicella.
170	4½ months.	Good.	Diarrhœa	June.	14 days.	Belladonna; poisoning symptoms; intolerance of belladonna; Dover's powder, & change of atmosphere.	44 days.	Cured.	Consecutive diarrhœa — 5 months after, spasmodic cough of great severity, coming on in paroxysms, but no hooping.
171	7½ years.	Good.	None	July.	14 days.	Emetics	7 days.	Cured.	No sequelæ.
172	5 months.	Good.	None	July.	7 days.	Belladonna to atropism ...	17 days.	Cured.	Consecutive bronchitis.
173	5 months.	Good.	None	July.	20 days.	Dover's powder and cam. ...	19 days.	Cured.	Consecutive diarrhœa.
174	9 months.	Bad.	Atrophy	September	9 days.	Belladonna to atropism ...	47 days.	Cured.	No sequelæ.
175	5 months.	Good.	Irritable brain	August.	5 days.	Cod oil; Dover's powder and cam.; belladon. to atropism	4 months	Cured.	Interrupted, neglectful. No sequelæ.
176	2 years 9 months.	Good.	Pneumonia	August.	7 days.	Ammon. mur. and ant.; Dover's powder; belladonna.	70 days.	Cured.	Consecutive eczema. Treatment interrupted and neglected.
177	19 months.	Bad.	Atrophy	August.	6 weeks.	Dover's powder and cam.; emetics; belladonna.	63 days.	Cured.	Cured in 34 days by belladonna — consecutive gastric fever.
178	9 months.	Bad.	Diarrhœa	August.	7 days.	Dover's powder and calomel then belladonna.	26 days.	Cured.	Consecutive diarrhœa — 6 weeks after, hooping relapsed with diarrhœa—cured by Dover's powder.
179	3 years 9 months.	Medium	None	August 30	9 weeks.	Belladonna	52 days.	Cured.	Consecutive coryza and pityriasis.
180	3½ years.	Good.	Diarrhœa; worms	August.	30 days.	Belladonna; scam. and cal...	14 days.	Cured.	No sequelæ.
181	2 years.	Bad.	Bronchitis; œdema pulm.; retarded development.	August.	14 days.	Muriate of ammonia, with antimony.	7 days.	Died.	Was *in articulo mortis* when admitted.
182	3 years 2 months.	Medium	None	August.	21 days.	Emetic; Dover's powder; no impr. belladon. to atropism	14 days.	Cured.	No sequelæ.
183	2 years.	Good.	Diarrhœa	August.	7 days.	Dover's powder and calomel; belladonna to atropism.	17 days.	Cured.	6 weeks after, relapse—cured in 20 days by belladonna —consecutive diarrhœa.
184	12½ months.	Good.	Diarrhœa	September	28 days.	Laudanum	7 days.	Cured.	No sequelæ.
185	15½ months.	Medium	Diarrhœa; vomiting	September	2 months	Dover's powder; emetics; fer. Quéven.	21 days.	Cured.	No sequelæ.
186	15 months.	Delicate	Diarrhœa	September	1 day.	Belladonna to atropism ...	10 days.	Cured.	1 month after, gastric fever and bronchitis.
187	4 years.	Medium	None	September	9 days.	Belladonna to atropism; emetics.	47 days.	Cured.	No sequelæ.
188	16 months.	Bad.	Diarrhœa	September	6 weeks.	Emetics; Dover's powder; belladonna to atropism.	53 days.	Cured.	Cured in 11 days by belladonna. No sequelæ.
189	2 years 7 months.	Medium	None	September	10 days.	Emetic: belladonna	45 days.	Cured.	Slight consecutive bronchitis.
190	5 months.	Bad.	Diarrhœa	September	28 days.	Belladonna to atropism ...	11 days.	Cured.	No sequelæ.
191	4 years 9 months.	Good.	None	September	5 days.	Belladonna; no atropism ...	36 days.	Cured.	Consecutive diarrhœa.
192	10 months.	Good.	None	September	56 days.	Belladonna	10 weeks.	Cured.	Worms.

TABLE VIII.—*continued.*

No. of Case.	Age.	Development & Habit of Body.	Diseases Complicating.	Season.	Duration when admitted.	Remedies employed in the treatment.	How long under treatment	Result.	Apparent cause of death, and sequelæ.
193	3 years.	Good.	Bronchitis	September	49 days.	Belladonna; no atropism ...	31 days.	Cured.	Consecutive bronchitis.
194	6 weeks.	Medium	Constitutional syphilis; bronchitis.	July.	28 days.	Dover's powder	50 days.	Cured.	Consecutive diarrhœa — 1 month after, bronchitis.
195	4 years 2 months.	Bad.	None	June.	21 days.	Belladonna, gr. j, speedy atropism.	14 days.	Cured.	6 months after had eczema and gastric fever; 2 months later vulvitis.
196	9 months.	Bad.	Atrophy; dysentery; bronchitis; vomiting.	January.	2 days.	Cod oil; Dover's powder ...	60 days.	Died.	Died of dysentery.
197	14 months.	Medium	Dysentery	October.	2 days.	Dover's powder; belladonna to atropism.	24 days.	Cured.	Consecutive bronchitis.
198	4 years.	Delicate	Chronic bronchitis; diarrhœa; prolapsus ani.	March.	4 months	Dover's powder, gr. j, ter die.	14 days.	Cured.	No sequelæ.
199	6½ years.	Delicate	Chronic bronchitis; gastric fever; impetigo.	August.	14 days.	Aperients; emetics; Dover's powder and camphor.	16 days.	Cured.	No sequelæ.
200	6 months.	Good.	Seat-worms	October.	7 days.	Belladonna to atropism ...	31 days.	Cured.	No sequelæ.
201	23 months.	Bad.	Dysentery; prolapsus ani; scarlatina.	October.	6 weeks.	Dover's powder and acetate of lead.	27 days.	Died.	Died of sequelæ of scarlatina.
202	4 years.	Medium	Bronchitis; œdema pulm.; atrophy.	October.	14 days.	Dover's powder and cam.; belladonna, not successful; cod oil.	42 days.	Cured.	Delayed by œdema pulmonum and atrophy.
203	21 months.	Good.	Diarrhœa; seat-worms ...	October.	9 weeks.	Cupr. am.-sulphate and aperients.	26 days.	Cured.	No sequelæ.
204	18 months.	Medium	Capillary bronchitis; convulsions.	October.	42 days.	Emetic; Dover's powder, with calomel.	5 days.	Died.	Convulsions.
205	16 months.	Good.	Bronchitis; diarrhœa... ...	October.	3 days.	Dover's powder and plumb. acet.	19 days.	Cured.	Diarrhœa, concomitant and consecutive.
206	2 years 5 months.	Good.	Chronic bronchitis; tuberculosis; atrophy.	January.	6 days.	Cod oil; Dover's powder, with camphor.	25 days.	Cured.	Bronchitis persists; 4 months after, gastritis with rapid wasting, and ten days later died.
207	12 months.	Bad.	Diarrhœa; rachitis	August.	3 days.	Belladonna; cod oil; ferrum	21 days.	Cured.	Rachitis persists.
208	3 years 1 month.	Delicate	Pneumonia; gastric fever...	October.	7 days.	Belladonna; Dover's powder	42 days.	Cured.	No sequelæ.
209	7 months.	Good.	Chronic diarrhœa...	October.	28 days.	Belladonna; Dover's powder at night.	29 days.	Cured.	Diarrhœa persists; consecutive bronchitis.
210	2 years 9 months.	Bad.	Pneumonia	October.	3 days.	Antimony; belladonna; aperients.	24 days.	Cured.	2nd attack, 12 months after the cure of the first.
211	5½ years.	Good.	Bronchitis; gastric derangement.	October.	44 days.	Belladonna	14 days.	Cured.	No sequelæ; 2 months after.

With regard to the season of the year at which hooping cough prevailed, there were, in

January	21	cases.	Winter quarter 46.
February	15	,,	
March	10	,,	
April	19	,,	Spring quarter 59.
May	22	,,	
June	18	,,	
July	12	,,	Summer quarter 59.
August	20	,,	
September	27	,,	
October	22	,,	Autumn quarter 47.
November	14	,,	
December	11	,,	

Severity at different seasons

It did not appear that the severity of the disease varied materially at different seasons, as it was noticed that the *spasmodic* symptoms appeared to be nearly alike in intensity throughout the year; the difficulties and dangers depending mainly upon the nature and severity of the superadded diseases, and the previous condition of the patient.

Noticeable points.

The points which appear worthy of note in the history of hooping cough are: its average duration; the nature and influence of its complications; its fatality; its consequences in form of sequelæ; its infectious nature; and in what measure the symptoms may be moderated in severity, or the attack shortened in duration, by remedial means.

Duration of hooping cough

With a view to form an estimate of the ordinary duration of an attack of hooping cough it was ascertained, as exactly as was practicable, how many days the disease had existed on admission in each case, and

the number of days occupied by the treatment to the time when the paroxysms of hooping ceased altogether. In this inquiry a number of the cases could not be made available on every point, on account of certain peculiarities attaching to them, or from their historical obscurity.

Exceptional cases.

Of the 211 cases, in 35 the disease had existed, on admission, more than two months; and as there was sufficient proof that these cases had been prolonged by neglect, severe complication, or some other extraneous circumstance, they cannot fairly be included with those intended to represent the natural or ordinary duration of this complaint.

Available cases.

Of the remaining 176 cases, some of which also fell under the same imputation, having already existed 40 or 50 days and upwards, the average duration of the disease on admission was 16 days.

Actual duration of hooping cough.

Thirty of the patients ceased to attend before the cure was complete, and have not re-appeared to report the result; and 32 died. The remaining 149 cases were dismissed cured, after an average treatment of 26 days; giving as the average duration of hooping cough, aided by treatment during the latter two-thirds of its course, a period of 42 days.

Irregular cases.

Of the thirty-five irregular cases, eighteen had existed more than two months; seven three months; six four months; one five months; two six months; and one three years. The last case may be left out as a singular exception. The average duration, therefore, of the 34 cases on admission, was 86 days, that occupied in their treatment was 25 days, giving, as the average duration of the neglected cases, a period of 111 days.

Case of three years' duration.

The case of three years' duration was in a girl $4\frac{1}{2}$ years old, who had scarcely been a day without two or more paroxysms of severe hooping, since the invasion of the disease at the age of 18 months. On admission, she was labouring under chronic bronchitis (having loud moist rhonchi and varying regional dulness), with severe cough and dyspnœa. She had frequent fits of coughing and hooping, which ceased only with vomiting of phlegm, often mixed with blood. She was treated with oxy-sulphuret of antimony and opium, and camphor inhalations, and was discharged cured in 26 days.

Complications.

The most common forms of disease with which hooping cough was complicated, were capillary bronchitis, broncho-pneumonia, pleuro-pneumonia (in the winter months); and diarrhœa, dysentery, biliary derangement, and mucous disorders generally (in the summer months). It was also frequently associated at all seasons with gastric derangement, retarded or checked development, rachitis, worms; and, in a great majority of instances, it was aggravated by faulty alimentation, arising from the ignorance of mothers on the subject of nursing, and the adaptation of food in the absence of the natural supply by the breast.

Simple form of hooping cough.

Only in 46 cases did the disease present itself as a pure neurosis, unassociated with other maladies calculated to prolong its duration, and to interfere with remedial efforts. The duration of the disease in 35 of these 46 unfettered cases (excluding 11 neglected cases) from the onset to the termination, was 40 days

Death from simple hooping cough.

The number of deaths was 32 (15 per cent.) But it is worthy of remark that only one of these fatal cases occurred among the uncomplicated. This child, the offspring of Scotch parents, was a remarkably

healthy and handsome boy, 5½ months old, robust in the extreme, whose teething process commenced at the age of ten weeks, and eight teeth had already protruded. The paroxysms of coughing were uncommonly severe, and he died on the 22nd day from the invasion, of cerebral effusion and convulsions, caused by the violence of coughing. Timely depletion, with anodyne inhalations, steadily administered, would most probably have saved this child, and this course would doubtless have been practised, had he been in hospital; but the parents resided three miles away, so that he could not be visited, and the Clinical Hospital at that time had no internal accommodation.

Deaths under complication.

The other thirty-one deaths occurred from pulmonary, gastro-intestinal, inherited, and various forms of disease, most of them previously existing, and several of which would have proved fatal at no distant period. *Seven* of them sunk under bronchopneumonia, preceded in several by chronic bronchitis, but aggravated into the severer form of pulmonary disease by the spasmodic cough: most of them were associated also with gastric derangement, worms, or atrophy. *Two* died of tuberculosis, both of them the offspring of consumptive mothers, and in two others, not ranged under this head, the existence of tubercles in the lungs was suspected, and almost certain. *Eight* died of atrophy, all associated with checked development, gastric disorder, and some with worms or convulsions. *Eight* died of convulsions with rachitic, atrophic, bronchitic, or gastric complication; *two* were cases of syphylitic wasting, which would probably have been fatal at a not much later date, had the end not been hastened by hooping cough; *two* sank from diarrhœa; *one* from

pleurisy; *one* from scarlatina; and *one* from gastric fever.

Sequelæ.

Hooping cough, although succeeded in a few instances by an improved state of health and constitutional vigour, not unfrequently impairs the general tone, and entails, for a time, a high susceptibility to several forms of disease. The most frequent of these are delicacy of the bronchial and portions of the alimentary mucous membrane, and morbid irritability of the respiratory and splanchnic nerves, with consequent disturbance of the functions which these nerves regulate. Bronchitis and other forms of pulmonary disease, in most instances pre-existing, formed a complication in 105 cases, and in not a few continued to exist for variable periods—weeks or months—after the neurotic affection had ceased. In several instances, after the lapse of three, six, or twelve months, during which the child was quite well, a relapse of hooping cough came on, the paroxysms being equally severe and frequent as in the first attack; and in several others, attacks of spasmodic cough, recurring in paroxysms but without hooping, came on from time to time during the six or twelve months following the cure of the hooping cough.

Bronchitis.

Relapse.

Diarrhœa, Dysentery.

Diarrhœa and dysentery, in decided and severe forms were complications in 44, and gastric affections, associated in some with stomatitis, in 17 cases; diarrhœa frequently constitutes also, both a consecutive and recurrent disease during the first 12 months. Independently of its occurrence in decided form as a troublesome complication, diarrhœa not unfrequently assumed a somewhat different aspect. It sometimes came on, for instance, as though the result of remedies, at a time when these seemed to be acting most beneficially in re-

Vicarious diarrhœa.

lieving the cough and spasm, although the remedies used do not possess aperient properties. For example, marked benefit speedily following the use of camphor and Dover's powder, or belladonna, is often accompanied with a smart accession of purging—the evacuations being now and then mixed with blood—and simultaneous mitigation, or almost entire cessation of the cough and spasm; and the cessation of the purging, especially if it took place suddenly, was in turn attended by aggravation of the paroxysms, both in severity and frequency. This hint of nature should not be disregarded, pointing, as it would seem, to a vicarious curative effort, which may possibly lead to practical results. In such cases diarrhœa generally constitutes a consecutive sequel, which is for some time persistent.

Nervous sequelæ.

Muscular twitchings of the limbs and features, nervous palpitation, neuralgia, headache, spasmodic asthma, irritable stomach, with intolerance of solid aliment, forming slight degrees of chorea, are instances of nervous irritability following hooping cough, and continuing more or less for a season. A few other examples will be found on reference to the table.

Its infectious nature.

Of the infections nature of hooping cough there can be no doubt, as when one child of a family becomes affected, the rest who have not previously suffered generally take it. Even those who have already had an attack in the usual way, are liable by contact to become reinfected, and to suffer either a characteristic relapse, or a form of spasmodic cough, without hooping. Not unfrequently the mother or nurse, and such of the domestics who come often into contact with the patient, are liable to suffer for a time in like manner.

Mitigation of hooping cough by treatment.

Notwithstanding the notion, extensively prevalent, that hooping cough is uncontrollable by remedies, or that it can only be benefited by change of climate, there is no reason to doubt that, if brought early under treatment, the symptoms may not only be moderated, and other contingent diseases warded off, but its duration may be materially shortened. Enough has been already said on the subject to substantiate this assertion. The 35 cases brought under treatment, after an average duration of more than three months, were all cured in less than twenty-five days in the aggregate, and would, doubtless, have experienced the same beneficial result, and in about the same length of time, had they been brought six or eight weeks earlier.

Reduction of duration by treatment.

This assertion is further borne out by this fact, that of 87 cases brought for treatment within fourteen days of their commencement, the time occupied by the treatment was still the same as that of the general average, but the whole duration of the complaint was only thirty-seven days, that of the whole number, excluding the neglected cases, being forty-two days, and the term of the decidedly neglected cases, 111 days.

Further, of the 87 cases above-named, 32 had an average existence of eleven days, in which the whole term of the complaint was thirty-five days; and, of 55 cases, with an average existence of five days on admission, the whole term was reduced to thirty-two days.

Remedies.

The remedies employed were, in the simple cases, or when the complicated cases had been reduced by other treatment to this condition, Dover's powder, alone, or combined with camphor, camphor inhalations, emetics, belladonna, and local irritants; but always with either opium (Dover's powder) or belladonna as a

principal remedy. Sometimes the Dover's powder was replaced by tincture of opium, given in camphor or other aromatic water. The general modes were thus reduced to the *opium treatment*, and the *belladonna treatment*, the results of which are as follows :—

Opium treatment.

Opium was commonly given in form of Dover's powder, in doses of one grain (containing one-tenth of a grain of pure opium), or one or two drops of the tincture in aromatic water, twice or thrice daily. Frequently, the Dover's powder was combined with an equal quantity of camphor, and sometimes with half or a quarter of a grain of calomel, twice or three times a day, for a child twelve months old. This mode of treatment had an excellent effect in many cases. An equally successful result was often obtained by an emetic (5 grains or more of ipecachuan powder), given in the morning, and two grains of Dover's powder, with or without camphor, at bed-time; no other medicines in the interim. By these measures, 58 cases were treated and cured on the average in 28 days.

Belladonna treatment.

Belladonna was used in 76 cases. It was given in form of powder of the leaves, never the extract, as this is an uncertain preparation; and sometimes in form of solution of the nitrate of atropia. When in the form of powder, half a grain, mixed with five grains of sugar, was given to a child twelve months old, twice a-day; then, after two days, if well tolerated, three times, then four times a day or oftener, and in larger doses, being gradually increased until a specific effect was produced. The solution of nitrate of atropia was prepared so as to contain one-ninety-sixth of a grain in a teaspoonful of the liquid; this dose of the salt is equal in its therapeutical effect to about half a

Doses of Belladonna.

grain of the powdered leaf, so that a teaspoonful of it may be given twice or thrice daily to a child twelve months old.

Atropism.

The specific effect alluded to, called *atropism*, consists in an assemblage of phenomena which the system displays when charged with the remedy to a certain degree of saturation, analagous to iodism, ptyalism, or quininism. These symptoms are:—dryness of tongue and fauces, with thirst; slight dyspnœa; redness, and sometimes puffiness of the skin of the features, neck, and chest; occasionally, but not always, dilation of the pupils; and now and then slight giddiness. It is not necessary, in all cases, to push the remedy to this pitch in order to obtain a curative effect; but in those who bear the remedy well, and in whom atropism is speedily induced, the disease, even in its severest form, and although in the stage of increase, is at once arrested, and, with due precaution, does not relapse. Thus, in several instances brought early under treatment, in which atropism was brought about in the space of a few days, the duration of the attack was reduced to twelve, sixteen, or twenty days.

Estimate.

Of the 76 cases treated by belladonna, 9 were very irregular in attendance, the treatment often being interrupted for a week or ten days at a time. In the other 67 cases, in some of which the attendance was also irregular, the average duration of the treatment was 22 days, giving a decided preference to this remedy.

Hooping cough—term may be shortened.

It is highly probable that were the belladonna treatment early adopted in each case, and associated with suitable hygiènic regulations, the duration of the disease might be reduced from its average of 42 days

to that of 28 or 30 days, and both its concomitant and consecutive accompaniments be materially lessened.

Tolerance of Belladonna.

The tolerance of belladonna is different in different subjects, and is probably as great in the young child as the adult. While a few half or quarter grain doses will suffice to atropise one, another will bear it for a length of time, in high doses, if augmented gradually. In a child four and a half months old (case 170), on the fourteenth day of the attack, a quarter of a grain was followed by alarming atropism. On the next day, the symptoms having subsided, and the hooping being relieved, another such dose was given, and followed by symptoms still more violent than the first. Further trials were not made. In contrast with this, in case 52, a child two and a half years old, the dose was increased from half a grain, twice, to six grains, five times a day—thirty grains daily, before a crisis was brought about.

The value of some other modes of treatment will in future be tested.

Hygiéne.

The diet of a patient labouring under hooping cough should be carefully regulated. An error in this way is quite enough to aggravate or prolong the disease, or to cause a relapse after it has been absent many days.

Diet.

The aliment, whether animal, farinaceous, or vegetable, should be in the liquid or semi-liquid form, and such as is easily assimilated. The alimentary mucous membrane being in a highly irritable condition, the presence of solid food can with difficulty be tolerated, and often occasions great disturbance. A meal of solid food will often aggravate the paroxysms both in severity and frequency, and may induce a relapse after a cessation of several days or weeks. By a similar kind of

Worms.

sympathetic irritability the presence of worms in the intestines will aggravate the symptoms or prolong the duration of hooping cough almost indefinitely: in several instances in which the symptoms continued unabated unduly long, and where it was found that worms existed, the expulsion of these parasites was immediately followed by mitigation of the paroxysms, and speedy cure.

SYPHILIS.

Average occurrence of syphili

Of this disease in decided forms, 63 cases are recorded, a little less than 2½ per cent. This number, however, is probably below the general average, judging from the fact that, of the first 980 patients admitted, only 15, 1½ per cent., were noted; while of the next group of 1,316 patients, there were 48, more than 3½ per cent., well marked cases of constitutional syphilis. It is now remembered that many cases of atrophy and other forms of cachexia among the first-named group, presented themselves in patients who had suffered in early infancy from eruptions and other morbid phenomena of doubtful origin, and of whom a considerable proportion died; but their history and parentage were not, at that time, sufficiently investigated. There is little doubt that a number of these cases, regarded and noted down as being of simple nature, really owed their existence to specific causes. The following table contains an abridged transcript of those which can be authenticated :—

TABLE IX.

Case.	Age.	Habit of Body.	Present form of the Disease.	Previous Forms.	Age when it first appeared.	Whence Derived.	Father's Condition.	Mother's Condition.	Treatment.	Under treatment	Result.
1	3 months	Bad.	Porrigo favosa; eczema sparsum; extreme fretfulness and restlessness; syphilitic pallor; eczema impetiginosum et ulcerans, with brown erythema; large excavating ulcer of left temple; ozœna; purulent opththalmia; copper-coloured, scaly, circular patches on chest and limbs; atrophy; mucous diarrhœa	Copper - coloured circular blotches on trunk and head.	28 days.	Probably inherited.	Not known.	Delicate. Yellow leucorrhœa.	Aperients, Cod oil, and outward applications for 2 mnths, with no benefit; then mercurials, with complete cure of the cutaneous affections.	7 months	Died atrophic under diarrhœa.
2	9 months	Bad.	Mixed eruption on face and scalp; extreme irritability of the whole surface; the vaccinated spots remain unhealed at the end of five months, presenting a well-formed rupia with excavation.	Copper - coloured blotches after vaccination, which are persistent.	4 months	Vaccination	Apparently healthy	Apparently healthy	Iodide of potassium and cod oil.	7 weeks.	Cured apparently. No report since.
3	2 weeks.	Bad.	Large copper - coloured blotches, with raised epidermis on the hands and around the mouth; ozœna; erythematous blotches; abdomen tense and bloated.	Roseola on the hands and face.	3 days.	Congenital.	Not known.	Apparently healthy	No treatment.	9 days.	Died suddenly from some unknown cause.
4	8 months	Medium	Scalp void of hair; cranial veins turgid; inability to hold up the head; flat mucous tubercles around the anus, with psoriac cracks; coryza; hypertrophy of brain; adenitis inguinalis; tubercles around anus and upper lip; constitutional debility.	In infancy had eruptions on face and arms, and ophthalmia.	7 months	Congenital.	Not known.	Yellow leucorrhœa; uterine syphilis, *i. e.*, ulceration around orifice of uterus, with aphthæ of cervix.	Cod oil, Iodide of mercury in small doses for a short time; Dover's powder.	3 months	Cured apparently.
			Relapse after being apparently cured and thriving six months:—Mucous tubercles around the anus; superficial ulcers of naso-labial commissures; ozœna; stomatitis ulcerosa; chr. laryngitis; husky voice; diarrhœa; occasional convulsions.						Iodide of potassium freely; cod oil; after modification of symptoms and relapse, inunction.	6 months	Cured apparently.
			Again relapsed after an absence of 20 months:—plaques muqueuses around anus; ulcerated fissure of nose and lips; ulceration of hard and soft palate, extending into fauces and pharynx; husky voice; swelling and inflammation of nasal periosteum; syphilitic pallor: *i.e.* a peculiar waxy sallowness of skin, characteristic of the taint; nocturnal pains of head and limbs.						On the third reappearance, vigorous inunction.	2 months	Cured.

		soreness of mouth and throat; otorrhœa; radiated psoriasis of anus; pemphigus came out on the approach of scarlatina 14 days since, from which is now recovering; ulcerated fissure of the anus, and afterwards a deep ulcer around anus; diarrhœa, tenesmus, and vomiting.	of 10 months previously, without obvious cause.		congenital.	racter — left his wife.	hœa; delicate health of late.	parilla, with iodide of potassium.		cured.
8½ months	Medium	Ulcerated mouth and throat; husky voice; ulcerative erythema of nates; vulva inflamed—covered with roseolous blotches; ulceration of upper commissure of labia pudendi; copper-coloured serpigo on both legs; psoriasis of palms of the hands and soles of the feet; radiated psoriasis around the mouth of remarkable appearance — being ulcerated cracks traversing the lips in radii from the centre of the orificium; great emaciation with collapse.	Began with sore mouth and throat, then with patches on the breech.	6 months	Said to have been imbibed from the breast of a neighbour, who was syphilitic.	Apparently healthy	Apparently healthy	Cod liver oil; inunction; Dover's powder.	7 weeks.	Result not known.
9 weeks.	Bad.	Greatly emaciated and fretful; skin dry, parched, and shrivelled; syphilitic pallor; copper-coloured roseola on the chest; hard tumour of perinæum. Born prematurely at 8 months. The mother has previously borne 5 children, who have all died under similar symptoms.	Stomatitis and blepharitis in early infancy, and roseola	2 or 3 days	Congenital.	.....	.....	Mercurial inunction	7 days.	Result not known.
1 months	Bad.	Flat mucous tubercles around anus; greatly emaciated; syphilitic pallor. Slight relapse after the symptoms had been quite absent 9 months; mucous tubercles and diarrhœa; retarded development. *Age 2 years 10 months.* — Under treatment for bronchitis; no reappearance of syphilitic symptoms.	Roseola after vaccination.	1 month	Acquired by vaccination.	Father declares that he never had any venereal affection.	Died of purpural fever one week after delivery.	Inunction freely; cod oil afterwards. Cod oil.	3 months 2 months	Cured, apparently. Cured.
? months	Bad.	Illegitimate; very puny and shrivelled; skin sallow and furfuraceous; circular ulcerative eczema of face; small spherical ulcerations and flat tubercles on breech; whining and husky.	Same symptoms from the onset.	1 month	Congenital.	An irregular and bad character.	Yellow leucorrhœa.	Soothing application.	1 day.	Not known.

TABLE IX.—*continued.*

Case.	Age.	Habit of Body.	Present form of the Disease.	Previous Forms.	Age when it first appeared.	Whence Derived.	Father's Condition.	Mother's Condition.	Treatment.	Under treatment.	Result.
10	23 months	Good.	Large, excavated, chancrous-looking ulcers — one on each labium pudendi, near the upper commissure, with hardened base, raised edges, and lardaceous coating, and surrounded by dark erythema and a number of eczematous spots; purulent discharge from vulva; intertrigo inguinalis et aurium. The ulcers were at first believed to be primary chancres, but no sufficient cause could be detected.	Had eruptions on the face, neck, and ears, immediately after vaccination, at four months, followed by parotid abscesses on both sides; after the abscesses, eruptions and intertrigo, until the appearance of the chancrous ulcers.	4 months	Attributed to vaccination, child from whom vaccinated not known.	Said to be healthy.	Apparently healthy	Calomel and the Lotio Nigra.	4 weeks.	Cured.
11	11 weeks.	Medium	Two deep ulcers with hardened bases, where the vaccine vesicles were formed 3 weeks ago; copper-coloured roseola on the nates and chin; sallow complexion; mucous tubercles around anus; eruptions and intertrigo behind the ears; coryza; atrophy; dysentery.	Roseola appeared 12 to 14 days after vaccination; the mucous tubercles 9 weeks after, when under treatment; the complexion assumed the syphilitic pallor 12 weeks after, and atrophy 4 months after.	2 months	Vaccination	Said to be healthy.	Feeble, but apparently free from taint.	Soothing remedies and cod oil at first; but the specific symptoms becoming aggravated, the hydr. c̄ crœta was used, under which the eruptions disappeared.	5 months	Improved and probably cured.
12	...	...	Two children both still-born prematurely at 8 months, shrivelled and decayed.	... ...	... ...	Inherited.	Had primary symptoms 3 months after marriage, which were communicated in that form to the wife.	Primary syphilis from her husband 4 years ago: chancres on vulva, for which she was treated 11 months, and said to be cured. Six months later had secondary eruptions, sore throat, husky voice, and condylomata of vulva; has now hœmoptysis, yellow leucorrhœa, syphilitic ulceration of labia uteri, edometritis, and vulvar irritation.	Mercurialism.	6 weeks.	Mother, who alone was treated, cured.
13	3 weeks.	Medium	Purulent ophthalmia and ulceration of both corneæ; protrusion of iris on both sides, and total	Purulent ophthalmia on the 3rd day after birth.	3 days.	Congenital.	Gonorrhœa three months before the	Vulvitis; chronic gonorrhœa; pain-	Lotio Nigra; pil. hydrarg; *for mother.*	5 weeks.	Cured, but with total blindness

			and nates; psoriasis of anus; thighs covered with copper-coloured blotches of serpiginous arrangement; syphilitic pallor; senile expression; great atrophy; stomatitis erythematosa; husky voice.	nation at 3 months; the vesicles were angry and festered, followed by blotches and wasting.			character and probity, declares that he never had a venereal affection.	from taint.	remedies; then mercurial inunction		pneumonia.
15	4 months	Good.	Skin covered from head to foot with large roseola-tuberculous blotches, especially pronounced on the nates, and ulcerated in the skin-folds; dry on the chin and arms. Relapse after 8 months, tuberculous roseola; eczema diffusum; round ulcer on the thigh.	The same from the beginning.	3 months	Inherited.	Had syphilis when married.	Has now yellow leucorrhœa — had vaginal irritation, and dysuria, during this her first pregnancy.	Under simple treatment got worse; then was rapidly improved by mercurials, given internally. Six free inunctions.	59 days. 26 days.	Cured, apparently. Cured.
16	15 months	Bad.	Skin thinly covered from head to foot witn large copper-coloured blotches; psoriasis of anus, and plaques muqueuses.	Purulent ophthalmia, which lasted 4 months; then roseola of trunk, arms, and breech	3 days.	Inherited.	Had violent gonorrhœa 6 months before marriage, and secondary disease until several months after the child was born.	Yellow leucorrhœa.	Calomel & Dover's powder.	1 day.	Not known.
17	2½ years.	Medium	Flat mucous tubercle, surrounded by copper-coloured erythema; husky voice; erythema of the fauces; blepharitis. Five previous children died of similar disease.	Copper - coloured blotches on the skin at 9 months; which have subsided under treatment, leaving the tubercle of the anus.	14 days, again at 9 months	Inherited.	Had syphilis when married 10 years ago, was not cured until 2 years after marriage.	Had syphilis after marriage, and now yellow leucorrhœa.	Calomel with Dover's powder—mercurial inunction	52 days.	Cured. Five children before this died of constitutional syphilis, this being the only one surviving.
18	18 months	Medium	The nates, vulva, and chest covered with numerous roseoloid blotches; left labial commissure ulcerated; voice husky; fauces inflamed.	First sore mouth; then copper-coloured blotches on chest.	11 months	Acquired through mother's milk from father.	Had primary syphilis 7 months ago—infected his wife by labial contact, producing sore mouth in her, and she in like manner gave it the child.	Ulcer of the lips; tuberculoid roseolous blothes on the anus; husky voice; sore throat; child being still at the breast.	Mercurial inunction for both mother and child.	2 months	Cured.
19	2 yrs. 2 m.	Bad.	Mucous tubercles around anus; coryza; blepharitis; teeth decaying.	Roseolous blotches; mucous tubercles; repeated blepharitis.	4 weeks.	Inherited.	Not examined.	Yellow leucorrhœa.	Mercurial inunction	21 days.	Cured.
20	10 months	Bad.	Roseolous eruptions on chest; coryza; loss of scalp hair, of eyebrows, and eyelashes; breech covered with psoriasis zonularis of copper tint; blepharitis.	Roseolous eruptions and coryza in early infancy; sore mouth a week after birth.	7 days.	Congenital	Apparently healthy	Yellow leucorrhœa.	Mercurial inunction	1 month.	Cured.

TABLE IX.—*continued.*

Case.	Age.	Habit of Body.	Present form of the Disease.	Previous Forms.	Age when it first appeared.	Whence derived.	Father's Condition.	Mother's Condition.	Treatment.	Under treatment	Result.
21	3 months	Bad.	Roseolous blotches on thighs, and ulcerations around anus and scrotum; copper-coloured blotches on chin; cracks and ulcerations in the skin folds; husky voice; sore mouth; ozœna, and loud nasal breathing.	Sore mouth and roseolous blotches.	7 days.	Inherited.	Formerly had syphilis.	Yellow leucorrhœa.	Mercurial inunction	1 month.	Cured. Two children previous to this died of the same form of disease, at the ages of 3 months respectively.
22	6 months	Good.	Copper-coloured patch on left nates, with an ulcer on each side of the vulva. Was again under treatment 10 months later for retarded development and diarrhœa, but no cutaneous symptoms.	Same symptoms.	5 months	Not known.	Not examined.	Yellow leucorrhœa.	Iodide of potassium —afterwards mercury.	27 days.	Cured, afterwards reported.
23	4 months	Good.	Copper-coloured blotches on breech and thighs; blepharitis; coryza; loud nasal breathing; submaxillary tumour.	Same symptoms.	2 months	Congenital.	Old spyhilis.	Yellow leucorrhœa.	Calomel internally.	1 month.	Cured.
24	22 months	Medium	Tubercular eruption of copper colour around the mouth, on the back, nates, and thighs; swelling of cervical glands.	General health delicate previously; skin sallow; atrophy, and atonic diarrhœa.	18 months	Not known.	Irregular character, history not known.	Yellow leucorrhœa.	Was treated during 42 days by simple remedies; cod oil, &c., with no beneficial result. Then mercurials, with benefit for a time, but the atrophy increased, with ulceration of the throat, to a fatal issue.	2 months.	Died of atrophy.
25	12 weeks.	Good.	Copper-coloured psoriasis, with smaller scaly spots all over the body; congenital node on right temple.	Same symptoms 3 weeks ago.	9 eeks	Inherited	Had syphilis when married 11 years ago—was not cured until 2 years after marriage, but has seemed well since.	Had syphilis from her husband after marriage; ever since, yellow leucorrhœa.	Mercurial inunction, and afterward iodide of potassium	54 days.	Cured. Five children of same parents died of syphilis, and the sixth was cured of syphilis at this hospital. (See case 17.)
26	12 weeks.	Good.	Copper-coloured blotches all over the body and limbs, and psoriasis on palms of hands and soles of feet. Relapse after 4 months, and 5 months later, on recovering from scarlatina, had psoriasis palmaris, of both of which he was cured by mercury.	Same symptoms from four weeks.	4 weeks.	Inherited.	Had a violent gonorrhœa 2 years 8 months since, which left stricture and gleet, with occasional discharge of blood, now persisting. Was cured by mer-	Had gonorrhœa from her husband, followed by blotches on the arms; now yellow leucorrhœa, and endometritis.	Calomel, with Dover's powder.	65 days.	Cured. The previous child died of the same form of disease; and a boy before this is now under treatment for syphilitic arthritis of knee.

[illegible]	[illegible]	[illegible]	husky voice; roseola of trunk, breech, and thighs; psoriasis and rhagades of lips; skin furfuraceous; expression senile.	tis.			years ago, followed by secondary symptoms; nothing since.	throat and husky voice; now yellow leucorrhœa.			rupted—result not known.
2	20 months	Bad.	Ulcerated tubercles of labial commissures, with surrounding copper-coloured erythema; 2 broad mucous tubercles on the opposing sides of the nates; radiated psoriasis of the anus. Relapse after 5 months; ulcerations on the vulva and around the anus.	Same symptoms since the onset.	8 months	Probably inherited.	No syphilis since marriage, but previously.	Yellow leucorrhœa.	Mercurial inunction. One relapse took place, the mother being neglectful.	5 to 6 months.	Cured.
29	12 months	Good.	Copper-coloured roseola on the breech and chin; ulceration of frænum linguæ; husky voice; chronic laryngitis; bronchitis.	Began with eruptions on the breech	7 months	Inherited.	Had secondary symptoms when this child was born	Has now secondary eruptions on the arms; vaginal irritation; yellow leucorrhœa.	Mercurial inunction	61 days.	Cured.
30	11 years.	Bad.	Constant pain of dorsal and lumbar spine; unable to walk during the last two years; nocturnal pains of hips, shin bones, and head; left ankle arthritic; œdema of legs; incipient cataract of right eye; lateral twitching movements of eyes; great impairment of cerebro-spinal innervation.	Had purulent ophthalmia a few days after birth, and later through infancy ulcerated patches about the anus and breech.	since birth	Inherited.	Had syphilis 11 or 12 years ago, with secondary phenomena.	Had syphilis when pregnant of this child and has ever since suffered. Has now three periosteal nodes on the head, excruciating nocturnal pains, yellow leucorrhœa, and endometritis, with induration.	Cod oil and iodide of potassium for boy; mercurial inunction for mother.	7 months.	Cured.
31	15 months	Bad.	Serpiginous psoriasis on thighs, breech, and hands; chronic bronchitis, withsuspicion of tubercles; atrophy.	Same symptoms soon after vaccination, at 3 months.	3 months	Vaccination	Not known.	Healthy.	Cod oil — Dover's powder, with camphor.	12 days.	Died of pulmonary disease.
32	4½ years	Medium	Arthritis of right knee with periosteal nodes of condyles of femur. Frequent preputial inflammation	Arthritis since the age of 18 months; and eruptions earlier.	.....	Inherited.	Had gonorrhœa both before and since marriage, with stricture, which persists, and discharge.	Contracted gonorrhœa from husband, followed by blotches on the arms, and uterine syphilis.	Iodide of potassium and cod oil.	7 months.	Cured, apparently
33	5 weeks.	Bad.	Roseolous blotches, and psoriasis of face and limbs; atrophy. The previous child still-born.	Commenced on the face.	14 days.	Congenital.	Had syphilis two years ago.	Vaginal irritation; yellow leucorrhœa.	Mercurial inunction; Dover's powder.	19 days.	Died atrophic.

TABLE IX.—*continued.*

Case.	Age.	Habit of Body.	Present form of the Disease.	Previous Forms.	Age when it first appeared.	Whence derived.	Father's Condition.	Mother's Condition.	Treatment.	Under treatment.	Result.
34	6 months	Medium	Phymata, with surrounding copper-coloured erythema on left leg; ottorrhœa on left side; later inequality of pupils—left largely dilated; outward squint of right eye—probably internal exostosis or effusion on left side. Chronic bronchitis.	Had purulent ophthalmia, 3 days after birth.	3 days.	Inherited.	Had secondary syphilis at the beginning of his wife's pregnancy.	Had secondary syphilis during the first six months of pregnancy.	Dover's powder, with camphor; mercurial inunction.	6 weeks.	Cured.
35	3 months	Bad.	Copper-coloured blotches all over the body, most thickly on nates, ulcerated near the anus; it consists of maculæ, papulæ, and psoriasis; aphonia; otorrhœa on left side; atrophy; bronchopneumonia.	Began with roseola after vaccination.	4 weeks.	Vaccination	Not examined.	Appears healthy.	Mercurial inunction	28 days.	Syphilis cured in 28 days when bronchopneumonia set in—result not known.
36	11 months	Good.	Eczema of entire scalp, face, arms, and elsewhere; skin, where free, has the syphilitic sallowness, minutely wrinkled, furfuraceous; adenitis cervicalis; husky voice; chronic laryngitis.	Began after first vaccination, a second vaccination having been practised under the belief that it would remove what the first seemed to have caused.	4 months	Vaccination	Healthy.	Healthy.	Mercurial inunction; cod liver oil; Dover's powder.	3 months	Cured.
37	4½ months	Bad.	Copper-coloured blotches of roseolous and psoriac character on anus and breech; great emaciation; skin of waxy paleness, wrinkled about the mouth, eyes, and forehead; senile expression.	Roseolous blotches and wasting, from soon after birth.	1 month	Inherited.	Had gonorrhœa 4 years ago, but no other form of venereal affection. Voluntarily confessed that he believed the child's disease had been derived from himself.	Seems healthy and has plenty of milk.	Plummer's powder, in small doses.	7 days.	Died.
38	15 months	Bad.	Eczema of scalp and face; scattered copper-coloured, hard, tubercles over the whole body and limbs; adenitis inguinalis; atrophy; vomiting, and diarrhœa; ulcerated tubercle of right labial commissure; husky voice; cracked psoriasis around anus; syphilitic pallor of skin.	Blotches came out soon after vaccination; was healthy previously.	6 months	Vaccination	Father, a man of probity, in robust health, sober and of thrifty habits, declares that he never had a syphilitic affection.	Healthy.	Calomel with Dover's powder; then Dover's powder and camphor; acetate of lead, and opium.	4 months.	Cured.

			night. The next two children—one at birth, the other 13 days after birth, died under syphilitic symptoms.	treatment by the writer repeatedly			marriage.	ing this child.			
40	10 months	Medium	Syphilitic pallor and œdema of face; dry, cracked, ulceration of eyelids, nostrils, and lips; a dark, scaly, ulcerated patch of left axilla; intertrigo of the groins; soreness of the vulva; bronchitis.	Symptoms came on after vaccination, at 6 months.	6 months	Vaccination	Healthy.	Healthy.	Mercurial inunction; Dover's powder with camphor.	4 days.	Died.
41	21 months	Good.	Copper-coloured blotches of neck, chest, and arms; plaques muqueuses around the anus; diarrhœa; husky voice; chronic laryngitis.	Began with soreness of tongue and palate, when still at the breast—is not yet weaned.	16 months	Derived from the mother.	Had primary syphilis 5 months ago—3 open indurated ulcers. Has now indurated and constricted prepuce: roseola of shoulders, back, and chest; tubercles on nates; phyma ani; sore throat; psoriasis of lips and nose.	Sore mouth and throat; husky voice; painful defœcation; yellow leucorrhœa; ulceration and hypertrophy of labia uteri; excoriation around arms.	Mercurial inunction; Dover's powder. The same plan of treatment for parents.	3 months.	Cured.
42	5 months	Medium	Roseola syphilitica over the entire surface.	Same symptoms from beginning.	5 weeks.	Congenital.	Had syphilis 6 years ago.	Syphilis six years ago from her husband. Three months after marriage had syphilitic eruptions for which she was under treatment six months; her two first children still born, decayed at 7 months; her third at full term, lived only 20 minutes, having extensive periphigus; has several times had vulvitis, with purulent vaginal discharge & dysuria; is now (October 1858), under treatment for aphthous ulceration of the cervix uteri and endo-metritis, of secondary syphilitic character.	Plummer's powder.	21 days.	Improved and probably cured, but treatment interrupted.

TABLE IX.—*continued.*

Case.	Age.	Habit of Body.	Present form of the Disease.	Previous Forms.	Age when it first appeared.	Whence Derived.	Father's Condition.	Mother's Condition.	Treatment.	Under treatment	Result.
43	6 weeks.	Medium	Copper-coloured blotches (roseola) over the entire surface.	.....	.....	Inherited.	Had syphilis 4 years ago.	Had syphilis from her husband 4 years ago.	Dover's powder and calomel.	20 days.	Treatment interrupted.
44	6 weeks.	Medium	Dark roseola all over the body; pertussis; diarrhœa.	Came out first on breech.	5 weeks.	Inherited.	Said to have had syphilis severely.	Husky voice; palate dark red and angry; uvula destroyed by former ulceration.	Calomel and Dover's powder.	2 months.	Cured.
45	9 months	Medium	Mixed eruption all over body and arms—in some places roseola, in others psoriasis; on both feet eczema; diarrhœa; atrophy.	Came out after small pox, which occurred 14 days after successful vaccination at 3 months.	3 months	Inherited.	Husband had syphilis 2 or 3 years ago.	Had secondary syphilis 2 years ago; has now yellow leucorrhœa, and ulceration of cervix, of specific aspect.	Dover's powder; mercurial inunction; cod liver oil.	2 months.	Died of diarrhœa and syphilitic atrophy.
46	12 months	Medium	Sore mouth; commissures ulcerated; husky voice; chronic laryngitis.	Coryza; cracked lips; blotches on the nates when 6 weeks old.	6 weeks.	Inherited.	Had syphilis 12 years ago.	.....	Mercurial inunction and cod oil.	7 weeks.	Cured.
47	4 weeks.	Medium	Roseolous blotches on both legs; diarrhœa; hydrocele.	Same symptoms from beginning.	3 weeks.	Inherited.	.....	....	Calomel & Dover's powder.	1 week.	Treatment left-off after one week—died two months later of atrophy. Four previous children died similarly afflicted—none survive.
48	2 years.	Medium	Flat tubercles around anus; cracked radiated psoriasis of anus; ulcerated tubercles of commissure of nose and lips; chronic blepharitis.	Blepharitis and ozœna from the age of 5 months.	5 months	Inherited.	Had virulent gonorrhœa 2 years 9 months ago, but never any other form of venereal affection. Suffered four months.	Has yellow leucorrhœa.	Plummer's powder.	2 months.	Cured.

			pains of limbs and head; rigors.	vaccination, which was followed by deep ulcers and erysipelas, which persisted 6 weeks; 12 months later had syphilitic eruption on the scalp, with glandular abscesses in three places on the neck, and blepharitis, which lasted two years.				healthy.	Calomel and chlorate of potass.	2 months.	Cured.
50	4½ years	Good.	Eruptions all over the body from soon after birth, in some places vesicular, elsewhere papulous—aggravated periodically—every 3 or 4 weeks.	The same symptoms from a month after birth.	4 weeks.	Inherited.	Had gonorrhœa several times before marriage; orchitis, which persists; swollen inguinal glands; chronic gleet; had the same symptoms on the birth of this child; Eruptions behind the knees.	Yellow leucorrhœa and vaginitis; endometritis.	Calomel; then Plummer's powder	10 weeks.	Cured.
51	2 yrs. 8 m.	Bad.	Retarded development; began to walk at 2¼ years; pericranial abscess; urethral muco-purulent discharge; eneuresis; blepharitis; syphilitic pallor; husky voice; chronic laryngitis; rachitis; enlarged liver.	In early infancy, syphilitic roseola, ozœna, psoriasis, and stomatitis, for which he was treated by the writer at the St. Mary's Hospital.	12 to 20 days.	Inherited.	Father, 31 years old, had virulent gonorrhœa at 21, which lasted 10 months; again at the age of 26, and communicated it to his wife during her 3rd pregnancy; a 3rd time 2½ years ago, inflicting it again on his wife. Each attack followed by secondary phenomena. Has now (October 1858,) a severe balanitis, with large specific secondary ulcer.	Had several times syphilitic sore throat; mucous tubercles about anus and vulva; gonorrhœa, vulvitis, and dysuria; uterine syphilis, *i.e.* endometritis; ulceration of specific character of cervix; warty excrescences, and purulent leucorrhœa: for which has been under treatment by the writer from time to time for several years, but very interruptedly.	At first laxatives, tonics, iodide of potassium, sarsaparilla, &c., which did no good. Then mercurial inunction, under which the symptoms speedily disappeared. For the rachitis, cod oil and chalybeates.	14 months	Cured.
52	4 yrs. 10 m	Bad.	Retarded development; chronic cough; chronic laryngitis with husky voice; ozœma; otorrhœa; stomatitis; blepharitis; enlarged liver. Brother of the preceding patient.	In infancy had gonorrhœal ophthalmia with persistent blepharitis; roseolous blotches, and stomatitis.	3 to 6 days	Inherited.	The same symptoms as above—this being the father of the preceding patient.	The same symptoms as above.	Mercurial inunction, after other remedies had failed	2 months.	Cured.

TABLE IX.—*continued.*

Case.	Age.	Habit of Body.	Present form of the Disease.	Previous Forms.	Age when it first appeared.	Whence Derived.	Father's Condition.	Mother's Condition.	Treatment.	Under treatment	Result.
53	3 yrs. 9 m.	Bad.	Retarded development; rachitis; habitual mucous diarrhœa; stomatitis and chronic laryngitis, with husky voice; osteocopia; syphilitic pallor; enlarged liver.	Had roseola and psoriasis of breech and anus, and ophthalmia with prolonged blepharitis, in infancy.	7 days.	Inherited.	The same as above—another child of the same parentage.	The same symptoms as above.	Mercurials.	7 months.	Cured.
54	15 months	Bad.	Retarded development; habitual mucous diarrhœa; eczema capitis; numerous phymata and furunculæ in various parts; suboccipital adenitis and abscesses; chronic laryngitis and husky voice; stomatitis ulcerans; decayed teeth; enlarged liver; syphilitic pallor.	In early infancy had roseola, psoriasis, and blepharitis; plaques muqueuses about anus.	3 weeks.	Inherited.	Another child of the same parentage.	Ditto	Mercurials.	6 months.	Cured.
55	7 months	Medium	Ulcerated tubercles at the commissures of the lips and nose; coryza; syphilitic pallor; copper-coloured blotches on the breech, and plaques muqueuses around anus; stomatitis erythematosa, and husky voice; enlarged liver; Pertussis; convulsions.	Had roseolous blotches over the whole body, from the 3rd day after birth to 2 months; ulcerated tubercles of labial commissures; stomatitis.	3 days.	Inherited.	The fifth child of the same parents.	Ditto	Leeches to the temples; calomel internally.	7 days.	Died of pertussic convulsions.
56	7½ months	Good.	Erythematous blotches of copper-colour on the chest and neck; eczema auris; arthritis of left elbow joint; herpes tonsurans; syphilitic pallor.	Came on after the subsidence of vaccination, the vesicles degenerating into ulcers, surrounded by erythema.	2 months	Vaccination	Said to be healthy.	Apparently healthy	Mercurials.	7 weeks.	Cured.
57	3 yrs. 3 m.	Good.	Was healthy till vaccination 3 months ago. The three vaccinated spots degenerated into three deep ulcerations, with hardened bases, which remained open 2 months; has now all over the trunk and limbs, flat herpetic-like crusts, with large erythematous areolæ, of copper tint—most numerous on the thighs; the cicatrices of the first-formed patches having a deep copper-colour. Has now great prostration; inappetence; eneuresis and dysuria; erythema of the vulva without discharge; chronic blepharitis and photo-	First symptoms were ulceration of the vaccinated spots, with copper-coloured blotches.	3 years.	Vaccination	Apparently healthy	Apparently healthy	Mercurials; bran baths; collyria of atropine.	10 weeks.	Cured.
58	15 months	Medium	Lichen syphilitica; syphilitic pallor; copper-coloured erythema-	The symptoms set in after vaccination	15 weeks.	Vaccination	Apparently healthy	Apparently healthy	Plummer's powder	3 months.	Cured.

58	15 months	Medium	Lichen syphilitica; syphilitic pallor; copper-coloured erythematous blotches on back and chest; a flat tubercle on left cheek; atrophy.	The symptoms set in after vaccination at 3½ months—to which period the child was healthy; they have continued to increase ever since.	15 weeks.	Vaccination	Apparently healthy	Apparently healthy	Plummer's powder	3 months, frequently interrupted.	Cured.
59	3 years.	Medium	Psoriasis on feet and legs; lepra syphilitica on soles of feet; scabies. Was treated by me when an infant at the breast for secondary syphilis. A younger brother of this child died under syphilitic atrophy.	Roseola syphilitica; stomatitis; husky voice; ulcerated cracks of labia.	7 months	From mother.	Apparently healthy	Roseola syphilitica of chest, arm, and face; psoriasis of palms and fingers; chronic pharyngitis; husky voice.	Mercurials.	6 weeks & formerly 2 to 3 months.	Cured
60	9 months	Bad.	Roseolous maculæ on arms, legs, chest, and breech; chronic blepharitis; bronchitis. Relapse after 8 or 10 weeks—(the eruption having disappeared under the treatment employed for the bronchial affection); and again more severely at the age of 14 to 15 months: sore mouth and throat; husky voice; syphilitic pallor; blotches and flat tubercles of breech and nates; cracked psoriasis of anus; atrophy.	Purulent ophthalmia on the 3rd day after birth; roseolous blotches on the subsidence of the ophthalmia.	3 days.	Hereditary.	Had, at marriage an unhealed chancre, followed by secondary eruption, of which he seemed to be cured 3 months after.	Had chancre on left labium pudendi when pregnant, with puro-sanguinolent discharge & dysuria, followed by sore throat, then ozœna, which persists. Has now also (Nov. 4, 1858) a large verucous condyloma within the vulva; angry, irritable state of the old cicatrix; syphilitic endometritis with purulent discharge; sterility 3 years.	Treatment miscellaneous, interrupted, unsatisfactory on account of the carelessness of the mother.	Under irregular treatment frequently interrupted all its life.	Died atrophic at 16 months.
61	4 weeks.	Bad.	Syphilitic pallor; senile features; tumid abdomen; pemphigus of abdomen; copper-coloured tubercles of nates; soreness around anus; atrophy.	Puny, and wasting from birth.	From brth	Congenital.	Primary syphilis, which was communicated in that form to the child's mother.	Is now (Sept. 1858) under treatment for syphilitic endometritis, with chancrous-looking ulceration around orificium uteri; verucous condyloma on vulva; angry cicatrix of a recent primary chancre on left labium pudendi; copper-colored erythema of fauces; husky voice.	No treatment for child. Mercurial for mother.	1 day.	Died aged 4 weeks, atrophic.

TABLE IX.—*continued.*

Case.	Age.	Habit of Body.	Present form of the Disease.	Previous Forms.	Age when it first appeared.	Whence Derived.	Father's Condition.	Mother's Condition.	Treatment.	Under treatment.	Result.
62	2 yrs. 7 m.	Good	Blepharitis; eczema and psoriasis of face and legs; psoriasis of anus; ozœna; husky voice; submaxillary adenitis.	Ophthalmia a few days after birth; roseolous blotches some days later, which have been persistent, and occasioned delay of vaccination.	3 or 4 days	Inherited from mother.	Present husband healthy.	Had primary syphilis from her husband (since dead), 19 years ago; two large ulcers of lab: pud.; inguinal abscesses on both sides; ulcerated throat; psoriasis of both arms a long time; and yellow leucorrhœa ever since. The infant, of which she was then pregnant, died syphilitic at 6 months; her next, now 17 years old, had syphilis throughout infancy, and has the disease still (See next case.) This is the only offspring of her second marriage, after a widowhood of 10 years. This mother is at present under treatment at the Clinical Hospital, for well-marked uterine syphilis, which has doubtless existed ever since the primary vulvar affection, 19 years ago.	Mercurial inunction	.....	Under treatment.
63	17 years.	Bad.	Half brother of the preceding—very stunted in growth—(4 ft. 2 in.); has two open abscesses; over right half of sacrum, the other near anus; and cicatrices of numerous old ones; angular projection of dorso-lumbar spine; otorrhœa on left side, with fœtid smell.	Eruptions; purulent ophthalmia; ozœna; sore throat and mouth, and other varying symptoms throughout infancy and childhood. Was repeatedly treated, and sometimes apparently cured or relieved, but the symptoms always relapsed. Never	Early infancy.	Inherited.	Had primary syphilis 2 years before the child's birth, and secondary disease to the period of his death, which happened abroad 3 years after.	Same mother as the preceding.	Mercurials.	.....	Under treatment.

Derivation.

Of the preceding 63 cases, in 46 the taint was inherited or acquired from the parents; in 14 it was proved to have been conveyed by vaccination; in one it was communicated through the breast-milk of a foster-nurse affected with syphilis, whose child had died under the same form of disease; and in two the origin could not be satisfactorily ascertained.

Secondary phenomena following both forms of venereal affections.

I shall not attempt to distinguish between the different cases deriving the taint from parents in whom the disease presented itself originally in form of chancre or gonorrhœa respectively; nor between primary and secondary affections, as modifying the phenomena, or as determining a characteristic or distinctive type in the infected. These are by no means constant or uniform, but often widely different in different constitutions, the disease frequently exhibiting very different features, even in two or more persons of corresponding ages who have been infected from a common source. Great as these diversities may be, however, they are far more nearly in unison than are the various opinions promulgated and the doctrines founded thereon by men of the first rank and of unlimited experience as syphilographers. The doctrine of the non-infectious nature of the disease in secondary form, so pertinaciously held for a series of years on the authority of Hunter, is now pretty generally exploded; it may not be long ere a similar opinion is entertained as regards some forms at least of gonorrhœa.

Phenomena and their antecedents.

Neither is it my purpose to discuss in this place the relative merits of the various opinions here alluded to. I deem it sufficient on the present occasion to detail phenomena as they have presented themselves, with such of the antecedent conditions upon which they

appeared to depend as could be brought to light, believing that in time such procedure will substantially contribute to make clearer such points as may still be obscure or doubtful.

Duration of secondary disease.

To the duration of this disease there would seem to be no limit. It has no tendency to wear itself out without mischievous entailment. It degenerates by time into forms of scrofula, tuberculosis, and glandular affections; into osseous degeneration, atrophy, hepatic disease, and dropsy; but does not disappear, untreated, without the infliction of some such disastrous consequences.

Insidious nature of secondary syphilis.

Constitutional syphilis is one of the most insidious of diseases. A child inheriting the taint may be well developed, and may appear in perfect health to the age of three or six months, or much longer; when vaccinated, the vesicles may have the semblance of perfection; yet the child vaccinated with the virus of such a subject shall exhibit all the signs of the taint having been conveyed before an indication of its presence has appeared in the child from whom the virus was taken. And even the mother or foster-nurse of such child, the recipient, may imbibe the disease from her nursling, and exhibit it in characteristic form, while the mother of the infecting child remains *apparently* sound.

Uterine syphilis.

This apparent immunity of the mother of the infecting child may seem a paradox, but on minute inquiry it will be found not to be so. In every instance where the mothers of syphilitic infants have been under treatment—(I do not here allude to, or adduce instances from former experience on this subject), the existence of syphilitic disease in the uterus, with discharge containing more or less of pus, has always been found;

and it is probably due to the daily vicarious relief which the system experiences through the medium of this active emunctory organ, that the characteristic phenomena are prevented from appearing on the skin.

Treatment.

Regarding the treatment of syphilis, much need not be said. An extended and continued experience goes still more strongly to confirm the belief, already expressed elsewhere,* that no remedy with which we are at present acquainted, is at all comparable with mercury in its curative efficacy.

Primary syphilis.

Primary and other existing symptoms may be made to disappear for a time by other measures, and sometimes the first-named form, as to its external characters, will vanish without any remedial interference whatever; but the mere subjugation for a season of cutaneous phenomena, is no adequate evidence that the blood is free from taint. The symptoms are still liable to reappear after months or years, and during this interim of quiescence and apparent immunity, the poison remains in the system sufficiently powerful to be transmitted in characteristic form to the offspring.

Alleged ill effects of mercury.

The ill consequences alleged to have resulted from the proper use of mercury are, in my opinion, altogether fabulous and imaginary. The effects of the disease, neglected or ill-treated, have probably been mistaken for those of the remedy. Almost any remedy whatever, or even innocuous articles of diet, if used injudiciously, may be made to produce evil consequences; and no remedy is a safe one in the hands of the incautious.

Effects of mercurial and non-mercurial treatment.

Of the cases recorded in the foregoing table, there is scarcely an instance wherein real benefit accrued from

* On Hereditary Taints, 2nd Edit., Ch. vi.

non-mercurial treatment; but many occur in which such a course, practised as an experiment, failed entirely; the disease being afterwards cured by mercury. Sufficient time has not yet elapsed to show what the result in these cases may be in the long run; but it may be stated that of the relapses, none have thus far occurred among those treated by an efficient mercurial course; while in many of the others not so treated, the disease has reappeared. I may here add, that cases of this nature treated twelve to fifteen years ago, and kept constantly under notice, remain undoubtedly cured, although in many of them other remedies had for a long time been previously tried ineffectually.

Effects of treatment.

The cases treated by non-mercurial remedies, and those in which mercury was insufficiently employed, exhibited a constant tendency to relapse, each return being as severe in its destructive tendency as the preceding one had been, and sometimes more so; although not always assuming the same form, nor uniformly attacking the same parts of the body. In case 4, the patient appeared to be quite cured in the space of three months, by cod oil and iodide of potassium, freely administered, and remained apparently well six months.

Relapse.

On a relapse taking place, he was treated with the same remedies and mercurial inunction, by which an apparent cure was again effected. He remained in tolerable health twenty months, when a relapse came on, more severe than either of the preceding. On this occasion, although conditions existed which are commonly considered to contraindicate the use of mercury—stomatitis for instance, and great delicacy of the mucous membranes generally, mercurial inunction, which had been only imperfectly practised before, was alone adopted,

and carried to ptyatism, at which point the boy began to improve and was speedily cured. He now remains in better health than he has possessed at any time previously. Notwithstanding the presence of the syphilitic poison in this child's system for so long a time, the physical development, under a careful and anxious mother, with the aid of cod oil, progressed remarkably well; as in the space of twenty-five months—from the age of eight months to two years and nine months, the head increased in circumference $2\frac{1}{4}$ inches, and the chest $4\frac{1}{2}$ inches.

Relapse.

In case 8, one relapse occurred, inunction having been practised, although imperfectly, during the first treatment. On the second occasion, inunction was more effectively administered, and the cure accomplished. This child was recently brought, labouring under bronchitis, but quite free from syphilitic symptoms, and was well developed: the head having increased in circumference $2\frac{1}{4}$ inches, and the chest 3 inches, in the space of twenty-three months.

In case 26, two relapses occurred; in case 28, one relapse; and in case 60, twice the symptoms returned, the treatment having been frequently interrupted.

Long existence of the syphilitic taint.

Many of the cases are notable on account of the great length of time which elapsed since the apparent cure of the primary, or of the acute secondary form of the disease; the blood of the parents still retaining the taint in a degree sufficiently active to be transmitted to the offspring. In case 62, the child, with well-marked constitutional syphilis, was the offspring of a mother who had primary syphilis seventeen years previously, and not since; its father, the mother's second husband, being perfectly free from taint, as he

never had a venereal affection in any form. This woman had been a widow ten years, and without a husband thirteen years, the first having gone abroad three years before his death. The child of which she was pregnant when labouring under the primary affection died syphilitic at the age of six months; her next, by the same husband (case 63), now seventeen years old, is at present under treatment for constitutional syphilis, with which he has been affected, uninterruptedly, since early infancy. The complexional hue, the tint of the cicatrices, and other characteristics of existing phenomena, bear upon the face of them unmistakeable traits of their syphilitic origin.

WOMEN'S DEPARTMENT.

Diseases of women.

The treatment of certain forms of female disorders has constituted a necessary part of the system of the Clinical Hospital from the time of its foundation, and seeing the relation in which mother and child stand to each other, such necessity must continue to exist. In the majority of instances the ailments of the infant are derived through the mother, their nature and form are more or less determined by prevailing conditions in her, and are frequently aggravated or modified in severity, prolonged or shortened in duration, in accordance with corresponding changes, whether moral or physical, operating within the system of the mother. Poverty of blood, whether induced by erroneous diet, scantness of food, intemperance, or other kind of evil, has its immediate effect upon the nursling. Again, specific forms of disease transmitted from one to the other requires to be treated in both, for however suc-

cessful the remedies may be when applied to one only, reinfection is liable to take place from the untreated, so long as the two are brought frequently into actual contact, whether through the medium of the breast or otherwise.

Women and children.

The frequent demands made on behalf of ailing mothers began seriously to inconvenience our operations to the detriment of the children, so that it became necessary to separate the two classes of patients into distinct groups. One day in each week has, consequently, been set apart for the admission and treatment of women, with opportunities of additional interviews on some other days in cases of urgency. The diseases admitted for treatment, however, in this department are restricted to those peculiar to women, and especially to maternal ailments; all others of whatever kind, except when existing as complications, being strictly excluded.

Number of women treated.

The number of patients thus treated to the end of the year 1858, is 188. Seventy-nine of these were nursing mothers, of whom more than sixty were labouring under disorders, the result, principally, of irregular or over-nursing, having the assemblage of symptoms constituting Anæmia Lactantium. The prevailing phenomena in these cases were, headache, giddiness, debility, faintness, languid circulation with jugular murmur, disordered functions, and frequently leucorrhœa. In addition to an immoderate demand by the wants of the infant, not a few had to complain of unsuitable and insufficiency of food, unhealthy or overcrowded dwellings, ill treatment; and some were naturally of feeble constitution. In such women the breast-milk was either deficient in quantity or bad in

quality, or both, and their infants were suffering from disease thereupon consequent.

Syphilitic women.

A considerable number, some of them along with one or more of their offspring, were treated for constitutional syphilis. This has proved to be a most serious class of cases, in many instances tedious and difficult to cope with; the patient's husband, in no inconsiderable number of them, being still afflicted, and consequently in a condition to reproduce the disease in the wife and offspring. Whenever practicable the husband has been requested to present himself, and, for the sake of his wife and family, was offered a gratuitous treatment. Upwards of twenty have promptly obeyed the summons, by whom the opportunity offered has been gladly and thankfully embraced.

Uterine disease.

Between eighty and ninety had disease of the uterus and its associated organs, with immediate consequences in form of dysmenorrhœa, leucorrhœa, suppressio mensium, hæmorrhage, hysteria, varicosis, anasarca, and other disturbances.

Vascular hypertrophy.

Of the last-named group, fourteen, of whom thirteen had borne children, had metrorrhagia, or immoderate profluvia of some kind. In some, the excessive losses were simply in form of menorrhagia, the periods being regular, but more or less prolonged, and the free interval occupied by an exhausting leucorrhœa. In others the catamenial accessions were irregular, always too frequent and protracted—the crisis continuing from six to twelve days, or longer, with an interval of five to ten days, occupied by leucorrhœa. In a few the discharge lasted several weeks at a time, returning after a short interval of rest, and often when not ex-

pected, so that its regular periodicity was lost altogether. All were more or less anæmic, with great lassitude, pallor of skin, languid and enfeebled circulation, often jugular bruit, and hysterical disturbances in various forms. Each attack of hæmorrhage was in reality a serious illness, from which recovery was but half accomplished when the next came on.

Pathological condition.

The pathology of these cases consists in vascular or spongeoid hypertrophy of the uterus as a principal condition. The uterus, whether normally placed or otherwise, was always too bulky; its lower section was expanded, its density lessened, its fundus, in some instances, could be readily felt above the pubis without pressure from below; and its depth was generally increased. The veins of the cervix, and no doubt those throughout the entire organ, were congested, one or more varicose knuckles being occasionally visible, constituting what has been called uterine piles. All the pelvic structures were relaxed. The hæmorrhoidal veins were often distended, and occasionally there was rectal flux, with or without rectal hæmorrhoids. Concomitant symptoms of hepatic disturbance were also not uncommonly present.

Achillea.

These cases are selected for special mention on the present occasion, not because they are of greater importance than others left unnoticed, but with a view to render this opportunity available for the purpose of alluding to a remedy (Achillea Millefolium) which has been eminently serviceable in their treatment. The following examples may be cited in illustration.

Metrorrhagia.

Case 1. A woman in comfortable circumstances, of lymphatic-bilious temperament, thirty-eight years of age, married at nineteen, began to menstruate at

seventeen without difficulty. The ordinary crisis lasted seven days, the discharge being abundant, attended with lumbar and hypogastric dysmenorrhœa. Has been five times pregnant, two ending favourably, but both children having died in infancy; and three abortions. Her deliveries were attended with hæmorrhage, the lochia continuing long; and ever since her first delivery she has had an abundant leucorrhœa occupying the catamenial intervals. For many years past these crises have been a succession of prostrating illnesses, from each of which she had not recovered before the arrival of the succeeding attack. She was under treatment ten or eleven years ago for a period of eight or ten months uninterruptedly, by which the symptoms were relieved, but only for a short time. Her last delivery, an abortion, took place four years ago; no pregnancy since.

Catamenial crises.

On admission she stated that the menstrual crises had, for several years, been irregular, always too frequent and too protracted, each period lasting twelve to fourteen days, and the free interval being only seven to ten days, with an abundant leucorrhœa. She was weak, pale, and anæmic; was troubled with palpitations on the slightest exertion, and had jugular murmur on both sides.

Condition of uterus.

The uterus was very large, occupying almost the entire cavity of the pelvis, and could be felt, on slight pressure from below, above the pubis. Its lower section was expanded and nodulated, but only slightly abraded. The whole vascular system about the pelvis was congested, and all the tissues relaxed. The digestive organs moderately healthy, the bowels sluggish.

Remedy.

She took the tincture of yarrow, in doses of a dessert-spoonful in water three or four times a day, for

three months, from the end of July to the end of October, during which the discharge, both menstrual and leucorrhœal, gradually diminished; the bulk of the uterus decreased to nearly its normal dimensions, and the dysmennorrhœal troubles abated—the general health and appearance being remarkably improved. The two crises which happened in November and December lasted each only four to five days, having been a full month apart; the amount of discharge was moderate, almost unattended with pain, and there was only a very slight show of leucorrhœa in the intervals.

Example.

Case 2. A woman, twenty-nine years of age, of bilious temperament; married at eighteen. Has had two pregnancies, of which the first was an early abortion; the second happened at the age of twenty, and the child survives; no pregnancy since. She had the first change of life favourably at fifteen, the discharge being moderate, lasting three days, but attended with lumbar and hypogastric pain.

Crises.

Since her last delivery, which was protracted and severe, and followed by a retarded recovery, the menstrual crises have been hæmorrhagic, too frequent, and followed by an exhausting leucorrhœa in the intervals.

Condition of patient.

On admission she was supported into the consulting room by two persons, being unable to stand alone, and appeared anæmic to the last degree. She was labouring under uterine hæmorrhage, which had existed fifteen weeks without cessation. All the pelvic structures were greatly relaxed and congested. The uterus was very bulky; a tumefaction occupied its posterior wall, leading at first to the suspicion of retroflection; but on introducing the sound, this instrument passed freely

4½ inches in an upward and forward direction behind the pubis, showing that the tumor occupying the hollow of the sacrum was not the fundus of the uterus, but probably a vascular excrescence. A large tumor was also felt without any upward pressure, in the hypogastrium, equal in size to that of a five months' pregnancy. This was the fundus of the enlarged uterus, as upon pressure from below, the impulse was perceptible above.

Remedy.

This patient took the decoction of yarrow from the date of her admission, the 26th of August, to the end of November, when she was discharged cured. After two days use of the remedy the hæmorrhage ceased; and although it afterwards recurred for a time, at irregular intervals, the loss steadily decreased, and soon ceased to be hæmorrhagic. The periodical visitations are now reduced to their normal order, lasting only three to four days; the discharge is moderate; there is no longer any tumor felt above the pubis; the sound shows a depth of only 2⅔ instead of 4½ inches; the tumor behind the uterus has entirely disappeared; her general health is fully restored, so that she is now able to discharge her household duties with comfort, and as efficiently as at any time; the leucorrhœal discharge is arrested, and the pelvic structures have completely regained their healthy tone.

Achillea Millefolium.

The Achillea Millefolium (vern. Yarrow; Ger. die Schafgarbe; Fr. Millefeuille), is an indigenous herb, so common that it is doubtful if even Taraxacum grows in greater profusion. It was anciently a popular remedy for fluxes of all kinds, but especially for epistaxis, hence one of its names of Nosebleed. Green, in his Botanical Dictionary, says, "it is an excellent medicine in the

overflowing of the menses, bloody fluxes, and bleeding of the piles. It increases the urinary discharges, and removes ulcers of the kidneys or urethra." In the latter assertion Green was probably mistaken, as the pathology of the kidney, at least, was imperfectly understood in his day. Of its anti-hæmorrhagic virtues, however, there can be but little doubt, as the preceding observations will serve to show.

Form of preparation.

Achillea may be administered either in form of tincture or decoction. In case 1, the tincture alone was employed, in doses of a dessert-spoonful in water three or four times a day. In case 2, the decoction was used, both being equally effective.

The grounds upon which this remedy is recommended as an anti-hæmorrhagic, are not limited to the experience above cited. I have used it pretty freely in private practice about three years, and the results now stated go entirely to confirm those of previous trials.

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