

Practical observations on the management and diseases of children / by the late Charles Thomas Haden ; with additional observations and a bio-graphical notice of the author by Thomas Alcock.

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PRACTICAL OBSERVATIONS
ON THE
MANAGEMENT
AND
DISEASES OF CHILDREN;

BY THE LATE
CHARLES THOMAS HADEN, Esq.

WITH
Additional Observations

AND
A BIOGRAPHICAL NOTICE OF THE AUTHOR

By THOMAS ALCOCK, SURGEON.

London:

PRINTED FOR BURGESS AND HILL,
MEDICAL BOOKSELLERS,
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1827.

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IN THE LATE

CHARLES THOMAS HENDER, Esq.

PLUMMER AND BREWIS, PRINTERS, LOVE LANE, EASTCHEAP.

Additional Observations

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A BIOGRAPHICAL NOTICE OF THE AUTHOR

BY THOMAS ALMOND, Esq.

LONDON:

PRINTED FOR BURGESS AND HILL

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25, GREAT WINDMILL STREET, PATERNOSTER

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BIOGRAPHICAL NOTICE

OF THE LATE

CHARLES THOMAS HADEN, ESQ. SURGEON,

By THOMAS ALCOCK, Surgeon.

CHARLES THOMAS HADEN was born at Derby, October 2d, 1786. His father has been long known as a highly respected and successful Surgeon; and so much esteemed by his fellow-townsmen, as to have filled more than once the responsible situation of chief magistrate of that ancient borough.

Mr. Haden was "educated at Rugby, and began the study of Medicine and Surgery at seventeen years of age. He spent the winters of 1801, 1802, and 1803, in London; 1804 and 1805 in Edinburgh. In 1810, he attended Lady Emma Bennett to Madeira; and in that year, when the Derbyshire Infirmary was opened, he was elected one of the Surgeons to that Institution, at the head of the poll. He came to Sloane Street in 1814."*

* The Editor is obliged to the near relations of Mr. Haden for the preceding dates.

In Sloane Street, Mr. Haden became one of the Surgeons of the Chelsea and Brompton Dispensary; a trust which he fulfilled most ably and with unwearied assiduity.

Early in life Mr. Haden was extremely fond of reading, and thus laid the foundation for more extensive classical and literary acquirements than fall to the lot of many. His taste in music was highly cultivated, so much so, that his skill seemed rather to be that of a professor than of an amateur.

Whilst a student in London, he was intimately acquainted with the late Dr. John Clarke, and his studies were, in a great measure, directed by that able and intelligent Physician; and the liberal plan of his education, devoting five successive winters to the best schools of medical and surgical instruction, secured to him many advantages. At a subsequent period he obtained the diploma of M. D., from one of the Northern Universities.

In the practice of his profession he was ardent, persevering, and humane; so much so, that the humblest individual who solicited his assistance might depend upon his exertions. Although actively engaged in extensive and lucrative practice, he never lost sight of opportunities of keeping up and adding to his acquirements in every thing relating to his profession; and by early and methodical habits of business, he even found leisure to devote a considerable portion of his time to general literature; but in this he rarely permitted himself to indulge till the more important business of the day had been completed. Neither did his great musical talents lead him astray from the sober path of duty; although, when the time could be spared, few concerts could afford a higher treat than the half hour he was

accustomed to give up to this delightful amusement, to accompany Mrs. Haden, whose taste and skill were fully equal to his own. The Author of "LACON" has stated, what might very fairly be said of Mr. Haden, that "He who can charm a whole company by singing, and at the age of thirty has no cause to regret the possession of so dangerous a gift, is a very extraordinary, and I may add, a very fortunate man."

His zeal for the improvement of the medical profession, and his open, manly, and conciliating disposition, gained him the confidence of his associates and of the public. Elected whilst yet young in years to the responsible situation of Surgeon to the Derbyshire General Infirmary, he had a share in forming those excellent arrangements which render that institution a model worthy of imitation by other hospitals. On leaving Derby and residing in Sloane Street, it has been above stated, he became one of the Surgeons of the Chelsea and Brompton Dispensary. He was a Member of the Medical and Chirurgical Society of London; and had filled the office of Vice-President in the Society of Associated General Practitioners of Medicine and Surgery of England and Wales.

As an author, Mr. Haden's claims are before the public. His works, although, in the opinion of the writer of this notice, containing valuable contributions to the general stock of medical knowledge, were, for the most part, written when illness rendered him unable to perform the more active duties of his profession. His work on the *Colchicum Autumnale*, making known the valuable properties of that powerful medicine, which has been favourably received by the profession, was written under these circumstances.

He was Editor of the *Medical Intelligencer** during the greater part of the time that work was continued, and contributed many papers to other works of medical literature. A *Journal of Popular Medicine*, by Mr. Haden, has been allowed to contain most valuable observations on the Diseases of Children. It was his intention to republish the essays on this subject in a separate form, and the work was considerably advanced, though not finished, when Mr. H. left England : these observations are now presented to the Public.

Mr. Haden's Translation of Magendie's Formulary, which diffused a knowledge of the new and active remedies lately brought into practice, passed through a first edition in the space of a few months ; and a second edition, with copious notes and additions by his friend Dr. Dunglison, has also been exhausted. The translation of this work was made by Mr. Haden whilst he was confined to his bed by illness, and in a state of weakness which, with many persons, would have precluded even mental exertion.

The Introductory Essay published in the first volume of the "*Transactions of the Associated Apothecaries and Surgeon-Apothecaries of England and Wales*,"† (with the exception of the historical part, extracted from the records of the Association, and of a few remarks by his colleagues,) was written by Mr. Haden whilst upon a bed of sickness. This essay will be a lasting testimonial of its author's zeal for the improvement of

* It is to be regretted that this work is not now continued : its usefulness was generally acknowledged : it comprised a succinct analysis of the passing progress of the medical and accessory sciences, during the years 1820, 1821, 1822 and 1823.

† This volume also contains several interesting and useful medical and surgical papers from the pen of Mr. Haden.

the medical profession, and contains many valuable suggestions, calculated to direct both student and practitioner to useful researches. By some it may be supposed that its author entertained too great a partiality for the French Schools of Medicine; but his opinions were founded on careful observation, aided by attentive reading; he appreciated their valuable improvements, and his sincerity was too great to allow him to conceal whatever he believed to be useful to his fellow labourers in the cause of humanity.*

His sentiments on this head are so characteristic of his ardent mind, that the writer is induced to make an extract from one of his private familiar letters written about the time alluded to. After stating how much he firmly believed to be within our reach, he proceeds:—
“If I live to be a workman in London again, I hope to place myself so as to be a nucleus for much being done by our younger friends. One of the best parts of the French system is the mode in which all the best of the Doctors, the working ones, are surrounded by eager young men—not only the Doctors of hospitals, but such men as Magendie; who works much, as Haller did before him, by the hands of his numerous *protégés*. My stock of desirable objects of pursuit is already considerable; and my memoranda relating to them augment daily, as was likely to happen; for when a new view of things opens to any one, the prospect is generally sufficiently boundless if the eyes only take the right direction.”

* Mr. Haden was one of the first to adopt in this country, the use of the Stethoscope of Laennec, and his esteem for the now lamented Author of this great help to accurate diagnosis, has since been re-echoed by the general voice of the profession.

Mr. Haden had planned several works relating to the Medical and accessory sciences and others of general literature;—of the former, a system of Zoology was far advanced; and of the latter, *An Essay on the best mode of Improving the English Language, and on the principles of Punctuation, with observations and analyses of specimens from the most esteemed authors*, contains much original matter and had been carefully revised by Mr. Haden for publication.

In his private life, Mr. Haden was cheerful, amiable, and sincere:—he knew how to appreciate and to practise the giving up of pleasure for duty. As a son, brother, husband, father, or friend, his conduct claimed esteem, and might serve as an example worthy of imitation. It may truly be said of him, that he was one who valued the reciprocal interchange of kindness in private, much more than the too strong expression of it in public; and one who was ever more ready to serve his friends than to profess friendship. His memory will long be cherished with affection by those who had the happiness of witnessing and appreciating his unassuming virtues.

During the last three years of Mr. Haden's life, his health had suffered considerably, sometimes to an extent not free from immediate danger. From a careful investigation of the symptoms under which he laboured, and of their progress, one of his friends had long been persuaded that he laboured under internal aneurism. In December 1822, Dr. Baillie confirmed this opinion: at his first consultation, on his attention being directed to the point, he admitted "there was enough to cause a suspicion," and accurately traced the then existing affection of the right lung, which had generally suffered more than the left in these attacks.

On his next visit, he stated unequivocally, in the presence of one of Mr. Haden's brothers, Mr. Richard Haden, and others, "there could be no doubt that there was aneurism."

Soon after this period Mr. Haden went into the country, in the hope of experiencing relief by rest and a purer atmosphere than the vicinity of London affords. After several months' confinement to bed, he so far recovered as to be able to take gentle exercise and to enjoy the society of his friends. Fearing, however, the severity of an English winter, he was anxious to visit the South of Europe before that season should arrive, and thought of passing the winter at Naples; but changed this intention, to accompany Sir William Curtis, in his yacht, on a voyage to the Mediterranean, where his useful life was suddenly terminated, near Malta, on the 11th of January, 1824, leaving a wife and three children, but slenderly provided for, to lament their irreparable loss. He had been in his usual health and spirits till within half an hour of his dissolution. He was visited by two Surgeons from gun-brigs on that station, but his situation did not admit of relief. It does not appear that any *post mortem* examination was made.

His remains were interred in the Protestant burying ground, near the Quarantine Harbour, Malta; where a simple stone is erected to his memory with the following inscription;

“HERE LIETH
THE BODY
OF
CHARLES THOMAS HADEN,
M.D. OF LONDON,
DIED 11th JANUARY, 1824.
AGED
38 YEARS.”

Notwithstanding Mr. Haden's equanimity, and the hopes he sometimes entertained of being fortunate enough to regain a degree of health, which should enable him to employ himself in intellectual labour, which might be useful to others, he scarcely contemplated the probability of resuming the active duties of medical and surgical practice. Indeed, he was more fully aware of his situation than was likely to be supposed by those who only witnessed his serene and cheerful hours, without knowing him sufficiently to appreciate that strength of mind, which supported him under his painful and protracted illness.

The following extract from one of his letters, written when at Derby, in April 1823, will elucidate the foregoing remarks, whilst it displays the philanthropic motives which actuated his conduct through life :—

——— “*You must excuse the abruptness of my letters, because I cannot conveniently write. I am better somewhat, but in bed, and seldom even in the sitting position. From the complaint, however, that remains, and from my emaciation, pallor, and other symptoms, I fear the worst: but never mind, I am prepared for that worst; and only regret leaving the many friends I possess, and the fine field for doing good, which the present state of society opens to every one who wishes well to his fellow creatures.*”

INTRODUCTION.

IT has been already stated in the Biographical Notice, that it was the Author's intention to republish the Essays contained in the present volume ; and that the Work was considerably advanced, though not finished, at the period of Mr. Haden's decease.

In their unfinished state, Mr. Haden's widow could not dispose of them as property to any advantage ; the few additions by the Editor have been made to obviate that difficulty, and they are now presented to the Public, probably in a less complete form than the Author would have given them, but still, in the hope of their proving useful, more particularly to parents.

It has been said of these Essays, " The best popular medical observations relative to children, which we have lately met with, are contained through several numbers of Mr. Haden's Journal of Popular Medicine. We would advise Mr. Haden to print them separately ; he could not confer a greater favour on intelligent mothers."*

The chief part of these excellent and practical Essays, is no doubt intended for, and adapted to the the use of intelligent parents. The Author's great

* Quarterly Journal of Foreign Medicine and Surgery for July, 1823. The Journal of Popular Medicine is become very scarce, if not entirely out of print.

object was to point out the rational and careful management by which the numerous occasional causes of disease dependant upon defective or erroneous nursing, may be prevented or averted. It was not his intention to attempt that which must be impracticable, namely, the instruction of those uneducated in the medical profession, in the intricate and complicated details of the treatment of disease when it has taken place. The absurdity of such an attempt, which should profess to enable the inexperienced to overcome difficulties that a lifetime devoted to the study and practice of medicine is scarcely sufficient to surmount, must be self evident to any one capable of reflection.

In dwelling upon the frequency of hydrocephalus as one of the evils of teething, the early symptoms indicative of danger, whilst the disease may be yet averted, are ably pointed out:—to these early or premonitory symptoms, the attention of mothers cannot be too pointedly directed; but, to the Editor of his Friend's labours, it appears that the reasoning on the pathology of the disease, is somewhat too abstruse for the general reader, and fitted rather to assist the judgment of the experienced medical attendant.

The observations contained in the first twelve chapters are Mr. Haden's; the additional observations which follow—comprising the subjects of *Weaning and the diseases incident to that period*:—*On the Mode of bringing up infants by hand*:—*On the Management of children from the period of teething to the commencement of school education*:—*On preparatory schools, and on the precautions and management required to promote health*: together with the Biographical Notice, the Introduction and Index, are the work of the Editor.

Perhaps it may not be irrelevant to mention, that the extensive opportunities afforded to the Editor, by the medical care of a large public Institution for many years, where the management and diseases of children came daily under his observation, (opportunities which were freely open to the inspection of his professional friends, and to none more unreservedly than to the Author of these Essays) in addition to his private practice, induced him to commence a Work on some of the most important diseases of children; such as Measles, Small-pox, Scarlet Fever, Hooping Cough, Croup, &c. but the more active duties of his profession, not admitting of the leisure necessary to give the details which he deemed requisite to the full elucidation of these important subjects, in the form of a separate publication, a condensed statement of his peculiar views relating to the treatment of these diseases, derived from practical observations and pathological anatomy, were published in the "*Medical Intelligencer*" for 1820, under the head of "*Observations on the Inflammations of Mucous Membranes of the Organs of Respiration.*"

The difficulties which attend the investigation of diseases in infants and children, before they are able to communicate in words their feelings, or the sufferings under which they labour, have been generally acknowledged; and many have been led to believe, that any considerable approach to certainty, as to the nature, precise seat, and degree of disease in infants, was unattainable. With mere common place attention, and no deeper foundation than the usual routine of medical education affords, it is not surprising, that mistakes in the diagnosis or distinction of the diseases of children, should be both frequent and fatal; but the experienced

practitioner is fully aware, that, with a mind well prepared for observation, and a great degree of patient attention to the symptoms, the mode of attack, and other circumstances, as great a degree of certainty may be attained, respecting the diseases of children, as in those of adults. When it is considered how insidious some of the most dangerous diseases of infants are, and the fatal consequences of error, or even delay, in the early treatment, the importance of the careful study of the diseases of children, cannot be too strongly impressed upon those entering upon the medical profession. With these feelings, the Editor, some years ago, communicated to his professional brethren, in an *Essay on the Education and Duties of the general Practitioner in Medicine and Surgery*, the mode which he had adopted in the investigation of the diseases of children, and submitted a plan of study and observation by which he believed the recurrence of errors, similar to many which had, during a long series of years, come under his notice, might, in a great measure, be obviated.

11, NEW BURLINGTON STREET,

August, 1827,

PRACTICAL OBSERVATIONS, &c.

ON

CHILDREN.

CHAPTER THE FIRST.

On the Signs of Health and Disease in Children.

It is an error to suppose, that a great mystery hangs over the diseases of children. We are taught, that it is difficult to recognize disease in children, because they cannot point out, in words, the seat of their complaints; but the observation is not a sound one. Children speak a much more plain language by their actions than adults do by their words. But this is not all; there are other circumstances, peculiar to children, which greatly facilitate the investigation of their diseases. An infant instantly and decidedly gives expression to the pain which he feels; an adult is so accustomed to bear pain, that unless the irritation, which is present in his constitution, produces well marked symptoms, he disregards his feelings; and thus diseases run on, until complicated, or even irreparable mischief is often the result.

An infant's diseases too, are simple; for his constitution is sound; whilst the complaints of adults are generally more or less complex, on

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account of the weak parts, which Celsus says, with the best observers, are to be found in every person's constitution. Moreover, an infant has no guile; its actions tell right on what it feels; for it is regardless of consequences; whilst an adult is often led to conceal a part of his complaint and be deceitful.

Many more circumstances might be adduced to show, that it is at least as practicable to discover the complaints of children as those of adults; but as these facts will naturally offer themselves for consideration in many other parts of these pages, it will not be necessary to enlarge further upon them here.

Ask an attentive mother whether she finds any difficulty in deciding when her child is ill: "Oh no," she will say, "his temper, his complexion, his every look shows it, even when the cause of illness is slight:"—and it is very true. The constitutions of children are highly susceptible of impressions, and the younger a child is, the more readily will his system be affected by the irritations which produce disease.

Let a child's bowels be disordered for the first time, and he will become paler than usual; heat perhaps will follow; his tongue will be white he will be heavy, and his temper will be changed for the worse. These are circumstances not to be overlooked, if even common attention be paid to a child's actions.

Let his bowels be habitually deranged, and the increase of symptoms will keep pace with the increase of irritation: the skin will be constantly paler and of a dirty hue; the eye will be sunken, and surrounded by a dark line; the breath will have an unpleasant smell; the tongue will be white and dry; fever will occur at intervals; the child will become emaciated, and his nights will be restless and his days fretful.

If a child be affected by symptoms like these, it will be apparent that some irritating cause is acting on his system; and by a little closer attention, the part on which that cause is producing its effect, may in general, be decided on with sufficient accuracy.

His stomach will be found to be more projecting than it ought to be, his evacuations will be unnatural; and further enquiry will generally show, that an improper diet has occasioned the illness in the first instance, and is still active in aggravating the existing symptoms.

The intensity of these deranged actions will mark, to a practised eye, the degree of the irritation; and the treatment necessarily grows out of a clear conception, first, of the degree of the illness, and secondly, of the part on which the irritation is acting with the greatest violence.

But it will be necessary now to revert to the first periods of infancy, and it will become apparent, how disorders arise from very slight and

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simple causes; how this disorder is aggravated, and leads slowly but certainly to the most dangerous diseases of children; how easily its very first and slightest symptoms may be detected, and it is hoped, how readily it may, in the majority of cases be cured, and the consequent train of evils be averted.

And here too, the simplicity of character, which marks the diseases of children will appear very plainly.

Little indeed can be learned from the appearance of a child during the first few weeks of its existence. Its complexion is not settled; neither is the round form of its limbs established: but, then infants of that age are so seldom ill, except under very defective management, that this becomes of little importance.

After some time, however, the child improves; its limbs take on the rounded form, and its whole appearance announces that it is happy and in health. It sleeps soundly and almost constantly, and with its eyes lighty and accurately closed; it seldom cries; its limbs and body are convex, and become firm; it is not too fat, neither is it lean; its gestures are easy; its hands are very seldom raised above the mouth; it does not start nor smile in its sleep; its eyes are moderately bright; its skin is not wrinkled; its respiration is nearly imperceptible; its secretions are natural; its bowels are moved two or three times

in the day, the excretion having the appearance of custard, and being discharged slowly as through a syringe; it has a vacant look of content; and lastly, it is easily pleased by the attentions which are bestowed on it. Symptoms like these sufficiently show that a child's sensations are agreeable, and the actions of its system going on in a healthy manner.

Any deviation from this state is a prelude to disease. Moral treatment, however, has some influence on the infant, even at this early period of existence. Infants under some nurses will lie down quietly when awake, and go to sleep without further interference; whilst under other nurses the same infants would probably require rocking, or at least would cry, if it were attempted to lay them down awake. This crying is not from disease, and may be easily distinguished from that which is. Infants cry too on being washed, but, even here, much may be done to prevent it by proper management; as may be seen very frequently, where children are attended by mothers or by observing nurses.

The cry of disease is very different from all this; and is moreover accompanied by other symptoms of illness, which are in general sufficiently unequivocal.

It is not necessary to give the reverse of the signs of health alluded to above, and say, this is

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disease; but it is of more importance to press on the reader, that any deviation from these signs should be strictly attended to, and that the welfare of children, both mental and bodily, mainly depends on that anxious and constant attention to their wants and feelings, which nothing but affection can give; and which therefore can seldom be found except in the breast of a mother. When mothers, indeed do attend to their children with the same perseverance as the parents of the brute tribes watch over their young, it will behove the medical man to come to the charge of a child's health with a skilful eye, and a well-stored mind: for the constant concentration of a mother's powers of observation on her child's actions, will often point out to her that disorder is present, long before it is perceived by him; or in more severe cases, he will probably lose her confidence, by overlooking symptoms which are but too apparent to her. An instance of this kind occurred the other day. An only daughter was affected by the whooping-cough. She went on well for sometime; but at last, the mother said she was ill. The medical attendant, a man of experience and observation, could not perceive it; but having a high opinion of the mother's powers of observation, he saw the child every day, and sedulously attended to its symptoms; but in vain—he could not perceive that any bad symptoms were present. After the

lapse of about a fortnight, however, decided indications of hydrocephalus occurred, and the child died in two days from that time. This practitioner blamed himself, and with good reason, for his want of discrimination in this case; as the slight symptoms which preceded the fatal attack, and which probably precede the attack of almost all diseases, had undoubtedly existed from the time of the mother's fears being first excited; and he could not but feel, that she had seen what he had omitted to observe.

A medical friend of the author's relates that he once witnessed a similar mistake. A lady said that her child was threatened with water in the head; the medical man overlooked it; but, as in the former case, the mother founded her opinion, on an observance of some small deviations from healthy action, which hourly attention had enabled her to perceive; and she was right. She said, that the child was fretful and yet so sleepy.

From these two symptoms she deduced that the impending disease was hydrocephalus; and it was a most acute observation; for, as Dr. Armstrong says, nothing marks the threatening of hydrocephalus more than a combination of fretfulness and heaviness.

No deviation from the signs of health in children should, as is said above, be allowed to pass unnoticed. Even an infant, does nothing with-

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out a reason, or rather without a cause: if he cry, it is either because he is irritated, or because he is ill; if he move his limbs or open his eyes, it is to make observations, or to obey some internal impulse, which is supplied by the wants of the body; and, therefore, if his actions express pain, or such a degree of increased irritation as may be considered to be leading on towards disease, the warning should not be unattended to; for infants, as has been hinted above, invariably tell the truth.*

It is hoped that enough has been said to shew how interesting it is to observe the actions of children even during the early period of infancy. Infants, however, are equally interesting in a moral point of view; and as in the course of this work an explanation will be offered of the great influence which a proper moral treatment of children has in preserving their health, a few remarks on the early education of infants will form the subject of the next chapter.

* Infants may, as a friend remarks, but children do not; indeed, as he says, they often lie most abominably; concealing their pains, and saying they are well, when they are evidently ill, only because they dislike physic. But at present, infancy, and not childhood, is the subject for discussion.

CHAP. II.

On the Education of Infants.

As it will be the object of future chapters, to explain the important influence of early moral treatment, in preserving the health of children, the subject of their education in infancy will be slightly adverted to here.

Were a direct question asked, with regard to the capacity of infants to receive instruction, it would assuredly be answered by the great majority of persons, that they have none. Indeed it is a common opinion, that the mind is so very imperfectly developed in infancy, as to render it impossible to convey instruction at that early period of life; and yet the practice of the very persons who profess to adopt this opinion is, unconsciously the reverse of their theory. Every mother is aware, that her infant, very soon after its birth, knows when it is going to suck; and almost every one is anxious to get her child into good habits, as she says, by obliging it to submit to have certain things done at certain times. Of course, this is directly teaching a child; and the result proves the propriety of the practice; for the

youngest infant soon learns the task which is imposed on it.

Yet, on the other hand, the same mother would not thwart her child, of a month old, when he cries from passion, or from any other wilful cause, because "it knows no better;" but would rather fondle it until it is quiet: which really means, that she has taught it something indeed, but not what she intended it should learn. By being allowed to gain its wishes, one more instance is added to the small sum of its experience; which has, however, even thus early, taught it the important fact, that to resist and to cry, is the way to attract attention, or to gain its ends.

Fathers are naturally even more ignorant than mothers, of their children's capacity. Many fathers will avow, that they never think of looking attentively at their children until they are a year old; whilst almost all shut their eyes to the fact, that their sons at six or eight months old, are the masters of the house, and domineer over their mothers and nurses in the most tyrannical way.

The truth too is so palpable! It is wonderful how a mother can find herself obliged to lean over her child for half an hour together, in an uneasy posture, when it is going to sleep, without detecting the fact!—that she should not dare to stir, lest he open his eyes and begin to cry, because he thinks that he is neglected!—but it is still more wonderful, that she should say, "what

a cunning little fellow he is," without the truth flashing across her mind, that such capacity might be turned to better account.*

Let us, only for a moment, consider how information comes into the mind. No one, at the present day, thinks of considering, that any of our knowledge is intuitive, except indeed, such as immediately relates to the preservation of our lives and species.

A child, by instinct, that is, perhaps by the smell, for instinct is, at the best, but an unsatisfactory expression, clings to its mother, and sucks when put to her breast; but it probably gets very little other knowledge from nature. It possesses, indeed, the power of being acted on by impres-

* In Nicholson's Philosophical Journal, Vol. XV. p. 42 and 181, are two papers from a father, who writes the history of his child's life for the first four months; and these papers contain, probably, the only attempt extant, to describe the early mental efforts of infants. As such, they deserve considerable attention, although the imagination of a fond parent, may perhaps have drawn the picture in stronger colours than future experience will verify.

The writer concludes his first paper by making some general observations on the surprise, which such facts as he relates must produce; and especially says, that "Persuasion, promises, lies, meum et tuum, individual character as to benevolence, and its reverse from physiognomy, and as to morals, from the behaviour, preference of other infants from similarity of action, jests, mockery, theatrical simulation in the management of dolls and puppets, and a prodigious number of other compound associations, occupy the minds of infants, long before the expiration of the first six months of their existence."

sions from without; and it is probable, that all information with regard to external matters, is obtained by the perceptions which are acquired, through this power of being acted on by them, or as we say, by experience.

By using its eyes, and powers of touch, the child gets its first knowledge of surrounding objects; for without these faculties, it would remain for ever ignorant of the external world. But the progress is wonderfully slow; for although the senses of vision and of touch, are under continual exercise from the time of birth, yet the eye and hands are not used in conjunction, till the end of the fourth month.

On the whole, the reception of these impressions gives the child much pleasure; he is, therefore, eager to extend his experience, and soon learns to express the pleasure which he feels, by motions and little noises. Other impressions, however, such as arise from the necessary duties of the nurse, to ensure cleanliness, &c. give pain, and he cries accordingly; having learned that mode of expressing displeasure perhaps, from the convulsive cry by which the lungs are first inflated, and the action of respiration accomplished immediately after birth.

The information which is acquired by the sense of hearing, is consentaneous with the impressions received through the power of sight; and as these

impressions also are principally productive of pleasure to the child, it consequently attends to sounds, and by degrees, learns that certain sounds are intended to express certain things; it distinguishes the voice of its mother, understands the tones of displeasure, shuts its eyes when hushed to sleep, at least when in health, and shows signs of intellect in a hundred ways, which, in general, pass by unheeded.

Now let us consider, how much of this information comes through the medium of the association of ideas. A child, from reiterated experience, associates pleasure with some sounds, and pain with others; going to sleep with being placed in a certain position, or being spoken to in a particular tone of voice, or being moved in a certain direction; and in this way, habits are acquired.

Grant but all this, and must it not follow, that these habits might as well be good as bad; such as will conduce to the happiness of the child, as easily as such as are of a contrary description? Assuredly they might;—in fact, as we do teach our children, although we teach them unconsciously, they necessarily learn many things which are productive of much evil to them; for they seldom lose in after life, what they learn in childhood.

This consideration alone ought to fix the attention of parents, on the proper moral treatment of infants, since so much of their future characters

is thus shown to depend on it. Nay, it is even probable, that the passions, bad as well as good, owe their origin to good or bad treatment during infancy.

The passions form no original fundamental part of the mind. There exists, indeed, a greater or less degree of sensibility, or of that power of receiving impressions which has been before spoken of; and therefore, as the impression will be more vivid as the power is stronger, the same treatment, whether good or bad, will produce a different degree of good or bad effect on different children.

It is chiefly, in this way, that children grow up with different characters, though brought up nearly in a similar way; but it is sufficient here to mark the fact, that many of the passions of after-life, owe their origin, either directly or indirectly, to the peculiarity of treatment adopted in early childhood. Thus, if a child be made to cry frequently, and especially if he be allowed to learn, by experience, that perseverance in crying produces a relaxation in the thing which offends him, he becomes passionate; he resists every thing which interferes with his present feelings, and in a very few months, becomes the tyrant of those around him; a tyrant, the more implacable, and the more unreasonable, because he is more ignorant, than any of those who exert such propensities at a more advanced age.

How such a state of mind leads to other bad passions, will not require to be illustrated.

The reverse of this picture is equally distinct, and much more satisfactory. An infant is permitted to follow his own propensities, at least while they are likely to lead to good results, and as far as is possible, to acquire knowledge in his own way: he is put to inconvenience as little as may be; the necessary arrangements of his dress, &c. are quickly completed, and he is made to cry as little as possible.—Necessary duties, however, are strictly attended to: he is laid down on his pillow when it is proper for him to go to sleep, and he soon learns not to cry, because he finds that it is useless; a similar principle is acted on, in all his social intercourse with those around him;—and in this way, he acquires good habits.

The theory is this. A child learns bad habits, by being, in the first place irritated, and in the second, by finding that being angry causes the irritation to cease. Good habits therefore are to be taught, by avoiding all unnecessary causes of irritation; and secondly, by making the child, or infant, understand, he must submit to such restraints as are necessary for his welfare; and so easy is this to be done, as will be shown hereafter, that even the youngest infants require little more than a single lesson, to acquire a good habit, or to lose a bad one, if the lesson be judiciously followed up.

An infant who is thus educated, is perfectly under controul; he disregards what are great evils to other children, and a constant matter of contention between them and their nurses; the good passions are fostered and made familiar, whilst the bad ones are either unknown, or are stifled at their birth.

Whence arise, on the contrary, the violent passions which characterize savage life? Doubtless, from the inefficiency of the early education of children in uncivilized countries. In such children, the natural propensities of the infant are allowed to become evils, by being permitted to run to excess; and thus bad passions are generated from want of controul, where good ones would have been formed, if a proper restraint had been imposed in early infancy.

It is of such importance to understand this subject well, that a few more observations on it may be excused. Well would it be for future generations, if parents could see, that by laying, as they too often do, the bad passions and mental defects of their children, at the door of nature,—of that nature who has done so much for us, they are only forming veils for their own ignorance or idleness. Nature does certainly endow children with various degrees of sensibility, or of that power, which, by cultivation, becomes afterwards intellect; but it is we ourselves who direct, whether that sensibility shall lead to the forming of a

good or a bad disposition. We unconsciously direct our children into the path along which they are to go. By false kindness, and the want of a steady good principle in our mode of educating them, we teach them how to be self-willed, passionate, and tyrannical: by a contrary treatment, by having precise ideas on the subject, and by following steadily a plan of education which has been formed on good principles, we ensure, to a considerable extent, good-temper, obedience, and many other good qualities, as the attributes of our children.

I have in my eye, a mother whose child is happy, and she herself not put to inconvenience, because the whole affairs of her nursery are carried on as if by clock-work. Although the child is washed twice a-day with cold water, it scarcely ever cries, because the whole toilet is made subservient to a continued conversation, between the mother and her infant of three months old; the part of the latter being kept up by constant smiles and occasional noises, expressive of its pleasure. In the evening too, after undressing, the child is put into its cot awake; it goes to sleep, almost without crying; it sleeps invariably for four hours; is then taken up, or wakes, and is fed: it is again laid down and sleeps for four hours more, when it awakes and is again fed: it then sleeps till it is time to get up. This process has invariably taken place since the child was a month old, and is an

excellent illustration of what good management may do.

It is very different from the effect which is produced by the more usual plan, of letting infants go to sleep in the arms or on the lap. Who has not witnessed the trouble, the scolding, the crying, the passion, both on the nurse's and child's part, and the wasting of hour after hour in fruitless endeavours, which so often occur, where children are hushed to sleep in the ordinary way? not to mention the attendant evil of the nurse's being obliged to get up ten times in the night to rock them again to sleep.

In another part of this work, some observations will be made on the good and bad qualities of nurses; but, so many of the evils of children arise from the ignorance of nurses, whilst infants, in general, learn so few bad habits, when taken care of by the superior intelligence of their mothers, that it was impossible not to mention the subject in this place.

It will now, however, be easily understood, that much of the future character of the man, is formed by the early moral treatment of the infant.

It has indeed been frequently remarked, how often great men have owed their greatness to the superior intelligence of their mothers; and the reason of it will now appear with sufficient distinctness. An intelligent person acts properly, often without knowing the reason of his conduct.

So, mothers treat children with propriety, partly from having had the sense to perceive, that evils follow an opposite conduct, and partly from reasoning correctly on the subject; but it is probable, that the view now taken of the matter, has never been distinctly stated by any author. It is therefore offered with great diffidence, although at present, with a full conviction of its truth; and with a further assurance, that if it be correct, an extensive promulgation of such truths, will not only enable very skilful mothers to direct their efforts with greater precision, but will teach many other less-gifted parents, to raise their children to a point much higher in the scale of intellect, than they at present commonly attain.

CHAP. III.

On the Causes of Disease in Children, and on the Mode of its Production in the Poorer Classes.

THE diseases of children may be advantageously arranged under two general heads; and this arrangement will principally follow, by considering, first, the difference of cause, and se-

condly, the varieties of form under which children's diseases appear.

The division, therefore, will be into such as are produced by the common causes of diseases in adults; namely, by cold, contagion, &c., and such as arise gradually, from the long continued application of a slight, but constantly acting irritation.

The first class comprises nearly all the acute inflammations, the acute contagious diseases, &c.; the second includes the chronic disorders, as well as several of the acute ones; the grand cause which produces this class of diseases, being some error in the physical or moral treatment of the child.

But this division, like all other divisions of diseases into classes, is not perfect; for the two classes are inseparably connected together, and run into each other imperceptibly. Thus, the production of almost every acute disease, is frequently dependant on a simultaneous action of both these causes. That is, a child shall be exposed to the action of such causes, as commonly produce fever: if its bodily health be perfect, it will probably resist the application, and pass through the ordeal unhurt; if, on the contrary, the actions of its constitution be imperfectly performed, on account of the presence of a low degree of chronic ailment, the cause of fever will produce its effect, and an attack of acute disease will follow.

So also, many of the worst cases of chronic disease in children, follow the recession of acute disorder, as of measles or other similar diseases.

And thus it is with all our artificial medical arrangements, whether nosological or otherwise. They are useful adjuncts in the study of our profession, but it is perhaps not sufficiently understood, that they are mere arbitrary forms, which have no real existence in nature; and therefore, forms into which we are obliged to force the different subjects which we wish to arrange, at some expence of truth, and consequently at some risk of inculcating erroneous ideas.

It will be convenient to discuss the causes of chronic diseases before those of acute ones; their action being more intelligible, and it being rather the object of these pages to elucidate the origin of chronic disorders, and the mode of preventing their occurrence, than to enter into details of the symptoms and treatment of acute diseases.

Every disorder, however slight it may be, must have a cause; and therefore, the most trifling ailment should receive its due share of attention: not openly, so that the child is made a party to the discussion, but from that silent, but anxious observation, which few perhaps, except parents, know how to habituate themselves to, and none but parents, or at least such as are constantly about a child, can carry into perfect execution.

The most simple case of disorder must of course

occur to an infant; for his system is perfect. No part of it has yet undergone that slight, but very important process of disorganization of particular parts, which is so apt to be left, even after very slight attacks of disease; no peculiar cause of irritation exists in the infant's constitution, for it is not the time of teething, nor is the mind sufficiently developed, to allow much irritation to arrive through that channel; he is properly clothed and carefully attended to, and yet he is ill. As far as my observation has extended, this ailment has been produced by disorder of the digestive organs, and that disorder of the digestive organs, by the taking of improper food, and an inadequate exposure of the child to the open air. I cannot recollect that I have ever seen an infant, who had been fed solely on proper food, and had been properly attended to in other respects, attacked by the description of disorder to which allusion is now made.* Nature evidently intended, that an infant should be fed entirely on the milk of its mother; and where such is the case, I scarcely ever, I had almost said never, see disorder take place in infants.

It will be recollected, it is only intended now

* There is an apparent exception to this rule. If the wet-nurse be ill, the bowels of the child will often be deranged in the way above described. But it is sufficiently evident, that in such cases, the nurse's milk is changed in quality by the existence of her own disorder, and it thereby becomes an improper food for the child.

to speak of the chronic disorder of the digestive organs, to which infants are liable. Of course, if an infant be exposed to cold, it may be affected, as is stated below, by inflammation of the lungs, or any other acute disorder which is commonly produced by cold. Indeed, infants bear exposure to cold much worse even than older children; whilst the latter are more susceptible of injury from that cause than adults are.

Are the young of animals subject to such disorders? never: and in like manner, my experience authorizes me, as far as it goes, to say, that the young of the human animal, is almost never disordered when treated in a proper manner. Exposure to cold indeed, improper clothing, and other more glaring errors in management, which are very seldom committed, because they are so glaring, will produce such disease occasionally; but not so frequently as may be imagined. The perfectly healthy body possesses a wonderful power of warding off the attacks of disease: and thus the causes of disorder are made to pass harmless over it; although they produce their effect, with much certainty, on such as are not protected in a similar manner.

The children of the poor, when found in unfavourable situations, illustrate this position in a very striking manner; and therefore it is thought right to begin the description of children's diseases, by showing how disorder arises in that class of persons.

24 *On the Causes of Disease in Children, &c.*

Children living on a common are very seldom ill, and scarcely ever die. How does this arise? In the first place, they live almost hanging at the breast of the mother; in the next, from being almost constantly in a pure air, they acquire a robust state of health, which renders them proof against the attacks of common diseases.

It is convenient to the wife of a labourer to suckle her own child. She lives insulated from her neighbours, and has but little occasion to leave her house for even a short time. It is not so with the poor of large cities. In London, a very large proportion of all children, die before the age of two years.

This arises firstly, from the close and unhealthy situations in which they live; but principally from the improper diet on which they are fed. Women, in London, labour as well as men; they therefore have not time to attend to their infants, even if they had the inclination; and consequently, it becomes necessary, that infants should be fed as well as suckled.

The food given is almost always of an improper kind, and as women who work, think that gin is necessary to keep up their strength, gin is given liberally to their children. It is not wonderful then that they should die. Ill fed, improperly clothed, covered with dirt, and neglected in every possible way, they speedily fall victims to the consequences of a chronic disorder of the system;

unless, as happens very frequently, indeed most commonly, in the cold season, they are cut off by inflammation of the lungs, or of the membrane which lines the windpipe and its branches, the air passages of the lungs.

One great peculiarity of children is, that their nervous system is more irritable than that of adults; it is more easily and violently acted on by causes of irritation: in proof of which, it may be sufficient to state, that slight derangements of the bowels will be sufficient to produce convulsions in certain children.

Such being the case, we find, that where improper food is given to a child immediately after its birth, its bowels speedily become disordered; sickness is produced, the abdomen is swelled by flatulence, the child's motions become unhealthy, and he is cross and troublesome.

It not unfrequently happens, under these circumstances, that an inflammatory diarrhœa occurs, and the infant is cut off in a very few hours from the attack. More generally, however, opium is given to sooth his irritable state; the constitution gets more disordered, the complexion becomes muddy, or pale, dark lines appear round the eyes and mouth, the folds of the joints and especially the skin of the abdomen become dark coloured and inelastic, the head enlarges, the belly is permanently tumid, the flesh wastes, the child sleeps with his eyes half open, he frowns and grinds his

teeth, his cheeks are lighted up by a hectic flush, his glands swell, and he at last dies in a state of great emaciation, with the skin so loose, that it will wrap round his limbs, and his countenance expressive of the greatest distress, and bearing an accurate resemblance to the face of a much wrinkled, and very cross old man.

Death, by this process, is generally accomplished in about a year from birth ; but the child is in imminent hazard during the whole of this period. His deranged constitution makes him particularly obnoxious to the attacks of acute diseases ; or he is cut off by diarrhœa ; or the time of teething brings with it convulsions and hydrocephalus ; or the measles, the hooping cough, or the small pox occur and destroy him, under such circumstances, with unerring certainty.*

This is not an overcharged statement ; most medical men can attest that the fact is so, and it is probable, that the theory of its production is correctly stated in the foregoing pages.

It is assumed that improper feeding is the main cause of the evil. Bad air, however, and an almost constant residence in the house, even in good

* It will be shown afterwards, that these diseases, under ordinary treatment, owe much of their danger to the previous unhealthy state of the child on which they fall. Healthy children recover from them very often without a bad symptom ; puny children almost invariably die, unless they are treated with great judgment and activity.

air, are very powerful auxiliaries; but still improper feeding forms the most important circumstance, because the children of the rich who live in well ventilated rooms, and are in all respects well attended to, if they be fed improperly, become liable to the sad train of evils which is described above, although not in so great a proportion as in those of the poor. This leads however to an observation which will be more distinctly explained hereafter, that the children of the rich become delicate and disordered almost as much from being kept too much in the house, as from being fed improperly. Country children live almost entirely in the air: town children are out of doors but for a very short portion of the day, and this is so detrimental, that whilst the latter are very easily thrown into disease by improper modes of feeding, the former are enabled to take, without injury, a certain portion of other food, than that which nature intended them to live on.

Many children indeed pass through this fiery trial and escape death; but these children will not bear to be compared with the robust offspring of those who live in the country. They are generally unhealthy; so that the population of large towns is composed of smaller and more unhealthy people than that of the country, and it is amongst such children that all the varied forms of scrofula are to be found; that distortions of the limbs from rickets are so frequently to be met with, and that

so many individuals exist, in whom previous diseases of the head have left behind them squinting, loss of the power of certain muscles, as of the eyelids or limbs generally, and idiotcy.

The difference of size in country and town-bred people was strikingly exemplified by the appearance of two regiments of volunteers, who were exercised together for some days during the last war, when the English people became at once a nation of defensive warriors. One regiment came from the Peak of Derbyshire, the other from the town of Derby; and whilst the latter was composed, generally speaking, of small pale-faced men, the Peak regiment was remarkable for the fine tall forms and ruddy complexions of the men which filled its ranks.

It has been said that the children of the rich are not exempt from these evils. I have repeatedly seen such children die under nearly all the circumstances above mentioned; of diarrhœa early in life, of marasmus or gradual decay, of convulsions at all periods, of hydrocephalus, and of the numerous diseases which accompany teething in children who have been improperly fed. But although these cases are much less numerous in the upper ranks of life than in the lower, yet still they so frequently occur, that the diseases of children form a very large proportion of every medical man's practice. Such children also occa-

sionally die, but not in any thing like the same proportion, as amongst the lower orders of society.

In the next chapter then, some account will be given of the mode in which the children of the higher classes become disordered, by showing how far the causes of the disease above stated are applicable to such children.

CHAP. IV.

On the Mode in which Diseases arise amongst Children of the Higher Classes of Society, and on the Causes of the diversified Forms under which they appear.

IT has been said that the children of the higher classes of society are more healthy than those of the lower. This arises only from their being more properly fed and more assiduously attended to, both physically and morally. But still the happiness of every family is too often interrupted by the ill-health of the children who belong to it.

The foregoing chapter therefore is partly intended to show, that the children of the rich become unhealthy from two causes; the one,

an improper mode of feeding, the other an inadequate exposure of the children to the external air. Improper clothing and unwise moral treatment lend their assistance indeed, but the first mentioned circumstances constitute the grand causes of a great majority of the diseases of such children.

It is a curious fact, that very few females in the higher and middle ranks of society, who live in London, can suckle their own children. Their milk is deficient in quantity, and it by no means agrees with the majority of infants. A wet-nurse is obtained from a lower rank, and her milk is found to be abundant and of excellent quality. It is of great consequence to such females, that this circumstance should be explained.

It is very important also in another point of view. Many children of the poor die from being thus taken away from their mothers who go out as wet-nurses. These poor infants are almost always neglected and very often die from this neglect. It would therefore be a great saving of life among the poor of London, if mothers could be brought to nurse their own children like the Roman matrons of old.

The late Dr. George Fordyce, who was a man of great intellect and keen observation, made a remark which bears strongly on this fact. He said that the gentlemen of London are perhaps as healthy as any part of the English people; whilst

the ladies of London are like hothouse plants, exceedingly susceptible of morbid actions, and unable to bear exertion or fatigue. He explained it by adverting to the different habits of the two sexes; the gentlemen he said are always in the air, the ladies always in the house or in a carriage, with no duties to perform which are calculated to give tone and energy to the constitution.

It is no wonder that persons so situated should become enervated and incapable of supporting such a drain on the constitution as suckling a strong child must bring with it; especially too, as the London custom of late night-visiting has great influence in making women nervous and in breaking up the general strength. In many cases also it does injury by deadening the wish to suckle. A certain portion of labour and a free exposure of the body to the fresh breezes of heaven are so necessary to perfect health, that, in the majority of cases, no substitute for them will answer the purpose.

Dr. Fordyce's observation is perfectly just, and his explanation of the fact is undoubtedly the correct one. Medical men often express their surprise at the small number of male patients who fall under their care. The practice of London medical men is chiefly made up of the diseases of children and females; although it is probable that the diseases of men, when they do occur, are

more severe in character than those of women. This is said to be remarkably the case in low fevers.

This fact of the inability of London females to suckle their children is often productive of great distress to mothers who are thus prevented from performing so agreeable a duty to their infants. It is very injurious too to the children; for although a wet-nurse may give it as good food as a mother, yet she cannot watch over it with the same tender solicitude, nor can she fashion its mind to those early habits of proper conduct, which are so important to its full health and happiness.

It is quite evident, as has been said above, that proper food is of the greatest importance to an infant's health; and it is equally evident, that the only proper food is its mother's milk, or that of a healthy wet-nurse. But, as the consideration of this practical point in the management of children will fall more properly in another part of these observations, it is sufficient to have thus alluded to it here.

Thus then the seeds of future disease are sown. Indigestible food is put into an infant's stomach; this very susceptible organ becomes slightly deranged in its actions, and consequently the child is cross and restless, or is otherwise disordered. But as the organ is perfect and the irritating cause but slight, the offending matter is expelled and

the disorder subsides. By constant repetition, however, the digestive organs become habitually deranged, and the child's health suffers in proportion to the degree of derangement. Perhaps this chronic state of ill health goes on for some time without the child's appearance being much changed. He is weak indeed and pale and somewhat emaciated; but his health is not considered to be materially deranged until an attack of some acute disease, diarrhæa perhaps, occurs, by which, as it requires medical treatment and a recurrence to a proper kind of food, the constitution is freed from the evil, for that time at least. A repetition of the errors in diet or general management which caused the first derangement follows; and consequently the preceding symptoms of ill-health and their exacerbation into an acute attack are again and again produced; until as the child increases in age, the disorder becomes more formidable, so that a long case of acute disease, the infantile fever for instance, is at last produced, instead of the former less important complaint. Still the same result follows; the offending cause is dislodged in the progress of the disease; and although it often happens that material injury is done to the child's constitution by the violence of the fever, and weeks or perhaps months elapse before he recovers from the debilitated state in which it is left by the continuance of the disease, yet health again returns and the

patient is once more freed from the consequences of improper management.

Still it should be recollected that in too many cases this desirable event does not occur ; for as it is observed in the last chapter, and will be shewn below, hydrocephalus is a very common consequence of infantile fever, and the body is almost always left in a valetudinarian state, which causes an attack of any of the common diseases of children to be much more dangerous than if the child were in good health.

Indeed, many other diseases, and those often fatal ones, are thus produced in children ; the body becomes gradually more and more oppressed by the constant application of the irritating cause or causes above alluded to, and if absolutely all acute diseases are not thus formed, yet the existence of this state of deranged health causes the constitution to be more predisposed to be attacked by them in every case.

These observations apply to the production of disease in older children as perfectly as to the infantile state ; but to recur again to the latter, a most important change takes place in infants at the time of teething. A more than ordinary proportion of blood is then sent to the head. Now mark what happens—If the child's health be perfect and its actions equable and moderate, this increase is unattended by inconvenience ; the teeth pierce the gum without difficulty : and hence, one

immense advantage in feeding an infant on breast-milk only; the teeth are cut without pain or danger, a fact which is familiar to every well-informed man in the profession. On the contrary, if a chronic derangement of the infant's health have been induced, the process of teething becomes a much more serious matter. The irritated constitution is thrown into more violent and irregular action by the new stimulus of the increased flow of blood to the head; the chief symptoms of that irritation naturally occur in the head; the whole system is thrown into a state of fever whenever a tooth appears near the surface of the gum; and the child is menaced with convulsions, or convulsions actually take place, with all the attendant evils of fatal hydrocephalus, or its remote consequences to the constitution, if cured, such as squinting, palsy, epilepsy, or idiocy.

Or, dangerous diseases are produced by this cause in another way.

A child is attacked by infantile remitting fever during the period of teething; it is more than probable that the increased flow of blood towards the head will cause the fever to terminate in hydrocephalus; and thus death follows as an inevitable consequence of an habitual excess in diet, so small however that a medical man is generally not attended to when he inculcates the necessity of discontinuing that excess. Or, a child is exposed to the contagion of measles or small-pox, or

of any of the other contagious diseases of children. If his constitution be in full vigour, he will perhaps escape an attack of the disease altogether, the strength of his constitution being able, as it were, to overpower the contagion; but if the disease follow, it will be, not improbably, mild or severe according to the previous healthy or disordered state of the child's constitution.

As a proof of this, it may be stated that though the children of the higher classes of society seldom die of the measles when they are properly treated, the disease puts on a very different aspect when it attacks the unhealthy children of the poor. An endemic of measles occurred at a poor-house which contained nearly a hundred children, and these principally infants. Of course they were in general unhealthy; and consequently, the disease appeared in a severe form.

All the unhealthy children were subjected to a very severe disease and those in whom marasmus or the latter stage of that chronic state of disease so often mentioned, had proceeded to any great extent, almost invariably died of inflammatory affections of some part of the mucous membrane which lines the respiratory organs; and this although the cases might be said to be treated with consummate skill.

So certainly did death follow in these subjects, that it was easy in most cases to predict the fatal termination even on the first day of the fever.

One or two children died even before the eruption had time to make its appearance ; so immediately was inflammation produced by the first attack of the fever in these already highly irritated children.

It would be easy to multiply details of the various modes in which this chronic disorder leads to severe diseases in children : how the various chronic eruptions take place ; and how nearly all the diseases to which children are liable, are produced according as the peculiarity of each child's constitution leads to the one of them or to the other.

How naturally do considerations like these lead to the explanation of that great and curious diversity of character, which is manifest in the diseases of children, and indeed of adults also !

As the predisposing or remote causes, as they are called, of all diseases arise by such slow degrees, the effects which they will produce on the constitution must be infinitely varied ; for the operation of these causes consists in the production of a certain degree of permanent or temporary disorganization of the part on which the irritation, falls. The kind therefore, and the degree of the symptoms which are produced by this irritation must vary as the circumstances of each child, with regard to its physical and moral state, vary. Hence, as no two children turn out exactly alike, either in form, in feature, or in mind, so the diseases of

no two children are exactly the same; although the same causes, both remote and exciting, act in their production. One will be liable to skin diseases, whilst another will be prone to fall into the hydrocephalic state, on the invasion of an acute disease.

But it is unnecessary to illustrate this observation more particularly; except by saying, that these different diseases are more simple, and therefore more capable of being classed in children, than in adults; because the organization is less altered from its natural state in the former than in the latter. And also because new causes of disease are brought into action in adults—causes which had no influence on children; such as the operations of the mind, as they refer to the anxieties of life generally, and especially to the new form of existence which the body takes on at the age of puberty.

Thus, as we find, to use the language of Sydenham, that the constitution of the atmosphere, for the time being, gives a predisposition to the production of certain diseases at particular seasons, so does the peculiar form of chronic disorder, which has been produced in a child by improper diet and management, predispose it to be affected by one kind of acute disease rather than by any other; and it is well to have alluded to this influence of the atmosphere in modifying diseases, because it leads to the remark, that the forms of children's

diseases are more decidedly influenced by the constitution of the atmosphere than the disorders of adults are. For, as each individual is more liable to be attacked by certain complaints than by others, because a weak part, as Celsus calls it, has been formed in his constitution either by hereditary descent, or by the repeated occurrence of disease, as is above described, and as it is necessarily better marked in adults than in children, this weak part becomes more and more liable to have the essential violence of any impending disease fall on it, as the person increases in age: therefore, a child's diseases are more under the influence of such modifying states of the atmosphere than those of adults are.

These distinctions follow from the fact which was pointed out clearly by Dr. Armstrong, that the various forms of disease, which appear in a number of persons, who have been subjected to the causes of the same disease under the same circumstances, arise from the modifying influence of this weak part. Thus, if this chronic disorder of irritation in children, so often alluded to in the preceding pages, have, from accident or otherwise, been determined to the lungs of the individual, which would be done for instance by the child getting an accidental attack of pneumonia during the time of its suffering under the chronic derangement, then, on the application of any cause of acute disease to the body of that child,

after it has reached man's estate, the lungs, from being the weaker part, will in the majority of cases be subjected to the chief violence of the disease: that is, if the disease be typhus, it will be typhus with the chief symptom pneumonia, instead of its being an inflammation of some other part, an abdominal viscus perhaps, as determined by the constitution of the atmosphere for the time being.

So greatly is the health of the man influenced by the good or bad health of the child! but this is not the time for carrying these discussions further.

Such is the mode in which the diseases of infants are produced and their different forms determined. It will be remarked, that many of the above observations apply also to those who have passed the period of infancy and have become children. Indeed, the diseases of children vary from those of infants only from being rather less simple; and it may be here remarked, that the diseases of adults differ from those of children by being still more extended, and therefore further removed from the simplicity of infantile disorder.

In infancy, the first simple dawnings of morbid action occur. A simple cause acts on a simple, because perfect, machinery, and the result consequently bears marks of the same simplicity. As infants grow into children however, new causes of irritation arise, and the old ones acquire a

modified power by acting on the body, which has now become, as it were, contaminated by the effects of previous complaints. The diseases are no longer transient. They remain longer, are more complex, and are not so easily relieved; the infantile remitting fever takes the place of short attacks of indigestion, and if the system of bad management be continued, the chronic disorder, so often spoken of, puts on a more serious aspect, and either terminates in some form of marasmus, or it leaves the constitution in a languid unhealthy state, and lays the foundation for future scrofula or consumption, or for that valetudinarian state in which many persons pass their lives.

It is true, that as the powers of a child's digestion increase with its age, the constitution often recovers itself after the period of teething is passed, at least, where the system of feeding is not a very bad one; but, on the other hand, as the diet becomes more complicated in proportion as the child increases in age, an occasional excess becomes more detrimental; it also occurs more frequently; and thus the pallid cheek is oftener lighted up by the flush of fever, and a more frequent recurrence to medicine is required. But these are differences in degree rather than in kind, and do not require to be more particularly pointed out.

CHAP. V.

*On the effect of good and bad moral Treatment
on the Health of Children.*

It is not to be supposed that the effects of education on the health of children are as great as those which follow proper or improper modes of physical education. Still they are important; and would be so even if it were only because they afford an additional reason, why a more philosophical attention should be paid to the education of children than has hitherto prevailed.

The absolute influence, however, of a bad education on a child's health is very great; for, since much of his future happiness depends on the principles which are instilled during infancy, so is the state of his health in infancy much more dependant on this circumstance than is commonly supposed.

It is of still more consequence to consider this point in reference to London children than to those who live in the country; because, from its being more difficult to preserve the health of children in London than in the country, a due attention to collateral circumstances is the more necessary.

Thus then, whilst it has been shown, that irritations of various kinds form the exciting and predisposing causes of all children's diseases, it will now be discussed, how the bad passions, which arise from a faulty education, may, and do often, materially influence the state of health in children; either by acting as any other irritating cause would do, or by increasing the effect of such irritations as may be present in the constitution.

They will do this, therefore, in two ways; first, by producing disorder directly, with or without the assistance of other causes, and secondly, by aggravating the danger of diseases which are already formed.

There are many ways, in which, the passions, by forming the exciting causes of disease in children, directly produce disorder; but it must be understood that this effect never happens, unless the constitution be in a state prepared to be thus excited.

For instance, if a child be in perfect health, he may have the actions of his body increased by the exciting power of the passions, without an attack of disease being the consequence. Of course, the truth of this is proved daily; and indeed, in many cases, where the system is sufficiently predisposed to take on a disordered action, mental excitation is not sufficient to turn the scale, and the child is saved from an attack of disease, from that cause at least. And it is well for us that such

is the case; for since we find so few children who are taught to subdue their passions properly, and so few too, whose diet and the other parts of whose physical education are so well regulated as to preserve the balance-beam of their health motionless and at its due poise; the health of children would be precarious indeed, if the excitement of the passions were sufficient to overthrow the equilibrium, whenever the predisposing causes of disease are present. But it can easily be conceived that a child's system may be brought so near the verge of disease by the existence of that chronic state of disorder which has been so often mentioned above, that a much less efficient excitement than that of the passions may be sufficient to fire the train and produce an acute disease.

An abundance of examples may be given in illustration of the fact that this frequently occurs. Nay, it is even said, and on uncontrovertible authority, that convulsions have been occasionally produced by the violent paroxysms of rage which so often occur in children, whose passions are not kept within due bounds. I have never seen such a case, nor any person who has seen one; but to those who are accustomed to witness the violent and continued bodily exertion which infants display when they cry from passion, it will be abundantly obvious that such an excitement will be sufficient to produce an attack of disease if the constitution be properly predisposed to be thus affected.

In fact, exertions like this do often become the exciting cause of disease; much oftener than is usually supposed; and whilst the progress of the case shews, that a faulty moral education inevitably fosters the bad passions, it is equally apparent that a much smaller degree of the same care which is necessary to keep them in due restraint, would be amply sufficient, if properly directed, to subdue them altogether.

Thus, an infant is permitted to indulge his passions on small occasions;—he obliges his nurse to attend to him, or he finds, in other ways, that if he continue to cry, his wants will be supplied, however preposterous they may be. If he thus gain the victory on small occasions, as he and his nurse must be brought to issue every day, on more important matters of debate, one of two things must happen; either that he is indulged on all occasions, which is impossible, or he must be opposed, and successfully opposed, on some points.

In proof of this, will not every mother say, “Why, you know, it was impossible to let him do that, he would have scalded himself to death,” &c. Certainly she will, but she cannot draw the conclusion, that if resistance be made successful in one such case, it may as well be made so in all, and great evils like these be avoided.

Parents, I say, cannot see this, and yet its truth is so apparent, that no intelligent person can be excused for not attending to it.

How then is it that conduct so inconsistent is permitted to pass by unheeded—unheeded, though it exerts so deleterious an influence on the present and future health and happiness of the children, who are subjected to its consequences? It is the want of firmness and rational consistency in nurses that makes these really trifling duties so difficult to be performed. The majority of even well-informed persons act too little from reason, and too much from feeling, to make it difficult to explain this curious circumstance. It is not wonderful then not only that nurses, the expansion of whose minds is generally so inferior, should err in this particular, but that their superiors should neglect to teach them how to act differently; and yet, as will be shown hereafter, it will be easy for parents to avoid all similar evils. Two things only are wanted—Let them first fix the proper principle of action firmly in their own minds, and then by obliging their nurses to conform to that principle strictly, the difficulty vanishes.

A single example may be indulged in,—The point of keeping children so much in the arms is discussed at large in a succeeding page. Now, why should a child desire rather to lie on the arm than on a warm bed or a cool mattress?—Merely because he has been taught from the first hour of life to expect the former, or in other words, to like it better. But whilst it is evident, that he would as easily have been trained differently, if his

parents had so willed it, it is equally so that the wrong choice has been made for him ; for more pleasures and fewer inconveniences attend on the one than on the other, as must be apparent to all who think of it.

But to recur to the point from whence this digression arose. It is said, that the violent bodily exertions, which follow mental excitation, do frequently produce severe disorders, when the body is predisposed to be acted on by the causes of disease. A child, for instance, is weakly from chronic ill-health ; he gradually becomes worse ; he is more fretful, his cheek flushes, his breath is acid and disagreeable, his skin is hot and his tongue white. Medicine is offered to him by his mother, and she desires that he may be restricted in his diet. He will not take the medicine, and he succeeds in obtaining his accustomed quantity of food. Perseverance only produces more resistance ; the system is more excited, the fever is increased, and thus an attack of infantile fever is produced, when, perhaps, a dose of opening medicine and abstinence from stimulating food for a day or two, would have dissipated these preliminary symptoms of disease.

Or the day is very cold, and a child is permitted to expose himself improperly ; or, he does it in spite of opposition. An inflammation of the lungs is the consequence, and perhaps death follows ; or the foundation is laid for future asthma or consumption.

It is points like these which form the very essence of preventive medicine, and a multitude of them will occur to the mind of every one on consideration.

In this way then, the bad passions of children tend to produce disease directly. Their agency in aggravating diseases when present, is equally important and is more easy to be perceived.

Indeed, there is scarcely any case of disease to which this indirect injurious effect of the want of a proper moral controul over the patient does not apply. It impedes the practitioner in his investigation of the disease ; it always renders the application of his remedies in some degree hurtful, from the difficulty which is experienced in inducing submission ; and above all, it too often prevents him from administering medicines altogether, even in cases where the life of the child is forfeited in consequence.

Few children will permit an examination to be made of their complaints ; at least, without their fears or passions being so roused, as often to make the investigation unsatisfactory. This applies to infants as well as to children ; for, it is a sure sign of bad moral management, when even an infant cries before strangers.

Hence, it scarcely ever happens that a child will take medicine without resisting ; and the resistance is often so great as either to prevent the medicine from being given altogether, or to cause the loss of the greater part of it.

Again, how difficult it often is to prevail on a child to lie in bed; although many cases of disease occur, in which a due attention to the state of the skin forms a very essential part of the treatment; and therefore a continuation in bed is most advisable.

It would be very easy to multiply examples of disorders being aggravated by improper treatment of children with regard to their moral management. A few however may be mentioned.

It was not long ago, that a little girl became ill and feverish during weaning. Symptoms were present which led to an apprehension that her head was in some degree affected. Of course it was important to ascertain the truth of this; but it was almost impossible to do so, or account of the extreme irritability of the child's temper. She would not bear the presence of her medical attendants without crying violently, so that it was impossible to investigate the symptoms of her disorder with accuracy. No doubt, the irritability of this child's temper was materially increased by the peculiar tendency of her disorder towards the brain; but, if her moral education had been conducted on better principles no such aggravation would have occurred; for, her temper would not have been irritable.

Perhaps there is no single symptom which is so useful in the investigation of disease as the state of the tongue: and yet, it is the daily complaint

of every medical man that children will not show their tongues. It is unimportant indeed, in the majority of instances; but, in more doubtful cases, the want of this sign may, and probably often does, lead a medical man to decide improperly on his patient's disorder.

It was only yesterday that a medical man found it to be impossible to give a child opening medicine: at least, he desisted, because though it was forced down, the whole was rejected by the stomach in an instant afterwards. Fortunately this is a case, in which abstinence will cure the disorder; but more time will necessarily elapse before the child is well, as medicine cannot be exhibited; and, it is necessary to add, that although this patient's obstinacy arose from very defective moral management, yet the practitioner felt convinced, that, if the child had been placed immediately under his own care, he could have secured, and even by the mildest means, within an hour, the object which he had in view.

The measles prevailed very much during November and December in 1820: and perhaps there is no disease in which a proper regulation of the temperature of the skin is so important as in this.

Certainly, many children were prevailed on to lie in bed. Indeed, every one must have observed, and fortunate it is that it should be so, that the tempers of children are frequently as it were reversed

during an attack of severe disease. Although their temper may be irritable when in health, they become tractable and patient when labouring under an acute disease. It may be, that their feelings are so entirely changed, as to frighten them into submission to what they feel to be an overwhelming influence: it is often, that the disease naturally renders the child's faculties obtuse. However this may be, it frequently happens, as is observed above, that violent children are gentle and tractable when ill: but unfortunately it is not always so. Several children during this epidemic suffered relapses, on account of an improper exposure of their bodies to cold. One child, in particular, who had the disease favourably, suffered afterwards from this cause. He would not lie in bed; but was found every day with the upper half of his body uncovered. To avoid the evil consequences of this bad management, it was recommended, that a blanket, folded like a shawl, should be put over the shoulders and fastened round the neck by means of tapes. The blanket was even put on the patient by his medical attendant; but it was in vain. The next day it was all off, and yet the child was only two years old. Immediately on the decline of the eruption he had a severe attack of inflammation of the lungs, from which he narrowly escaped with life.

Another little boy did actually die in a second relapse of the same complaint, and under almost similar circumstances.

But a case, of the same kind, occurred some years ago, which, as it was peculiar in several respects, I will describe from the notes which were taken some time after the child recovered. It is the case of a little boy, an only son, and whose life was peculiarly valuable on account of some collateral circumstances. "He was a boy of great intellect, and as it afterwards appeared of an excellent disposition. His disease was the measles, and he narrowly escaped death, solely on account of the difficulties, which arose during the treatment, from the violence of his opposition to the application of every kind of remedy.

He could not be prevailed on to touch medicine, nor to have the slightest thing done to him by any mode of persuasion, or by such coercion as his friends would permit. He would, on no account, lie in bed; and although, bleeding and other remedial treatment were absolutely necessary to the child's safety, yet the bare attempt to put any proper measure in practice, produced a paroxysm of passion, which, whilst it far exceeded in violence any thing which I had ever seen, had no mean influence in aggravating that inflammatory state of his windpipe and other air passages which formed the dangerous part of his disease.

As the danger increased however, his medical men were, at last, allowed to use such coercive measures as enabled the child to struggle through the disorder, although his life was thus very nearly lost."

This case is particularly mentioned, because the boy afterwards showed how much might have been done for him by a different mode of treatment. He discovered great talents, and, by a few kind attentions, his confidence was, at an after period, gained.

The process however was an extremely slow one; but he was gradually brought to submit to restraint; and although it is even now almost ridiculous to witness the numberless reasons which he conjures up, why he should avoid taking medicine, or doing any similarly disagreeable thing; yet reasoning with him will always induce submission. Indeed, on such occasions as these, he has courageously held out his arm to be bled, merely on the faith of being told by one whom he knows has never deceived him, that he will be hurt a little indeed, but much less by so doing, than by using resistance to what is necessary to be done.

I have never yet known an instance, in which so much has been done in so short a time, by the mere circumstances of speaking truth to a child and reasoning with him kindly, so as to show that much interest is felt in his welfare.

It is hoped that this chapter shows clearly, how much influence bad moral habits have in adding to and increasing the difficulties and dangers of childhood. It only remains to observe, that the evil does not rest here. Trace a child so educated until he become a man; and, setting aside

the probability, which exists, of his health being ruined by the continuance of diseases which have arisen from this cause in childhood, it will be seen, that bad moral habits act as decidedly in inducing or aggravating disease in adult life as they do, before the period of childhood is passed. In such a man, the causes of disease are much more numerous than in one of correct habits. Nay, the effect is much more decided and apparent. A well regulated mind is as oil to the springs of life: it ensures peace if not happiness, and it has no mean influence in extending the pleasures which arise from health.

CHAP. VI.

On the different periods of Childhood.

It has been the object of the preceding pages to point out the general circumstances under which disease takes place in children, the causes which lead to it, and some of the signs by which it may be detected.

It was necessary to give these preliminary dissertations before entering on the more practical part of the subject, in order that the rules for the

prevention of disease and for the general management of children, so as to preserve their health, might be more easily comprehended and more readily acted on; since they would then appear to be, what it is hoped they are, deductions from the principles which had been laid down in former chapters.

The present chapter then will form the commencement of the more practical part of these observations on children, and it will be followed by others which will describe what appears to be the best mode of managing infants and children, as well as by some concluding ones, which will be dedicated to the consideration of the best general methods of improving the health of those children who may be suffering under the effects of improper physical and moral treatment, and of fitting them for receiving benefit from more rational habits of life.

In discussing the interesting questions which relate to the preservation of health in children, it will be convenient to divide the period of childhood into several portions. The subject indeed thus divides itself naturally. The processes of teething and of weaning for instance form landmarks, which cannot be mistaken; for the treatment, which is required at these different periods, is so modified by the existing circumstances, that it would only produce confusion if the whole subject were taken into consideration at once.

In the first place then we may divide the years of childhood into two periods ; into infancy, and childhood properly so called ; infancy comprehending about the two first years of the child's life, or until he have acquired all his teeth and can walk and talk—childhood, the years which intervene between infancy and puberty.

These periods differ much in their relative difficulties and dangers. Infancy, at least after the process of teething has commenced, forms perhaps the most precarious period of human existence ; whilst childhood is perhaps the most healthy. It is true, that, generally speaking, those contagious febrile disorders which are emphatically called the diseases of childhood, occur during the years of childhood ; and it is too true, that no one ought to feel secure that he will rear his children until they have had the measles, the scarlet fever and the small-pox, if the cow-pox be objected to. But although the occurrence of these diseases necessarily brings with it anxiety and dread, yet if due attention be paid to the preservation of health in children, if the constitution be invigorated and the mind in a well-regulated, tranquil state, the majority of children will escape these dangers of childhood.

To shew more plainly however the dangers to which children are subject during infancy it is further necessary to divide that period into three parts ; namely, into infancy proper, or the period

from birth to the commencement of teething, and into the periods of teething and of weaning. The first of these intervals is generally one of uninterrupted health. A mere infant is a very healthy creature; for with good nursing and proper food he is seldom ill. But he is surrounded by dangers during the periods of teething and of weaning. Affections of the head cut off multitudes of infants, whilst they are teething, and disorders of the intestinal canal, which also bring in their train similar affections of the head, and other diseases, form the difficulties which arise during the period of weaning.

Simple however as the objects are, to which the attention is to be directed during the first months of an infant's existence, yet those months constitute a much more eventful æra of human existence than is usually imagined. The years of life are linked together by an imperceptible bond of union; a controuling influence hangs over them which, taking its origin from the habits of body and of mind, which are formed during the period of infancy, makes each succeeding year, in a great degree, dependant on its predecessor, and fashions the mental and bodily powers, according to a standard which was erected almost at the birth of the child.

The habits of infancy are, in a great degree, the habits of after life. If a child be born of healthy parents and be itself originally healthy,

just inasmuch as it is fed on proper food in infancy, as its moral education has been well conducted, as it has been sufficiently exposed to the air, and screened from being acted on by the causes of acute disease, so will the period of teething be passed without injury. Just also as the perilous process of weaning has been properly conducted and the child is afterwards fed and attended to on rational principles, will the system be strengthened, and fitted for bearing up against the curious and hitherto-unexplained tendencies to the attack of hereditary and other diseases, which mark the æra of puberty. And then, to the end of life, if he enter manhood with a sound constitution and a healthy mind, and if the same rational attention to the preservation of health and the avoidance of disease be continued, will it be found, that his pleasures and his pains, his falling into the grave, worn out by length of years and the consequences of a gradual but unavoidable decay, instead of perishing by a premature death, will be but as corollaries to the habits of his early life. Thus it is, that those seeds of evil or of good, which are sown in infancy, spring up before the years of childhood are even entered on, and are matured, in after life, under the form of a blighted stock or of a venerable tree, the pride of its congeners and the ornament of its race.

If the effects of early physical and moral edu-

cation be so momentous, and, that it is so, with a few trifling exceptions with respect to acute diseases, reason and observation abundantly prove, what subject can bring with it more anxiety in the discussion than the question of the early management of childhood—mind and body, happiness and health, all have to be formed at that period, and all therefore are greatly dependant on the exertions and rightmindedness of parents and of those who are placed under them in the care of children.

Take the converse of the proposition. Trace the adult man down again into the child. If he be froward, if he be a valetudinarian, whose life is miserable from constant disorder, or if he be dying of consumption brought on by imprudence and excess, it will be found that he was froward from childhood, that the diseases which occurred at that period, from neglect, had laid the foundation of his present ailments, or that the irregularity of his conduct was but the natural consequence of his early misshapen habits. If he be healthy, on the contrary, and amiable and happy, he will have been so from his infancy, and he will have reason to bless his mother and pour thanks into her ear rather than bite it off as the boy of old did with equal propriety.

The power of early care in children is however not omnipotent: it cannot avert the consequences of faults in the natural structure of the

body ; it cannot preserve a child or a man from the occasional action of such causes as are inevitably followed by disease or death, by unhappiness or perhaps infamy. But whilst such casualties are but the accidents of human life, a strict enquiry into all the circumstances of each case will show, that very many even of these exceptions, are exceptions rather in appearance than in reality ; and, that with greater prudence, the want of which may be fairly attributed to early mismanagement, they might have been prevented from occurring.

Let it not be believed that, by pushing this argument of the responsibility of parents so far, it is intended to say that all these good consequences are in the reach of every parent, or that the corresponding evils can be avoided at will. The best of us, those who see its truth the most clearly, can reach but a very limited point in this race of well-doing : the foresight of mankind is still too imperfect to counteract by present measures the occurrence of all possible contingences ; but by tracing the subject to something like its limits, a better view of the whole matter will be obtained ; and thus, though we may be clearly led to perceive, that the ultimate aim of our wishes is unattainable, yet we shall be more likely to do all that is possible than if our view had been more confined and imperfect.

CHAP. VII.

On the management of the first period of Infancy.

INFANCY, as has been explained above, comprehends the interval between birth and the time when the child can walk and talk and has cut his first set of twenty teeth. It may be divided into three periods; namely, into infancy proper, teething and weaning. Infancy proper generally terminates about the seventh or eighth month, when teething commences, and the latter is commonly completed by the end of the second year, the process of weaning usually taking place at some period within this interval.

Although the first months of infancy are, in general, under proper care, months of perfect health, yet, as some observations above attempt to show, it is a very important period of human existence; for the physical and moral habits which are generated in that interval exert an evident and commanding influence over the individual during the remainder of his life.

The general principles, on which a child should be treated during this first period of infancy, are very simple and easy to be comprehended. Let

him live on the food which nature has provided for him, let him be warmly clothed, let him have plenty of air and exercise and tepid bathing, and let his moral habits be fashioned after a rational standard. These form the basis of good management during infancy, and it is hoped that by a little explanation it will be seen that they can be easily as well as successfully carried into practice.

Of the care of a child immediately after birth.

—An infant, as every one knows, cries when it comes into the world. It would seem that this takes place for the purpose of securing a full inflation of the lungs, without which of course respiration would be imperfect and the child's life would be endangered. Hence, if an infant do not cry immediately after birth, it forms a reasonable ground for apprehension either that the child is still-born or that some obstruction to the passage of the air into the lungs exists.

It is necessary to give here some general instructions as to the proper treatment of cases like these, because although the presence of a medical man may make them unnecessary in the majority of cases, yet, as females are frequently delivered with only the assistance of incompetent attendants, a little knowledge on such matters may occasionally be the means of saving a child's life.

When an infant then, does not cry immediately on being born, an attendant should examine the navel-string. If it pulsate, the child is alive; if not, it is either dead or the functions of life are suspended, the cause of this suspension being, that the navel-string has been accidentally pressed on for too long a time during the birth.*

On further examination, if the child's skin be found to be of a bluish colour, but otherwise apparently healthy, it is probable that the functions of life are only suspended, and then the means of resuscitation, described below, are to be put in practice; but if the infant have been long dead, it will be made apparent by the cuticle having peeled off at various points, the stomach being swelled and dark coloured and by the presence of other signs of putridity.

If the navel-string pulsate however, and especially if the child move, it is probable that phlegm in the throat prevents the passage of air

* The reason that pressure on the navel-string produces death or apparent death, is, that the navel-string forms the bond of connexion between the mother and child: through its vessels, not only does the latter receive its nourishment, but these vessels, at the same time, constitute the medium, by which the blood is passed to and fro to be purified, in the same way that the blood is purified after birth, by the process of respiration. Hence, if continued pressure be made on the navel-string, so as to obstruct the circulation of the blood through its vessels, death takes place as certainly, and in as short a time as it is produced by hanging or drowning, or by the passage of the air to the lungs being stopped by any other means in after-life.

into the lungs; and it will be easy to remove this phlegm by passing the little finger fairly into the throat through the mouth and hooking it up. The child will receive no injury by this operation, and as it will probably struggle, that very irritation will often be sufficient to make it breathe. If these plans do not succeed, it will be necessary to close the infants nostrils and to blow strongly into the mouth. If still no effect be produced, a vessel of warm water must be procured and when the navel-string has ceased to pulsate, but not till then, the child must be separated from the mother in the way which will be immediately described, and the process for resuscitating still-born infants be promptly put in practice.

To tie the navel-string and separate the child, it is necessary to procure two pieces of small tape, each about six inches long, and having a knot at each end, or what is better, two strings of the same length made of about twelve threads of cotton or other thread, each having a knot at both ends, and after tying one of them very tight round the navel-string, with a double knot, at about an inch and a half from the child's body, and the other, in the same way at about the same distance from the first, to cut through the navel-string between them by means of a large pair of scissors. The knots at each end of the ligatures

are very useful; for as the strings are generally wet, they become so slippery, that it is difficult to tie the knots tight enough to stop the circulation and prevent the occurrence of bleeding afterwards, without this support for the fingers.

In resuscitating still-born infants, three circumstances are to be attended to; the heat of the infant's body is to be preserved, the lungs are to be inflated and stimuli are to be applied to the child both inwardly and outwardly before as well as after it has begun to breathe.

The best way of preserving the heat of the body is by immersion in warm water in a convenient pan or foot-pail. The water should be of about 97° of heat, or if a thermometer be not at hand, as warm as is agreeable to the human body; and indeed it is a good rule to have a supply of hot water ready whenever the birth of a child is near at hand.

The mode of inflating the lungs is, to insert a quill into one of the nostrils (the child being up to the neck in warm water), to close the mouth and the other nostril, and to blow into the quill till the chest is distended with air, an assistant being directed to press the trachea or windpipe to one side as it runs down the middle of the neck, so as to prevent the air from going down the œsophagus and distending the stomach and

bowels as well as the lungs. When the lungs have been thus fully distended, the air must be forced back again through the child's mouth by gentle pressure on the chest, and this process of filling and pressing out must be alternated in quick succession until the child begin to show signs of life, or until it is useless to continue the process longer.

If life return, it is shown by the colour of the skin becoming first, from being blue, of a bluish red and afterwards of a more vivid red, by the heart being felt to pulsate feebly, and lastly by the child moving its limbs and making spasmodic efforts to breathe. The pulsation of the heart is the first symptom which takes place, but it often happens that the complexion will be seen to change before this can be perceived; and therefore after that has occurred, the child may be expected to give a convulsive sigh. He then remains again motionless for some seconds, when the sigh is repeated again and again, the interval between each sigh becoming shorter and shorter, until the breathing is perfectly established and the child recovers.

After the child has breathed once, it is advantageous for an assistant to rub a little spirit of hartshorn or sal volatile on the hands, and to let the child draw in the stimulating fumes when it next breathes. This will often produce

a cough and expedite the full establishment of the breathing*.

Many infants are in this way snatched from death; but in the great majority of births, the child either cries at once, or, by a convulsive effort of its own or by external assistance, the phlegm is removed from its throat and respiration is established. Nurses are then, in general, very solicitous to put a flannel cap on the child's head lest it should take cold. It would perhaps be difficult to say why the head should be more liable to be affected by the cold air than any other part of the body; but it will be sufficient to wrap the child up in flannel after it has fairly breathed and cried, and has acquired a red colour of the skin instead of that darker bluish tint which it possesses when first born: it may then be laid on the bed in a warm place, and if a sufficient aperture be left for the infant to breathe through, it will not be necessary to pay further attention to it for some time.

It will generally be convenient however to employ the time which elapses between the birth and the mother's being removed into bed, in

* It has been recommended in these cases to use a more stimulating air such as oxygen gas in inflating the lungs; also to employ galvanism or electricity. The first of these suggestions is probably a good one; but it will so seldom happen that the necessary apparatus is at hand, that it is almost nugatory to mention it.

washing and dressing the child. Warm water should always be used in washing an infant; and whilst the water is clean its eyes should be well washed by means of a soft bit of linen. After this, soap and flannel may be used liberally to the rest of the body, two precautions being necessary; namely, to perform the washing in a warm part of the room especially in winter, and to take care that none of the soaped water be permitted to run into the infant's eyes.

It sometimes happens, that the white pasty secretion by which the child's body is covered, adheres so firmly to the cuticle, that it cannot be removed without using more force than is consistent with the tender state of an infant's skin. It will be better in such cases to let some portion remain, as it will be gradually removed in a few days, although nurses say that the skin is sore if this be done. An old soft napkin is the best towel for wiping the infant's body dry.

In dressing the baby, nurses are always solicitous, as it is remarked above, to keep the head covered, and the double cap and the piece of flannel sewed in the inside to cover the natural opening at the top of the head form no unimportant part of the paraphernalia. Now there is no necessity for this piece of flannel, and indeed more than a single cap is equally unnecessary. Why, as has been asked above, is the head more susceptible of receiving injury from cold than other parts of

the body? Let a satisfactory answer be given to this question and the practice may be continued; but since it will commonly be found that the custom has descended by tradition, and that neither nurse nor parent is able to give *a reason* why the necessity should exist, it will be better to hear what anatomy says on the subject. The more blood is sent to any part of the body the greater are the powers of life which reside in that part. Therefore as the head in children is very abundantly supplied with blood, it is, in reality better adapted for resisting the usual effects of cold than almost any other part of the body is. It would be much better and more reasonable to put more clothing on the hands and feet than on the head; for as those parts are the furthest removed from the heart or centre of the circulation, the powers of life residing in them are not so strong as to make such an artificial mode of warmth unimportant, especially in cold weather.

The proper care of the navel-string is generally considered to be very important: but it is really not so. Nothing more is necessary than to wrap a bit of soft rag, singed to take off the napp, round it, so as to separate it from the child's skin, and to lay it upwards on the stomach; a roller being passed round the child's body so as to secure it in its place.

The rest of the dressing is still too complicated; although it is indeed greatly simplified

since the time of our ancestors, when the child was swathed and confined by a quantity of clothing which must have interfered with its growing properly and been otherwise very inconvenient. The different items of petticoats, stays, shirt, and frock, must be very unnecessary when a species of dress might easily be contrived which would comprise the advantages of all these different articles, and yet be put on at once and with little or no trouble to the infant.

The principal uses of clothes are to preserve the warmth of the body and to defend it from the inclemencies of the seasons. The use of the different articles of clothing is to fulfil more conveniently certain minor requisites or supposed requisites of clothes. So warmth is fully obtained by the use of flannel; but as flannel next an infant's skin would probably produce irritation, an inner garment of fine linen or a shirt is interposed; and, as some pressure of the body is supposed to be required, stays are added; whilst as an ornamental covering for the whole the frock follows and completes the catalogue, except indeed that a pinafore is often added, although a young infant ought to have but little use for such an article of dress.

There would be no impropriety in these several articles, if it did not put the child to inconvenience and irritate him to put them on seriatim: but this is a considerable evil; for, as preserving

a child from irritation is as a corner-stone in building up a good disposition, and as the operation of dressing forms one of the greatest causes of irritation to which a child is subjected, it should be simplified by all possible means.

This may be done by making the whole of a child's clothing in one piece. Let the basis be flannel, the inside muslin, and the outside of any convenient ornamental material; let there be a body made up to the chin with sleeves; let the dress be open behind but wide enough to allow of a considerable wrapping over except at the upper part above the shoulders; and then, if the part which corresponds to the child's waist be so extended on one side as to go any required number of times round the body, and if this extended part have a second slip of the same material sewed at a convenient distance from the end, so that it may be turned back and passed the contrary way round, it will meet the first, and may be tied so as to fasten the dress on the child's body ornamentally as well as securely. Two additional tapes above the shoulders would only be required.

Were a plan like this to be adopted, the business of dressing would be that almost of a moment; and besides saving inconvenience to the child, it would entirely prevent the necessity for using pins in dressing infants, which practice cannot be sufficiently reprobated, and which, even on the present plan of dressing, is never

necessary. Pins are a very convenient substitute for a needle and thread; but they should not, on any account be used in any part of an infant's dress.

It is customary to wrap the infant, when dressed, in flannel, and to place it in bed. Great attention must be paid to keeping it warm; for the powers of life are very weak in such young creatures, and therefore cold acts very injuriously on them.

Few nurses remove the child's clothes until after a lapse of twenty-four hours; but after that time, they should be changed, and the child should be washed twice in every day. Warm water is the most proper for washing infants, and it should be used in sufficient quantity to wash every particle of dirt and of unpleasant secretion from the surface of the body; great care being taken to make all the folds of the skin perfectly clean. Much attention is also required to wipe the skin dry: indeed it is to negligence on this point that ulcers are so often formed or great irritation is produced within the folds of the skin and at the flexures of the joints. Where cleanliness is strictly enforced, and all those concealed parts of the skin are kept perfectly dry, such inflammations will never arise. As a substitute for this necessary care, nurses employ flour or hair-powder, and dust it over the skin, especially within these folds for the purpose of absorbing

the moisture which is left after washing. It is true that the plan generally succeeds; but why should its adoption be necessary? Care and attention in the use of the towel will be more than sufficiently efficacious in every instance.

It is of consequence to press this point very particularly; for, as every mother knows, the duty of making an infant's skin dry is one of which the nurse is called on to perform many times in every day, and much depends on its being properly performed as often as it may be necessary and as speedily after it becomes so as possible: warm water being used to cleanse the skin frequently in the day.

CHAP. VIII.

On Nursing Infants and on Nurses.

THE question of *nursing* now presents itself. It may be supposed that nothing remains to be said on this subject; but it is otherwise; for if one of the principles on which these pages are writ-

ten be correct, many of the bad moral habits of children are produced by the present mode of nursing, and consequently, if that mode be changed or modified, it is reasonable to hope that the formation of such habits will also be prevented.

The point of accustoming children to be so much on the arm has been casually alluded to in a preceding page; but it requires a more extended discussion in this place. The custom is so general in this country as to be almost universal, except in the lower orders of society. Whence has it arisen and what are the advantages to be gained by it? It is useful and in the world's opinion essential on three accounts: It facilitates the preservation of a due degree of warmth in the child, it affords an excellent opportunity for the nurse to give her charge exercise, and it secures a proper degree of attention to the infant in other respects. But the first of these objects may be gained by additional clothing and by the warmth of a fire, the child being ordinarily placed when awake in a basket, which may stand on a chair or on the table at the nurse's elbow, the second will be better done by the child's own exertions, than by the nurse's interference, especially when old enough to be on the carpet, and the third is one which a nurse should not dare to name.

What are the disadvantages of the practice? The child is always placed in an uncomfortable position and often in a hurtful one—he is constantly irritated by the arbitrary and sudden, and probably unwished for changes of position which the necessities or the caprices of the nurse occasion—if the nurse's temper be bad, he is thus too made to feel the effects of her ill-humour—and the due voluntary exercise of his limbs is improperly interfered with. It will be necessary however to discuss the subject more in detail.

The only proper position for a mere infant is the horizontal one. His body is made of the most yielding materials. What are afterwards to become bones are still composed, in a great part, of gristle; and the back especially, which bears the principal stress of the body when erect, is perhaps less ossified, comparatively speaking, than the other bones are. Hence then, the bones of an infant are not calculated for bearing the erect position: and as if to show beyond all doubt that that position is improper, nature has made his muscles so feeble and indeed so inactive, that he has no power of sustaining the weight of even an arm or a leg; much less then can he support his body and head when held upright. Moreover, if the experiment be tried, what happens? the back is bent and the head falls.

After thus proving that nature objects to an infant to be placed in the erect position, it is not an

unfair assumption that this position is improper and hurtful: but this point will be mentioned again. The horizontal position then is decidedly the only proper one for an infant. But it may be said, that infants lie on the nurse's knee as well as on a bed. They do lie there because they are taught and obliged to do so; but not so comfortably. The unevenness and hardness of the surface sufficiently distinguishes it from that of a bed or mattrass; but after all the great objections to the practice are, that it subjects the child to all the caprices of the nurse, and interferes with his proper growth.

It may perhaps be accounted ridiculous to allude to the reasoning powers of an infant: but as its mind is in a state of formation or improvement from the time of birth, it must be occupied in some way or other while awake. It is at least using its eyes: it is observing the surrounding objects and making itself acquainted with them. But it cannot do this with any effect if it be constantly interrupted by the attentions of the nurse. How often must it happen, that when the child has formed an acquaintance with some object, the whole train of its new associations is destroyed by a violent and unlooked for change of position on the part of the nurse, though it may be accompanied by "God bless its little heart, it should go and look out of the window," or by some other

expressions of endearment equally unintelligible to the child, and equally detrimental in its effect.

Let it not be said that this is a ridiculous mode of putting the question. It is a true picture of what happens in the best regulated nurseries every day, and it loudly calls out both for reprehension and alteration. But the evil of thus rendering a child dependant on a nurse does not rest here. Nurses are not always the most philosophical persons in the world: they may be ill-tempered; and if so their illtemper may, by chance, be visited on the infant. At all events the capriciousness of the treatment, to which this custom gives rise, must have some effect in forming the child's temper, and doubtless the passions of infants are much fomented by the inconveniences which arise from such a mode of nursing.

This then is one great reason why infants should be allowed to lie on a bed or mattrass and not on the nurse's arm or knee. Good temper, as has been said before, is formed by the child's feelings being constantly kept in an agreeable state; bad temper by the opposite circumstances being allowed to exist.

A few words may be said here on a collateral branch of the subject. Good nurses are in the habit of talking to infants; and no one can attend to an infant of even a few days old without being assured that this attention is very agreeable to it. The practice is therefore a useful one; especially

as much instruction is doubtless given in that way, or at least the connexion between the mother or nurse and the child thus becomes closer and more endearing: but it is not necessary that an infant should lie on the knee to be thus attended to. If the basket or tray in which it lies be placed on a table, the nurse can speak to her infant just as conveniently as if it lay on her knee.

Again, the exercise which an infant takes when lying horizontally, and with an opportunity of freely extending his limbs, is much more beneficial than when he is confined in the uncomfortable hollows of a nurse's knee. It will be seen below how true this is, and how much stronger children who have been differently brought up are than under the present system.

It only remains to consider whether the existing practice be necessary. It cannot be necessary for children to lie always on the knee, even though they do cry when laid on a bed; because they may be taught to do otherwise, just as easily as they were tutored into their present habits. The bed and the nurse's knee have equal attractions to a new-born infant; and, infants only prefer the latter because they are taught to do so, and are thus led to acquire one of the worst and most inconvenient habits which belong to them: for nothing is so difficult as to put a child, when he gets older, out of the arms of his attendant.

The children of the poor however learn that from necessity which those of the rich are seldom taught at all. An ignorant nurse said to an infant, the other day, "you little thing, you never will be down for a moment; if you were a poor man's child, you would do so fast enough;" and yet she could not draw the conclusion that it was she herself who had created the difficulty; as the child did not of course differ in its nature from the infant of the poor person.

The children of the poor then, are taught better habits in this respect than those of the rich. It is moreover the custom in some other nations to act on the principles which have been advocated above, and a reference to their experience will show, that the practice is attended by the best effects on the health as well as on the tempers of children.

The Hindoo nurses manage admirably in this respect. They let their children roll constantly on the floor or on a mat, and they have very little trouble with them. When quite young, the infants lie on their backs as quietly as turtles, and this, merely because they have been taught to do so. Children under such nursing, are said to be the finest in the world; and it is likewise said, that when the European children leave their Hindoo nurses, which they constantly do when about two years of age, they become sickly. It is true that this ill-health is attributed to the influence of

the climate ; but as their mode of life is then changed, it is perhaps more reasonable to suppose that it arises from that as a cause rather than from the climate, which ought to have acted on them as universally before as after that time.

A lady who had been in India corroborated the above statement, and bore ample testimony to the advantage which arises from the good practice here alluded to. It seems that the children are placed on the ground with a quilt of about a yard square under them. This quilt is called a Goodray ; at least, the sound suggested that mode of spelling the word. They are seldom, if ever, in the arms ; and, when carried into a room to company, they are laid on a tray, often quite naked, and with only a piece of muslin thrown over their bodies. This lady said, that children when so nursed, *acquire the use of their limbs* much earlier than such as are brought up in a different manner : and in corroboration of the fact, as well as of the more interesting circumstance that the plan is equally applicable to the education of European children when in their own country, the lady entered into some details of the manner in which she had treated her own children.

They were scarcely ever permitted to be on the knee ; but were laid on the floor or on a crib, during almost the whole day, and they were all of the most healthy description. The eldest child

raised himself from the horizontal position and sat upright at four months old, at between nine and ten months, he had taught himself to get up by the help of a chair, and to travel round the room from chair to chair. The three other children were equally forward; and doubtless it is very unusual to see children do so much when treated in the common way.

The Italian mode of nursing is less philosophical though it is not less explanatory of the ease with which children may be taught to submit almost to any thing. It is said to be the custom in Italy, to swathe the children with bandage after bandage, until they have the appearance of a large doll, and are equally incapable of bending their limbs. When thus confined and converted into mummies, their nurses, it is said, stick them between their arm and body with the face outwards, and leave them there unnoticed during almost the whole day. If children can be taught to submit to treatment like this without repining, there can be no doubt of their being easily led to perform the more agreeable office of lying at their ease on a bed or rolling about the carpet.

“ In Canada, Virginia, the Brazils, and other American provinces,” says Dr. Willich, “ children are generally laid naked on raw cotton, in hammocks or cradles covered with fur.” In Peru children are placed with a few clothes round them in shallow pits dug in the earth. “ In some

parts of North America, infants are generally laid on couches filled with the dust of worm-eaten timber: this simple contrivance answers the useful purpose of keeping them dry and cleanly; as the powdered wood absorbs all moisture. When they are able to move, the solicitous mother incites them to meet her by presenting the food appointed by nature. Thus, it is almost inconceivable, that little savages, at the tender age of a few months, especially in Africa, should possess such strength and agility as to embrace the waist of the mother with their arms and legs without the least fear, and imbibe the maternal gift while she is engaged in fatiguing pursuits. In that country, it is truly astonishing to see infants, two months old, creeping about, and others, somewhat older, walking upon their hands and knees, almost as speedily as adults." "On the contrary," says Dr. Willich, "in our quarter of the globe, it is not uncommon to see boys several years old, nursed either by the breasts of an ill-advised mother, or with spoon-meat on the lap of an effeminate nurse."

If these facts and reasonings be substantiated, it is not doubtful, that the present mode of nursing children in this country is an improper one. It seems to be unnecessary for a child to be nursed at all, at least as the expression is commonly understood. Of course, the nurse is sometimes obliged to take the child on her knee, for

the purpose of doing for it the necessary offices of cleanliness and of the toilet, but for all other purposes, it is evident, that a bed on the floor, or a basket with a mattress or pillow in it, is the best situation, in which it can be placed.

When the child is dressed then for the first time, it should be placed either in bed, or, what is better, in a warm cot, and be only taken out of it for the purpose of being fed or dressed or made clean. It will soon become as much attached to this domicile as it would have been to the knee of its nurse. At convenient periods however, and especially after a few weeks have passed away, it may be placed on a pillow or mattress on a low basket or high tray, and then the nurse may pay the necessary attention to it when awake by placing the basket on the table or on a chair by her side. In this way the child will get air; and, if opportunities be taken of uncovering it, exercise in abundance and of the best kind may be taken. In like manner, if the weather be cold, by placing the basket on the rug before the fire, the child may be sufficiently warmed without difficulty.

All the other little difficulties which nurses will assuredly raise against this plan may be considered in a similar way. It would seem as if nurses were fond of trouble; for it is almost impossible to make them alter old customs however inconvenient those customs may be to them-

selves. It might be supposed that a nurse would be glad to escape from the trouble of having a child constantly in the arms ; but no, it is generally in vain to show them how they may remedy the inconvenience.

As the subject of nurses has thus occurred, and as the early welfare of children is too much dependant on these persons, it may be as well to make some further observations on nurses in this place. Nurses are of three kinds, monthly nurses, wet nurses, and common nurses.

The present system of *monthly nursing* is far from being a good one ; and this partly arises from a fault for which the ladies themselves are a little responsible. Monthly nurses have too much influence ; they are made too much of. It is the fashion to give more importance to the business of lying-in than belongs to it. It certainly happens, that sometimes a lying-in room is a scene of great distress and of danger ; but in the majority of cases, to bring a child into the world is an action of health rather than a process of disease. Women in such a situation require abundance of care indeed, because the constitution is then very susceptible of receiving impressions of every kind ; but, it is a species of care, which may be administered by any ordinary female of good sense, who is willing to receive instruction. In like manner, the care of an infant is a very simple matter, which requires no particular abili-

ties for its proper administration. And yet, both with regard to mother and child a great mystery is made of the business, and a degree of importance given to nurses, which by no means belongs to them.

It is certainly convenient to have females about us at such times, who understand what is commonly required, and can fulfil certain necessary but really humble duties promptly and without any particular directions being given at the time. There are certain peculiar details as relating both to the mother and child, which require, in the same way, to be known before they can be conveniently performed; and hence, it is almost necessary to have a person at such times in attendance, who has acquired the customary knowledge by practice and experience. It is proper also, as the attendance on a lying-in woman is often a post of great fatigue as well as anxiety, that a monthly nurse should be well paid for her trouble; but none of these circumstances form a reason why she should be magnified into a person of great importance; into one, against whose dicta there lies no appeal.

It is true, indeed, that cases do exist where it would be advantageous if she were made thus important; as where inattention to directions on the part of the patient is likely to be attended by inconvenience or danger; but then it must be under a very different order of things than the

present. Nurses must be better qualified to give advice before they can act the part which they at present assume. Ignorant as almost all of them are of the principles which ought to guide medical practice in such cases, or rather, when we find them thoroughly embued by the prejudices and vulgar errors of former times, it is not wonderful that they exert a deleterious influence whenever they put themselves forwards beyond their proper sphere. And that the great majority of them do play the part of doctor as well as of nurse, and, as by dint of mysticism and delusion, they have succeeded in making themselves very important personages in a lying-in room, it is incredible the evil they often do, not to mention the ridiculous restraints which they lay on their patients.

It appears to be almost absurd to mention some of these follies. A practitioner the other day found his patient and her monthly nurse in high dispute whether her gruel should be sweetened with brown sugar or white. The lady, with natural good sense, as well as a Highgate-like preference for white sugar, was not able to understand how it was of so much consequence for her to take brown—but the nurse would have carried her point, if the practitioner had not sided with the lady, and put the whole matter into a point of view too ridiculous to be discussed. Indeed, it would be highly amusing to hear the extreme absurdity of the reasons which nurses

often give for their opinions ; but when the influence that these opinions exert is hurtful, as it is in very many ways, it becomes necessary to discuss the matter with becoming gravity.

Perhaps the only curious part of it is that well-informed women should thus suffer themselves to be the dupes of opinions and dicta, the fallacy of which they would certainly perceive were they hazarded on any other occasion ; but the fact is, that they are spell-bound by the operations of their own fears. Let them consider their situation in its right light, let them only take the bringing a child into the world for as much as it is really worth, and they will cease to be the victims of follies such as these.

But how does it happen that nurses set themselves against improvement, and give themselves so much unnecessary trouble ? The fact itself forms the reason—for if they did not give an undue importance to the performance of trifles, if they permitted the subject to be looked on as a plain matter of common sense, their reign would be at an end. Hence they make a great point of performing for their patient the most silly offices, and hence the process of nursing and dressing and taking care of an infant becomes mysterious in the highest degree, and much evil ensues therefrom.

With regard to the mother, as the whole of the evil is perhaps resident in the inconvenience to

which she subjects herself unnecessarily, it is not of great consequence to remedy it unless she likes; but with regard to the child, the case is very different. One of the great objects of these essays is to show how much good or harm is done to an infant during the earliest months of life, and therefore this digression on nurses may well be excused; and the nurses themselves, if they were amenable to reason, would not object to the severity of some of the expressions, because they would see, that the welfare of children requires that nursing should be conducted on different principles.

In penning this anathema against nurses, it would be very unjust to many individual monthly nurses, if the good sense which they carry into a lying-in room, the intelligence which they display in cases of emergency, and their readiness to receive and act on the directions which are given to them were not mentioned, and acknowledged with gratitude. A really good nurse is a very valuable person, one indeed who cannot be too highly prized; and if those who do not rank in that class could see how much higher their credit would be raised if they acted differently, they would give up that disgusting quackery which marks their present conduct and become really valuable and efficient servants.

Monthly nurses do indeed exert much influence over the infants with whom they are con-

nected. Infants will be lively and quiet under one nurse, whilst under another the same infant would probably be dull and would constantly cry. But if the processes of dressing and nursing were simplified in the way which is recommended above, and especially if ladies would teach themselves how simple and easy to be understood all these matters are, the influence of nurses would soon cease to be deleterious, and the comfort of both of mistress and child, yes, and even of the nurse, would be greatly increased.

With respect to wet-nurses some remarks will be made in a future page, and with regard to common nursery servants, it will be unnecessary to say much. If mothers superintend their own nurseries and have only resolution enough to see that a rational system be acted on in the care of their children, almost every nurse-maid may be made a good servant, if she be good tempered, and the nursery will become a source of comfort to the household, instead of being, as it usually is, a scene of contention and confusion, and the cause of great discomfort to all parts of the general establishment.

As it is, the management of nurseries is left too much in the hands of the head nurse, as she is called; a person who is chosen as the superintendant, from the supposed advantages of her having had much experience in the care of children. When a person is experienced in ways

that are good, the more extended her experience may be, the better the person is ; but the converse of this proposition holds equally true ; and therefore as the generality of nurses are unskilled in the proper mode of managing children, extent of experience must be an evil instead of an advantage.

Observe minutely the affairs of any nursery ; take notice why the children are fractious and see the mode in which they are treated when thus obstinate and self willed—mark also the language which is held to them, the food which is placed before them and the general habits which are hour by hour inculcated, and then it will be no longer a mystery why children should be as faulty beings as we generally find them, and that their health should be so almost universally deranged. But as the practices of the world are improving in this respect, many nurseries now exist in which the business is carried on in a very different way, and the alteration which may be perceived in the tempers and health of the children is very great. In several instances the early branches of a family have been unhealthy and the medical man has been in almost constant attendance on the children. Two striking instances of this kind occur to the writer's recollection. In both these, the first children were unhealthy and difficult to be managed, and almost constant medical attendance was required. Gradually, however a better sys-

tem was introduced, and now, month after month passes away without the medical man's attendance being desired, and this although the number of children has been proportionably increased; the children indeed are the picture of health and as an almost necessary corollary, their dispositions and tempers have undergone a corresponding improvement.

But in both these cases, the female head of the family has been the superintendant of the nursery, and whilst her good sense has led her to the improvements which have taken place, the nursery servants have unconsciously become very good servants. They are really good servants without being aware of it: they are not in their own opinions experienced nurses though they are so in reality.

Such are experienced nurses; they are to be bred rather than bought at present; but as a better system is in progress, the time will probably come, when those good nurses, who are now an exception to the general rule, either from the operation of their own good sense, or from the superior tuition which they have experienced, will form the bulk of those who offer themselves as nursery servants.

It is easy then to deduce from these details, how infants ought to be nursed. As has been said, they should never be on the knee, except when they are dressed or fed; they should be

constantly in the horizontal position, at least until their own feeling of strength prompts them to roll over and stand upright; they should be treated like rational beings, be spoken the truth to, and be never deceived, nor permitted to find that they can avoid the necessary evils by which they are surrounded. On the other hand, they should be put to as little inconvenience as possible, and be talked to and amused as much as can be conveniently done; but still they should be allowed as it were, time for reflection: objects should be placed before them, and within their reach, and time should be given to them that they may observe and contemplate them at their leisure: when carried about, it should rather be on a tray than in the arms, and thus, as far as can be done, they should be made independant and rational beings.

Were children nursed in this way, it would be an easy thing for one experienced person to take excellent care of many infants. She would have each in its separate cot or basket, and as near to her as possible; she would perform the necessary offices for each in succession, and still, abundance of time would remain for amusing them, and giving to each such mental instruction as its slender powers would fit it for receiving.

Even the whole party might be duly exercised in the open air, under this arrangement; for if all the trays were carried out of doors, and a suffi-

cient increase of covering made to provide against the cold, the infants would receive all the advantages of the free air, as well, when their tray was motionless, as if they were carried about in the arms of the nurse.

Children, nursed in this way, would very seldom cry, if ever they would; their health would be perfect, at least if they were fed properly, and not exposed to cold or other causes of disease; and their bodily as well as mental powers would be developed much earlier than if educated in the old principles. By the time the teething commenced, at seven or eight months old, they would have become little sturdy active creatures, able to roll about the floor, and move themselves from place to place, and before the expiration of the first year they would walk alone, and be in other respects very intelligent little beings

CHAP. IX.

The food of infants forms the next object of enquiry. This is a part of the subject which requires the most attentive consideration. When medical men see daily and hourly, that the stomach is the grand route by which disease enters

the human constitution ; when they observe that, with the exception of certain acute disorders and a few others, a healthy action of the digestive organs secures health throughout the constitution, and on the contrary that derangement of these parts predisposes the body to receive morbid impressions, and thus forms the avant-courier to numberless diseases and to states of permanent ill-health, they may well feel anxious to acquire accurate notions of what the proper food of infants may be.

Fortunately, there can remain no doubt on the subject. If man, meddling man would have humility enough to feel and believe that the Almighty power which created the world, knows better what is right than he can do, it would be evident to him, that the only proper food for an infant is its mother's milk.

If nature had intended that more than this should be given, we cannot doubt but that more would have been provided. Animals give nothing else to their young, for a certain time after birth ; this period being quite as long in comparison, as that which nature has pointed out for the human infant. An animal never takes solid food until it has got teeth, and why should a child do more ? In fact, no other food than the mother's milk is required. Dr. Clarke in his excellent *Commentaries on the Diseases of Children** says, " The

* Page 47.

practice of giving solid food to a toothless child, is not less absurd than to expect corn to be ground where there is no apparatus for grinding it. That which would be considered as an evidence of idiotism or insanity in the last instance, is defended and practised in the former. If, on the other hand, to obviate this evil, the solid matter, whether animal or vegetable, be previously broken into small masses, the infant will instantly swallow it; but it will be unmixed with saliva. Yet, in every day's observation it will be seen, that children are so fed in their most tender age; and it is not wonderful that present evils are, by this means, produced, and the foundation laid for future disease."

"The power of digestion in infants is very weak, and the food designed for them, in the earliest period of their existence, by the author of nature, contains but a very minute quantity of nutritious matter, diffused through a large quantity of water, yet quite sufficient for all the purposes of life. It is taken very slowly into the stomach, being procured by the act of sucking, in which a great quantity of saliva is secreted and swallowed with it."

"Nothing can be more contrary to this, than to stuff a child's mouth and stomach with solid, perhaps animal food, or even to pour down its throat, with a spoon, milk and bread, or any other solid matter, without sucking, mastication, or the secretion of saliva."

“To give an infant the best chance of health, it should live exclusively upon the milk of a healthy woman, and that woman should be its mother, if she be healthy and capable of nursing it. Scarcely any thing will compensate for the want of this natural support. Multitudes of children die, literally starved, under the eye of parents who would shudder at infanticide and the exposure of children as it is practised in China; as if a speedy death were not preferable to a life cruelly protracted, in distress, pain, disease, and agony, and at last, miserably terminated.”

“Such truths are very unwelcome, but they should be told and felt. The occurrence of the facts is not rare; but it is an evil of great magnitude and extensive operation, and every measure should be taken to discourage it. It is a lamentable reflexion that civilized society is inferior to that of barbarians and even brutes in that respect, who generally cling to the preservation of their young; and the lowest orders of animals will even endanger their own to protect the lives of their helpless offspring.”

Dr. Clarke's opinion on this subject was formed after forty years of very extensive experience, and it is especially deserving of more credit, on account of the great opportunity which he possessed of witnessing the evils of an opposite line of conduct; for, in the early part of his practice, it was the universal custom to feed children much

more improperly than it is at present; and the gradual change which has taken place in the treatment of children since that time, has been principally due to his unceasing exertions in recommending a contrary doctrine to his pupils.

Happily, it is not now necessary to use the strong terms, respecting this point, which Dr. Clarke found himself obliged to employ in his lectures. It seems now to be generally understood, that its mother's milk is the most proper food for a child. And yet, it is not generally acknowledged, how necessary it is that the principle should be acted on to its full extent, during the early months of the lives of London children. Medical men are still in the habit of recommending that infants should be *fed* in part, even from the birth; on the principle, at least, as so stated to mothers, of initiating the children early to take food, and thus to obviate the supposed difficulty or danger of a child's beginning it at a more advanced age; as if it were not as dangerous to begin it at one age as another, and even more dangerous, the earlier the period after birth.

Indeed one of the reasons for writing these pages was to point out, that my experience had decidedly led me to say, that whilst infants are almost always well, if fed solely on a healthy woman's milk, they almost invariably, at least in London, feel the bad effects of taking even the smallest quantity of extraneous food during the

day or night. The infant becomes occasionally irritated and the bowels more or less deranged. On the contrary, when he is fed solely on the proper food, and has been allowed to go into the open air even much less frequently than it is my custom to recommend, abundant experience has shown me that his health is perfect, and continues to be so, unless the child is deranged by improper moral treatment, or by other faulty points in his physical education.

“ From an authentic calculation made in France,” says Dr. Struve, “ it appears that more than one half of those infants who were entrusted to the care of nurses, died previous to the third year of their age. Fourcroy, on the other hand, assures us, that of one hundred children reared at the maternal breast, not one lost its life during infancy.”

It is right to press this point again and again ; for it is very important that it should be properly understood.

It must be recollected, that it is only intended to discuss the subject of the proper food of infants on the present occasion. When the child is older, and when it has cut a part of its teeth, then the question occurs in a new light ; and, though much difficulty may exist as to its proper elucidation, yet it seems the most consonant with the acknowledged laws of nature to begin to give solid food to a child when it has acquired teeth to eat

it; but this part of the subject will be treated of under the head of weaning.

Immediately after a child is born it is customary to give it food and also medicine. Neither of these can be necessary. An infant's bowels will be cleansed, as it called, quite soon enough, if time be given for the natural evacuation of the meconium or dark green secretion with which they are filled; and it is an idle notion to suppose that children who take medicine immediately after birth, thrive better than those who do not.

Infants are often said to be flatulent when this opening medicine is withheld. It is doubtful whether any infant would be flatulent so soon after birth, if improper food were not given at that time.

The argument for feeding an infant on the same occasion, is, that as the secretion of the mother's milk does not take place until the second or the third day after birth, the child's constitution requires support during that period. This argument is probably fallacious. It cannot but be, as has been said above on another branch of the subject, that if food were really required during that interval, it would be provided by the author of nature. No artificial proceeding of this kind is perceived in the case of any of the other animals which suckle their young; the secretion of milk is late in some, and early in others; but in none of them is that impatience displayed, which

leads the human subject to anticipate nature, and thus interfere with an order which is doubtless the proper one. Neither is it an argument that an infant will swallow the food which is put into its mouth. It has no power of selection, and would swallow poison as readily as food.

But whilst it seems probable that no advantage can arise from feeding children thus early, it is more than probable that considerable evils result from the practice. It may be, that the difficulty which often occurs in making infants take kindly to the breast arises from this cause; the system is oppressed by the unnatural load which has been laid on it, and it feels none of that appetite for the proper food which it would have had under more favourable circumstances. At all events this view of the subject is not an irrational one. Again, what is it that causes that eruption called the red gum, which is so universally found to affect young infants? Probably, this eruption would not occur, if the due order of nature were not thus interfered with. Eruptive disorders scarcely ever arise in children except when the stomach is deranged, and therefore it is probable that the red gum is occasioned by the indiscreet feeding of the infant which is alluded to above.

The experiment may be easily tried; for no infant will be starved to death, if kept without food for two days. In a case published lately, an infant lived for eight days with no opening into

its stomach; and indeed this case bears in some degree on the necessity for giving opening medicine to new-born infants: the meconium came away in small quantities every day from this child until its death; thus showing, that neither medicine nor the first milk of the mother, which is supposed to be of an opening quality, is necessary for its perfect expulsion.

The most reasonable course then to pursue with a new-born infant is to give it nothing—neither medicine nor food; but to wait patiently until the secretion of milk take place in the mother's breast. This generally commences on the second day and becomes more perfect on the third; but, it will be proper to put the child to the breast very soon after birth. It will generally get something; but were it only to excite the breast to a due performance of the natural actions it will always be advisable to let the child suck at an early period.

This practice is probably connected too with the subject of sore nipples, a state of disorder which almost universally occurs in persons of the higher classes of society. For, although it is probable that the faulty habits of life which incapacitate the majority of such women for suckling, form the principal cause of their being affected by soreness of the nipples, yet it may be expected, that this evil will be more certainly averted, if the breasts be drawn early than if they are per-

mitted to be overloaded with milk before this natural mode of relief be afforded to them.

Thus then, as it appears to be probable that neither medicine nor artificial food should be given to a new-born infant, and also, as nature points out, that for some time after birth, the breast-milk is the only proper food for an infant, it only remains to discuss a few minor points of management before the great subject of weaning is taken up.

Mothers adopt different plans in suckling their children. Some allow them to take the breast very often, while others feed them more seldom and only at stated periods. Some let their infants sleep with them, and consequently, such children lie at the breast and suck almost incessantly during the night ; while others lay their infants in a crib by the bedside and only allow them to take the breast occasionally.

An infant requires food very frequently during the day, and it is difficult to determine how often it may be allowed to suck ; but as doing things in a certain order is not only the way to do them well, but to discover whether any fault exist in the adopted plan, and whether every possible good be derived from it, so it will be proper to suckle the infant at stated periods. For instance, if awake, it may be put to the breast once in every two hours during the day, and that the mother may be regular in so doing, she should always

recollect the hour at which the child is suckled. By so doing, it will be soon discovered whether the child requires the breast oftener or seldomer than this, and the process will become precise as well as perfect, because it will be founded on experiment.

It is neither necessary nor proper to suckle an infant so frequently during the night. An infant will soon learn to sleep during the whole night if it be properly managed; and not only will much fatigue be thus saved to the mother, but a necessary period of rest will be given to the child's stomach; and, what is better, the formation of many bad habits will be prevented. An instance is given in page 17, which points out the advantages of this method of treating infants. The child in question was taught to sleep invariably for intervals of four hours during the evening and night, from the period of its being a month old, and the same thing may be done in every other case.

Nay, it is not improbable that certain bad habits with regard to appetite and the taking of food in after-life may be continued from the erroneous plan of treating infants which is opposed to the one now recommended. It is very frequently seen that children and adults are capricious with regard to their appetite and to the food which they can take even when their health is apparently good. This capriciousness generally indeed arises

from slight disorder in the digestive organs from mismanagement of the health, but it may be conceived that a bad habit of irregularity in these matters is transmitted from the child to the adult, and that capriciousness of appetite may be thus produced in some instances.

Another and a very great evil results from allowing an infant to sleep in the same bed with the nurse. The latter is not so decidedly awake to the calls of the child as she ought to be ; hence the child is put to the breast when it cries, the nurse goes to sleep or is half asleep at the time, the child sucks itself also to sleep, and thus it lies all night sucking and wetting itself until in the morning it is in a deplorable state. A habit like this is bad enough in itself ; but when it is considered that delicacy of bodily feelings may be taught to an infant as easily as any thing else, and that delicacy of mind is but as a corollary to proper corporeal habits, the evil will be sufficiently apparent. The infant that is mentioned above formed an excellent illustration of one part of this doctrine. As it advanced in age, it showed an extraordinary disposition to be cleanly and delicate both in its body and mind ; whilst one of its sisters who was entrusted to the care of a nurse and was permitted to sleep with her grew up with very opposite habits. But, can it be wondered at that a child should become familiar with dirt who on waking every morning found her night-

clothes wet from head to foot, and herself surrounded by the most noisome smell?

However frequently then, an infant may be suckled during the day, let him be fed for the evening, about seven o'clock, after having been previously washed and dressed in his night clothes. Let him then be put to bed and he will sleep till eleven o'clock. If he do not wake, he should be taken up and suckled, he being disturbed as little as possible. He should then be laid down again, and it will not be necessary to take him up again until he wakes of his own accord. This will probably occur once before morning, but not oftener; and indeed if the infant wake oftener than this, he should be left to go to sleep again unnoticed, unless some obvious reason of cleanliness exist for his wakefulness; but even then he should be laid down again and made to go to sleep without being suckled, otherwise he will expect it again on other similar occasions, and thus a bad habit will be easily taught.

It appears that infants swallow a certain quantity of air with their food; and therefore after sucking, they should be induced to throw it up, which they will generally do if they be rubbed or patted on the back immediately after sucking, especially too if a little pressure be made on the stomach, by making the child lean forwards on the nurse's hand. At all events this should be done after an infant has sucked in every instance.

It is hoped that many readers of these pages will be convinced by the facts and arguments which have been adduced above, that it is better to make an infant lie down constantly than be nursed on the lap; but those who may not be so convinced, will do well to adopt the practice of laying an infant down in all cases immediately after it have sucked and broken wind. An infant at such a moment is satisfied, and he will be more certainly induced, not only to allow his nurse to take a little rest, which the said nurse will be very glad to do, although she may quarrel with the idea of making her nursing-duties still more easy, but the child's digestion will go on more perfectly if he be at rest for a short time after feeding, than if he be moved about on the nurse's knee.

Infants require much sleep. A healthy and well-taught infant sleeps almost entirely during the first month of its existence; but even then, if care be not taken, it will acquire bad habits. A mother complained that her infant of ten days would not sleep at night and would not be laid down for a moment; and yet this child had been properly fed and it lay down contentedly enough on the day of its birth. The cause of the difficulty was pointed out, and the remedy suggested, but the child did not improve.

An infant of two months old, ought to sleep several times in the day, but still he should be kept awake long enough to oblige him to sleep at

night. No child, as may be deduced from what is said above, should be allowed to be awake and troublesome during the night: for by proper management it may always be prevented.

It is remarkable moreover, how soon an infant may be taught to sleep at regular intervals during the day. Indeed many persons teach their children habits of this kind without being aware that they have done so; and then, all the credit is given to the child—"Oh, Sir!" one said, "it always goes to sleep at this hour; it is a very good child for that," which means "in that particular."

With regard to air and exercise, a mere infant, although it requires plenty of the one, much more than it is generally allowed to enjoy, is not so dependant for health on the other as is commonly supposed. Infants are almost always kept in the house too much. In London they are very seldom sent into the open air during the first month, even in summer. This is an injurious custom. A lady, who lived in the country, and who had reared eight or nine children, invariably sent them out on the day of their birth, the nurse being even directed to take them to a certain place, which was at least a mile and a half off. London ladies would not approve of this, and yet all these children lived and were healthy; although, of course, some of them were born in the winter. During the fine weather of summer all infants should be taken into the open air during the first

week and on every day afterwards. Fresh air is the child's dearest cordial ; and it has been before shewn, that, the unhealthiness of children in London is in a considerable degree produced by their being kept too much within doors.

It is not enough that an infant be taken out into the air for a few minutes in the day. His time in early infancy should be almost divided between sleeping and being taken out. Let ladies, who live in London, and who find such difficulty in getting their children dressed in their fine clothes and taken out once or twice a day, recollect what they have seen those do who live in the country. In fine weather little or no additional clothing is put on them, whilst at colder seasons, the necessary clothes are kept at hand and the children are ready to sally forth in a moment.

Again, exposure to the open air is the best antidote for a cross infant. How uncommon it is to see a mere infant awake in the street ; the fresh air composes him, it makes him feel comfortable, and he falls asleep as a matter of course. Even adults feel this charmed power of the external air. A nervous lady can find no more effectual remedy for her uncomfortable feelings than a long drive into the country ; the studious man too feels how a walk in the fresh air clears his intellects and drives away an incipient headache.

Exercise is not essential to the welfare of infants. During the first one or two months they

should merely be carried from place to place in the horizontal position, and be neither shaken nor allowed to be upright. Even as the infant increases in age, it is not proper to toss him about too much. A mother reported a few days ago, that her infant's illness, a bowel complaint of some danger, immediately followed a fright, which it received from being suddenly tossed up in the air as nurses usually do. This child is nearly three months old, and the mother stated, that it had always been afraid of falling, so that she had not exercised it as violently as she had done her other children ; but, that a friend took the infant, and unwarily threw it up twice as is described above : it instantly changed colour, it became very pale and immediately afterwards its complaint began.

Under all circumstances, perhaps, the best exercise which an infant can take is that which nature dictates when the child is allowed to lie on the ground or on a mattress with as few clothes on as possible.

The impropriety of allowing an infant to be for many minutes together in the upright position has been alluded to. It was there stated that the bones of an infant, and especially the bones of the back, are not calculated to bear a considerable weight ; and it will be recollected that the back of an infant always bends when he is placed upright, and his head falls down on his chest or back

just as the child is leaned forwards or in the opposite direction. The head is the heaviest part of the body, and it has not the power of keeping itself erect independant of the action of muscles. Hence the head falls down when fainting or death takes place, or the person sleeps. Muscles are fixed to bones, and those which support the head are principally attached to the back-bone; and as the back-bone during infancy is almost entirely formed of cartilage or gristle as it is commonly called, it would be unable to afford the necessary support to those muscles when in action. It is perhaps for this reason that the muscles themselves have not yet acquired the power of acting with energy sufficient to support the head; as if to prevent the child from making such exertions as would tend to derange and injure the back-bone in its still soft state.

If a child be allowed to take exercise in its own way, it will not attempt to raise its head until the parts have acquired strength enough to support the necessary exertion, but after that time he will turn himself over on his carpet, and gradually learn how to raise himself into the upright position.

In reference to this point of the nursing of infants, which was discussed so fully in our last number, a medical friend of great observation has suggested a very important argument in favour of the plan which is there recommended. He says,

in allusion to the prominent breast-bone and narrow chest which is so frequently seen in weakly children, that this species of deformity is produced by the erroneous mode of nursing which has been pointed out : and he refers for his proof to the fact, that the impressions of the nurse's thumbs may be found on the ribs of such infants, as may be seen by any one who will take up a child in the usual way of embracing his chest with the hands ; for he says, that the thumbs will naturally fall into artificial hollows made, by previous pressure in the ribs on each side of the breast-bone. If this observation be verified, it will form an unanswerable argument for nursing infants differently.

The only artificial exercise which an infant can take with advantage, is that of being well rubbed. This species of exercise however is very advantageous, and it should be repeated at least two or three times in the day. Either the hand or a flesh-brush may be used, and it should be continued for several minutes at each time of rubbing. Infants like to have their skins rubbed before a fire, and all writers on the management of children have agreed in recommending sedulous and frequent friction as being highly conducive to the health of children.

The question of walking scarcely ever comes to be considered during the period of infancy proper. In the late months however, a lively infant

likes to feel his legs on the ground as it is called, and no harm can arise from the practice of occasionally holding children by the shoulders with their feet touching the ground ; but it is not necessary, if nursing be conducted on the principles pointed out in these essays, and indeed they should not, be permitted in any case to bear on their legs with the full weight of their body ; for the bones even of the larger limbs are still very soft and not fit to bear the weight of a heavy child's body.

In concluding the consideration of the proper treatment of children during the period of infancy proper, it remains to say that the personal cleanliness of infants, as it concerns their evacuations, is attended to much less than it ought to be ; or rather parents have not duly considered how their children may be kept cleaner and more comfortable than under the present mode of management. Some nurses have indeed found out, that, by holding out a very young child, it may be taught to pass its evacuations periodically, but the generality of persons do not attempt to regulate the actions of infants in that particular, although they are, probably, as much under controul as any other of the infant's habits. Dr. Underwood mentions one lady who held her children over a pan from the time they were a month old, and at four months old they used it with great regularity. If proper attention be paid, an infant may easily be taught to do more than this. Most infants

wet themselves very frequently ; but still it will be found, that this is done at tolerably regular intervals : and therefore, if these probable intervals are ascertained by observation, it will be easy to anticipate the period, and then, if care be taken to hold the child in the necessary position, until he does what is required, and then to remove him immediately in all cases, he will soon learn to connect his being held out with his performing the action in question. When this point is gained, a little more perseverance will make the child feel that the two circumstances are not to be separated ; and therefore he will not only wait until he is held out on the one hand, but he will, on the other, perform his part whenever his attendants perform theirs by holding him out.

There is nothing difficult either in the conception or the performance of this. Infants very soon learn that they are going to suck when they are placed in a certain position ; and why should they not be as easily taught to connect other things with certain positions as that ? The advantages of creating such a habit in infants would be very great. As it is, infants are always wet ; but in that case, they would not only be dry and comfortable, but the night also would be passed as comfortably as the day ; for, an infant, so taught, would invariably wake and give notice by crying of his distress, and if he were then taken up and immediately laid down again, this pro-

cess would not materially interfere with his night's rest, and by the time he was half a year old, the habit would be permanently and perfectly acquired.

It would require however great attention on the nurse's part to keep up so good an order of things, and it will be right to say here that much depends on an infant's being allowed to be surrounded by wet clothes for as short a time as possible. His napkins therefore should be changed directly after they become wet, and the skin should be washed by means of warm water and afterwards be made perfectly dry.

A bad practice prevails of putting a second napkin of flannel over the first, on the pretext of keeping the fluid from running through to the child's dress. This flannel napkin is called a pilch; but although it may have the above good effect in some cases, yet it is to be feared that it is often used as a means of preventing the necessity for changing the napkin oftener than is absolutely required: that, is of concealing that the child is wet, and therefore letting the nurse's trouble be spared at the expense of leaving the child with a wet cloth on. At all events, the second napkin affords so excellent an excuse for committing this fault, that, as all temptations to do wrong should be avoided, it will be better for mothers not to permit their nurses to use it.

CHAP. X.

On Wetnurses, and the mode in which mothers may be taught to suckle their own children.

THERE are still two subjects connected with the feeding of infants which require to be mentioned; namely, wetnurses, and the mode by which mothers may teach themselves how to suckle their own infants.

Wetnurses are unfortunately a necessary evil. Without them the children of the better classes of society would suffer very materially; and although many persons believe that society would ultimately be benefitted, if wetnurses were prohibited by law, yet they form one of the conveniences which money will command. Indeed, as long as women can be found who will sacrifice the health of their children for the sake of gain, it is not surprising that those who can afford it will thus purchase health for their own offspring.

Nevertheless, although the existence of wetnurses is so convenient to one part of the community, it should not be forgotten at what a high price the advantage is procured. It is probable that the majority of London wetnurses, at least of those who go out at an early period after lying-

in, lose their own infants. It is certain however, that health if not life is lost to all of them ; for, as proper food is so important to the welfare of infants, it must follow, that children who are not only deprived of that food, but are moreover committed to the care of persons in whom ignorance, cupidity, and want of affection for their little charges, stand in the place of a proper knowledge of the mode of rearing children and a desire to perform their engagements faithfully, must be materially injured by the sad change to which they are subjected. How common it is, to hear that the children of wetnurses have died soon after their mothers have deserted them ! It indeed scarcely ever happens, that a month passes over, when a wetnurse takes a place, without her being summoned to the bedside of her sick infant.

But it is needless to say more on this subject ; for it is too true that as long as there is money enough to bribe, there will always be found a sufficient number of unnatural or distressed mothers by whom the bribe will be accepted. There still remains however, one point of view, in which the subject should be placed, and it is this. It behoves those who thus bribe their fellow-creatures to become unnatural mothers, to mitigate the consequent evils as much as possible, and many ways of doing this lie open to us. The most obvious plan, and one indeed which may be

easily carried into execution, is to institute an asylum for the children of wetnurses. Were such an institution in existence, not only might the lives of very many infants be saved, but the health of many more preserved; and, what is scarcely a minor advantage, a facility would be offered to the majority of wetnurses which they greatly require, namely, the power of providing for their infants at a moderate expense.

Wetnurses are supplied from more than one class of women. They consist partly of married women, but principally of those unfortunate persons whose chastity has fallen a sacrifice to the persevering arts of designing men. Wetnurses of this latter class are much to be pitied, and their situation is generally speaking a very hard one. Deserted, as they commonly are, by their seducers, destitute of the means of supporting themselves and their infants, and incapable of engaging in any employment on account of their time being fully occupied in attending to the infant, their situation becomes one of the most deplorable distress. By degrees they sell their clothes and all the little property which they may have accumulated; but as the necessity for fresh supplies still exists, there remains but one dreadful resource for many of them—the resource of prostitution—and many are the sacrifices which are thus offered up at the polluted altar of man's incontinence. Unfortunately too, this sad lot falls chiefly

on those who deserve it the least. Many young women of excellent character, are induced to sin in an evil hour. The most poignant regret follows; but, as good feeling leads them to do their duty in their new situation, they attend faithfully to their little charges, and do not feel the deplorable situation in which they are placed, until inevitable distress approaches, and at last plunges them into the depth of misery.

A young woman offered herself as wetnurse the other day. She stated that her distress was extreme. She had been a lady's maid, and was respected by her employers; but on account of her misfortune, the means of supporting herself and her infant had failed. It was impossible for her to undertake any employment on account of the attention which her child required; she had therefore sold all her clothes, and was at last so distressed for even food, that she was willing to take the wetnurse's place for any thing or for nothing if her child only could be provided for. The misery of this poor creature's countenance and general appearance was a sufficient guarantee of the truth of her story, even if the earnest simplicity of her manner had not spoken sufficiently in her favour; and yet she was not hired—and why—because she was an unmarried woman. It was in vain to plead the circumstances of this young woman's case, in vain to point out how inevitably her wants must lead her to prostitution,

in vain to show how entirely her fault had been washed out by the distress which it had brought upon her, the answer was, she was unmarried, and it was necessary to make an example of such persons and prevent them from polluting the more respectable servants of the family. Polluting indeed! as if the tale of woe which a wretched being like this would relate in the kitchen would not probably be instrumental in keeping others from a similar lot; as if the culprit herself had not received a lesson which could never be forgotten.

When it is known that a person wants a wet-nurse, there is always a sufficient number of applicants; and, on the occasion above alluded to, there were those who offered a disgusting contrast to the forlorn object who is mentioned above. One impudent young woman whose infant was base born, when she heard that an unmarried woman was objected to, bounced out of the room with a defiance, that there were plenty who would be glad of such as her. It would be well if "such as her" were rejected and made to feel the fault which they have committed; but if those who require a wetnurse would seek out objects of compassion like the one first mentioned, they would indeed act the part of the good Samaritan, and they would not go unrewarded.

A young woman of this description was hired on the principle now stated. It was evident that

she had drunk deep of the cup of affliction, and it was equally evident that her sorrows had not been useless to her. She had formerly lived in very respectable families, and she turned out an excellent servant, continuing to be valuable long after her duties as a wetnurse ceased.

From whatever rank of life a wetnurse is chosen, she should be young and healthy, and of good manners as well as good tempered. She should be young and healthy ; for although we have no very accurate method of judging of human milk, it is reasonable to believe, that the milk of different females varies as much in quality as well as quantity as that of the different kinds and individuals of dairy animals does. Certain it is, that the milk of particular women agrees with children and affords them much nourishment whilst that of others does not. Part of this may depend on the peculiarity of the female herself ; but, it is still probable that a young and healthy person is more likely to afford an abundance of nourishing food to her offspring than one whose constitution is impaired either by age or disordered health. It is equally necessary that a wetnurse should possess good manners and a good temper. We have attempted to show on several occasions how much influence proper early tuition has on infants, and it is evident that if a nurse be ill tempered, she will probably not instil good habits into the breast of her little charge. In the

same way, as good manners are the offspring of a delicate and sensible state of mind, or at least that they are closely connected with a feeling for good taste, it may be concluded, that a nurse whose mind is alive to the feelings from which the amenities of life spring, will assist at least in bringing the minds of our children to their proper bearing.

It is in general proper to choose a wetnurse whose child's age is as near as possible to that of the child who is to be suckled. This is however more important when the child is young than when it is older. The milk of a female who has lately been brought to bed is more opening and richer in cream than it becomes afterwards; whilst, in the latter months, the proportion of coagulable matter or curd which it contains is said to be larger. Perhaps these differences are not important if the nurse be healthy. In several instances nurses have suckled two or more children in the same family in succession. In one case, at present in progress, the nurse's milk is about two years old, and the second child is now ten months old, fat and healthy, and without having been seriously indisposed since its birth. The nurse has plenty of excellent milk. In another case, the wetnurse was obliged to give up suckling a third child on account of her milk proving deficient.

Medical men are often consulted respecting the proper diet of wetnurses, not less on account of the intrinsic importance of the thing itself, than because it is a subject on which wetnurses and their mistresses very often disagree. It is a general opinion amongst almost all classes of women that suckling females should live well; and, of course, the lower orders of nurses are not disinclined to turn this feeling to account in the gratification of their appetites. Wetnurses therefore, in general, eat largely and frequently of rich food, and drink as largely of porter or other intoxicating liquor. Two meals of meat in the day, with from two to three pints of porter, besides their breakfast and tea form the general diet of regular wetnurses: and it is not remarkable that so large a quantity of food should often be hurtful to females who do not perform much bodily labour. The majority of wetnurses however bear this high feeding much better than the defective digestive powers of the higher classes would seem to authorize; but it is not uncommon to see wetnurses bloated and oppressed, and evidently suffering from excess of food. In a few rare instances too, this state of the nurse seems to interfere with the health of the child. An infant, the other day, was apparently cured of blotches on its skin by lowering the diet of her nurse; it being evident that the latter was indulging in too

stimulating a diet, from the flushed countenance and general fullness which her appearance indicated.

The diet of a wetnurse should be nutritious and abundant; but it need not be stimulating. Many women suckle children admirably without porter forming part of their diet. A large proportion of fluid is necessary; but many nurses report that gruel increases the quantity of milk as much as porter. Either ale or porter once in the day cannot in general injure a suckling woman, and it may, in many cases, be advantageous; as where the nurse, although free from disease, is weak, and seems to require support. In short, if a nurse be active at the same time that she have the appearance of being in high health, she is in the best state for suckling an infant, and therefore as her diet is probably such as agrees with her it should be continued.

A few minor points remain respecting the diet of nurses. Acids are prejudicial, as they will generally gripe the children. Vegetables also do the same thing in some cases, especially undressed ones. But, with these exceptions, the whole of which refer to the tendency which food like that has to turn acid on the stomach, all kinds of plain food are proper for wetnurses. Many nurses indeed object to eat salted meat on account of its disagreeing with the child. But salted meat,

in such proportion as it is generally dressed in the families of those of the middle rank cannot be hurtful; and therefore the objection is only one of the many ways, in which, those who have the care of children improve the good feelings of their employers as respects children, to their own advantage. A wetnurse is often more dainty than a fine lady; although it probably happened that a short time before she became a wetnurse she had gladly accepted the most homely food.

In the same way that wetnurses can live on the plain food which agrees with other people, they are not injured by engaging in the customary occupations of female servants. The mothers of the poor work as hard when suckling as at any other time and without injuring their children; so do the females of those nations amongst whom the chief household and agricultural labours fall on the women. Were children nursed in the way pointed out in a former page, wetnurses would have abundance of time for household occupation, and it would be advantageous for themselves to be so employed.

The generality of mothers are fearful of changing their wetnurse least it should injure the child; and wetnurses are not deficient in taking advantage of this circumstance. There is no reason for this fear; for although it is unpleasant to change a servant, and the child dislikes it for a short time, yet it is scarcely more important to

change a wetnurse than to change a butcher or a dairyman.*

The difficulty which ladies living in London experience in suckling their children has been mentioned, and the probable cause pointed out on

* It may not be inapplicable to add the best methods of obtaining wetnurses and the salaries which they generally expect on being hired. For infants who are less than a month old, the lying-in hospitals are the best places at which to apply for a wetnurse; because as at those institutions, the patients are not kept in the house longer than three weeks after delivery, their milk must necessarily be young. The generality of wetnurses however apply to the principal London accoucheurs to have their names entered in the nurse book as it is called; and indeed the majority of general practitioners have frequent similar applications made to them by wetnurses. But a good way of providing a choice of wetnurses at little trouble is to put an advertisement in one of the newspapers, appointing them to come at a certain hour, about two days after, to a certain place. Good wetnurses may generally be procured too, and on moderate terms, at the parochial infirmaries.

It was formerly the custom to hire wetnurses by the quarter or year, paying them about twenty-five guineas if by the year, sixteen, if by the half-year, and ten, if by the quarter, with one or two guineas per year for tea and sugar, if not found for them in the house; but it is now more common to hire them by the week at the rate of ten or twelve shillings per week, with the same allowance for tea and sugar. In estimating the fairness of these terms, it should be recollected, that wetnurses are unlike other servants, inasmuch as they have a child to provide for, and that the general charge for dry-nursing such children is seven shillings per week. At ten shillings, therefore, a wetnurse has only three shillings per week with which to provide herself and her child with clothes and other necessities. If wetnurses be hired by the week, they can always be parted with at a week's warning, and this is often not an insignificant check on their disposition to encroach and to make themselves important.

a former occasion. It would be greatly to the advantage of many mothers if this difficulty could be obviated ; for it is an evil which occurs very generally in London, and brings with it much distress to many persons.

It is believed that the London habits of life have much influence in producing the evil, and therefore in considering how it is to be prevented it will be necessary to analyse these habits, and discover how they may be modified. A deficient exposure of the body to the open air, a deficiency of exercise, an indulgence in late hours both at night and in the morning, and perhaps some habitual improprieties of diet, form the chief causes of ladies not being able to suckle their children. None of these causes act on females of the lower classes of society ; and these persons almost invariably make good suckling nurses ; they take much exercise in the open air, they rise and go to bed almost with the sun, they live but little in hot rooms, and their diet is not too stimulating for the labour which they are called on to perform.

At all events, these are important particulars in which the two classes of females differ from each other, and it behoves one of them to take the subject into serious consideration. It has been often doubted whether the great improvements which have been made of late years in the mode of building houses, in hanging carriages, &c. have tended to the ultimate advantage of the opulent classes.

A warm house and an easy carriage may have saved the lives of many weakly persons ; but it is questionable whether the robustness of the remaining population has not been diminished by the change. A warm and convenient house must influence those who can stay at home in not going into the open air as frequently as they ought to do. A close carriage must add to the evil ; and, inasmuch as it is easy, it will be further hurtful by robbing females of the little exercise which they would otherwise be obliged to take.

In like manner, the lateness of London hours of visiting most materially interferes with the proper observance of such rules as lead to health. A well lighted room at midnight is but a sorry substitute for the first rays of the morning sun ; the vigour which early rising bestows is sadly compensated by the languor which late hours bring with them.

Lastly, habits like these are not calculated to lead to healthy plans of diet. The appetite which is not stimulated by labour and exposure of the body to the atmosphere will be delicate and capricious. The limbs of the strongest person decline in size and power when they are not used. So, the digestive organs languish and refuse to perform their office beneficially when the necessity for exertion is withdrawn. Hunger will not be present if activity of the bodily actions does not call for a supply of nourishment. The stomach

of sedentary persons is always delicate; it pines for want of stimulus: therefore as London women are essentially sedentary, their digestive organs suffer in the same way. A really healthy appetite is seldom present, the stomach therefore becomes squeamish; common, wholesome, and nutritious aliment is refused, and innutritious food is either taken, or what is more common, a false stimulus is given by the addition of vinous liquors or the hurtful incentives of high cookery. The natural consequence of habits like these is, that the body is insufficiently nourished, and therefore its powers fail.

Another mode in which evil arises from sedentary, in-door habits is, that the proper action of the skin is interfered with or is nearly destroyed. If the circulation of the blood be not kept up by exercise, the small arteries which terminate on the skin will not receive their accustomed supply of blood; and hence, whilst the healthy perspiration is suspended, the surface of the body becomes pale instead of being rendered agreeable to the eye by the glow of a fine complexion.

Women, to whom these observations apply, cannot avoid having delicate frames. Many of them indeed may appear beautiful in the common acceptation of the word, but they can but seldom possess that bodily energy which alone fits the body for engaging in considerable or continued exertion. The call then which is made on the

constitution by a suckling infant is not likely to be answered by those whose powers are thus debilitated. Persons, thus brought up, have neither strength to supply the demand which is made on them, nor powers of digestion to allow of the necessary increase of diet being adopted.

What are the means of obviating this evil? It ought to be easy to prevent the same thing from occurring to those females who are growing up: for however difficult it may be to break through the trammels of fashion, there ought to be no difficulty in preventing them from being put on. If young women were educated more with a reference to health and less to personal accomplishments and delicacy of appearance, the number of inefficient mothers would be diminished. If early hours were enjoined, if less attention were paid to grace and more to health, if abundance of exercise were substituted for the sedentary employment of the schoolroom; and then, if the same healthful habits were continued after the introduction of such females to society, the votaries of fashion might lose a few supporters, but domestic enjoyments would be increased; wives would be happier and husbands less frequently made uncomfortable by the insufficient health of their partners. Were many indeed, to join in following this more rational plan, fashion itself would be obliged to change, and the hours of visiting

would be altered for those of our wiser forefathers.

It is true that the present late hours are convenient for the nobles of the land and for such persons as are not from necessity engaged in professional occupations. Dinner at seven or eight o'clock will effectually keep the Park select at six; and opening the drawing-room at eleven, will assuredly tend to restrict such society to those whose time is their own. But this privilege is dearly purchased even by the highest classes; whilst the custom is much to be condemned, because it leads others in a somewhat lower walk of life to an imitation which adds the evil of inconvenience to the insufficient health which it generally entails.

Although it may be easy for the rising generation to be taught how they may more certainly preserve their health entire, and thus be enabled to suckle their children, yet it is more difficult for those who are mothers at present to change their habits as much as may be required. Other difficulties too occur; it will not be in all cases sufficient to acquire new habits, for when once the bodily powers have settled to one standard, that standard can only be raised to a higher point by much care and persevering attention. Again, those who have been accustomed to hot rooms and late hours will find how difficult it is, and how many painful efforts it requires to bring the body to bear, much less to like, exposure to the

open air, especially during the early hours of morning. Languor, and perhaps illness, may succeed to the first attempts at a change; the opposition of friends and of social institutions will subject the resolution to many trials, and obstacles will be met with at every turn; but as the stake to be played for is very valuable, if perseverance is to be crowned by so great an accession of individual as well as domestic happiness, if the consequent improved health is to bring with it more agreeable bodily feelings to the females themselves, and more unmixed comforts to their children and families, success ought to be ensured.

Dr. Franklin's mode then of saving candles, namely, by going to bed early and using the morning sun, engaging largely in active exercise, braving the summer sun and the winter wind, increasing the tone of the bloodvessels and nerves of the skin by the shower-bath and the excitement which labour brings with it—these form an outline of the proper treatment, but which each interested person must fill up for herself if she intend to profit by it.

The mode of managing the shower bath is however not immaterial. The shock of a large stream of cold water on an unprepared body is not to be recommended. The water should be used warm at first, and the temperature be gradually lowered until it reach 60°. of Fahrenheit's,

at which point it should remain. The shower bath used in this way every morning on rising from bed, with sedulous friction of the body afterwards by means of coarse towels or the flesh-brush, forms an excellent mode of increasing the circulation of the skin, and thus indirectly improving the general health; for, as has been shown in another place, the health of the body is mainly dependant on the functions of the skin being properly performed.

CHAP. XI.

The Teething of Infants.

TEETHING is one of the most important operations which an infant performs. It is at the period of teething, that the constitution of the child is first tried; for if it be good, or rather, if, to a good constitution be joined proper management during the preceding months of the infant's life, the process of teething goes on without producing much inconvenience to the child; whereas, if the previous management have been defective, if improper food have been allowed, the moral treatment been bad, and exposure to the fresh air de-

nied, so that the infant's health have been deranged, then teething becomes a process of danger. Disease and death hang over him in many shapes, anxiety and distress await those who surround him, and, even at the best, his life, during the year and a half of teething, is rendered miserable, and the attendant evils of bad temper and fostered passions are probably entailed on him for ever.

There are many interesting circumstances in the natural history of the teeth, or rather with respect to the mode in which the food is masticated or prepared for being digested in the stomach. The structure of the mouth and of the teeth varies in different animals according to the kind of food which they are destined to live on. Graminivorous animals, or those who live on herbs or vegetable food, possess teeth which cut, and are therefore called incisors, and molares, or teeth which are on the contrary flat at the top, and therefore calculated for grinding the food which passes between them. Also, besides the motions by which the mouth is opened and shut, a lateral or grinding motion is given to the jaws of graminivorous animals, without which the molares would be incapable of triturating or grinding the food. This grinding motion of the jaws is very essential to graminivorous animals; for it seems necessary that the food on which they live should be well masticated before it can be digested.

Other animals live on flesh, and are hence called carnivorous animals. The teeth of these animals vary from those of the class above described. Incisors and molares are still found, but a third kind of tooth is added, which is pointed, and evidently intended to enable the animal to seize on its prey and tear it in pieces. But although carnivorous animals possess this new kind of tooth, they lose the power of grinding the food ; their jaws therefore do not possess the lateral motion which is mentioned above. The reason of this probably is, that the food of carnivorous animals does not require to be chewed.

These distinctive marks of carnivorous and graminivorous animals are universal ; and therefore, as the human subject possesses both canine teeth and the grinding motion of the jaws, it is presumed, that his system is formed for being nourished both by animal and vegetable food.

Every one knows, that the human subject is furnished with two sets of teeth, which appear at different periods of life. The teeth of childhood are not those which are used at a more mature age. This shedding and renewal of the teeth does not prove that the two sets differ essentially from each other. Teeth, when once developed, do not grow as the limbs do ; the teeth of childhood therefore would be too small for the adult, and those of manhood too large for the child.

The first set of teeth then is formed in the same

way as those are which follow : they are equally perfect, but are smaller. For a similar reason, they are also less numerous ; a child's mouth would not hold more than are allotted to it. The milk teeth are generally twenty in number ; the adult set consists of from twenty-eight to thirty-two. The order in which these teeth are cut is in like manner determined by the varying size of the child's mouth. When the infant cuts his first four teeth in a perfect state, his molares and canine teeth are only in progress ; they are scarcely formed. The developement of the teeth even of childhood requires nearly two years for its consummation ; twelve or more years are passed over before all the adult teeth cut the gum, independent of the number of years during which the teeth are forming beneath the gum.

The teeth of neither set cut the gum until they are perfectly formed and have acquired their full growth : a considerable period therefore elapses, during which, they are concealed by the gum. This period is longer or shorter according to the size of the tooth ; and it also occurs at different ages according to the tooth which is to be cut. Thus the pulpy rudiments of the incisors are to be discovered in the fœtus, five or six months before the birth of the child ; whilst, when the incisors cut the gum in a perfect state, seven or eight months after birth, the last molaris still exists in a pulpy state within the gum.

The formation of the teeth goes on as follows. Five or six months before birth, four or five little pulpy substances may be perceived in corresponding depressions found in the upper edge of the embryo's jaw. These are the rudiments of the crowns of the incisor teeth. It is not until two or three months before birth, that these pulps begin to ossify or become bony. At this time also the first of them begins to advance, that is the fang begins to be formed, the crown being in this way forced up towards the gum. The grinders or molares may now also be seen in a pulpy state, and, soon afterwards, they also begin to ossify; so that, at the time of birth not only are all the twenty milk teeth partly formed and concealed beneath the gum, but the rudiments of one or two of the adult teeth or second set may be perceived also.

By the seventh or eighth month after birth, the incisors have risen so much that they press on the gum; absorption of the gum takes place, and the tooth appears in the opening. In some rare cases, the infant cuts his first two teeth at an earlier period; nay, it sometimes happens that a child is born with one or both of them above the gum. In other cases, the first teeth are not protruded until the child is a year old. In one case fourteen months passed over before this happened. About the seventh or eighth month is however the usual time.

In a great majority of cases, the middle incisor of each side of the lower jaw first appears. At a variable period after this, the two corresponding incisors of the upper jaw cut the gum. After these four teeth have appeared, there is generally a pause of some weeks before the other teeth shew signs of pressing on the gum. Indeed, all the teeth come in sets; it seeming, as if the growth of the teeth produces no symptoms of irritation until they begin to press on the gum, and that then the process goes on rapidly until its completion.

The next set commonly consists of the four remaining incisors, and they are generally cut before the child is a year old. It usually happens too, that the incisors of the lower jaw precede those of the upper as in the former case; but this is not an invariable rule. Moreover, in some cases, the first four grinders appear before all the incisors have cut the gum. Generally, however, the grinders remain quiet in the jaws until the incisors have ceased to produce irritation, and this is advantageous when it occurs; for, as will be shewn hereafter, cutting the teeth often produces great irritation, and even fatal diseases, especially in unhealthy children, or in those whose health has been deranged by faulty management. In such children, dentition must be much more hazardous when the irritation, produced by the pro-

trusion of the four grinders, is added to that of the second incisors.

In most cases, the four first grinders have passed the gum by about the completion of the first year of the child's life; making twelve teeth in all, and leaving eight more to complete the twenty milk teeth.

After the complete developement of these twelve teeth, it commonly happens, that a longer interval of ease takes place than occurred between the cutting of the previous sets. At length, however, the four eye teeth appear at about the same time, and lastly the four remaining grinders.

It seldom happens that the whole twenty teeth have cut the gum before the child is two years of age, and in many cases the process is not completed until some months after that time. But, it is commonly remarked, that in all the children of the same family, nearly the same periods will be observed in cutting the teeth. In one case, each child of four began to cut its teeth at the seventh month, and in three of them the process terminated when they were two years old; the fourth child apparently intending to follow a similar law. In this instance these periods scarcely varied a week in either of the children. Considerable variations occur however in the children of other families.

Such is the manner in which the first set of teeth, or the milk teeth, form and appear above

the gum. This set, as every one knows, is temporary ; it being exchanged, after the lapse of a few years, for a more numerous set of larger teeth, which are called the permanent teeth, from the circumstance of their constituting the set which is to supply the wants of the individual during the remainder of his life.

The adult teeth, as they are also called, are gradually formed within the jaw bones in the same way as occurs with regard to the temporary teeth. The body of each tooth first appears as a pulpy mass which gradually ossifies and becomes bone ; whilst, as the body rises up towards the gum, the fang or fangs of the tooth are gradually formed, first of pulp and then of bone, until the tooth is completed and cuts the gum.

The pulps of some of these permanent teeth are even formed before the birth of the child. "The pulps of the first incisor, and of the first adult molaris," says Mr. Hunter, "begin to appear in a foetus of seven or eight months, and five or six months after birth the ossification begins in them. Soon after birth, the pulps of the second incisor and cuspidatus begin to be formed, and about eight or nine months afterwards they begin to ossify. About the fifth or sixth year, the first bicuspis appears ; about the sixth or seventh, the second bicuspis and the second molaris ; and about the twelfth, the third molaris or dens sapientiae."

These rudiments of the future teeth are always found low down in the jaw and at the inner side of the milk teeth, not exactly indeed answering in situation to the corresponding milk teeth, because as the former are necessarily larger than the latter, they are found to be gradually removed backward in the jaw. For this reason, the first bicuspid, which answers to the first milk-grinder, is not situated exactly behind that milk-grinder, but it is placed somewhat further back in the circle of the jaw.

None of these teeth cut the gum until the seventh year of the child's life, when the milk teeth begin to fall out, and their places are gradually occupied by the adult teeth. The interval between the seventh and the twelfth year of the child's life is taken up by the cutting of the incisors, the canine teeth, and the bicuspidæ or first imperfect grinders. "The first adult molaris comes to perfection and cuts the gum about the twelfth year of age, the second about the eighteenth, and the third, or dens sapientiæ (the wisdom-tooth), from the twentieth to the thirtieth; so that the incisores and cuspidati (canine teeth) require about six or seven years from their first appearance to come to perfection, the bicuspidæ about seven or eight, and the molares about twelve."

This gradual growth of the permanent teeth within the jaw would seem, at first sight, to allow of a very convenient mode of getting rid of the

temporary or milk teeth : for as the former rise in the jaw, they appear to press on the fangs of the neighbouring milk teeth, and thus to cause absorption of those parts. Mr. Hunter says, however, it is erroneous to suppose that the absorption of the fang is occasioned by the pressure of the new teeth below. At all events, the fangs of the old milk teeth are gradually absorbed, and hence the bodies of the milk teeth fall out, their support in the jaw being lost as the fangs disappear. The grounds for Mr. Hunter's scepticism on this point are, 1st, that the pulps of the adult teeth are not formed in the sockets which contain the milk teeth ; for each tooth, permanent as well as temporary, has its own socket :—and, 2dly, because in some rare cases, where the permanent bicuspidæ for instance have been deficient, the fang of the old milk grinder has been absorbed, and the body of the tooth has fallen out just as if the new tooth had been under it ; the only difference being, that the process has not been so rapidly completed as under ordinary circumstances.

This last argument is a strong one, but it is not conclusive against the opinion that absorption of the milk fang is occasioned by the growing of the permanent tooth beneath it ; for in many of those cases where it is necessary to draw the old milk teeth because the permanent teeth have cut the gum at an improper place, the fangs of the

milk teeth which are thus drawn will be found to be not at all wasted ; apparently, on account of their having escaped the pressure of the tooth which ought to have grown underneath.

But it is not intended to discuss here the peculiarities of the permanent teeth ; hereafter they may advantageously come under consideration. At present, the milk teeth are the chief objects of attention, and the next point is the mode, in which cutting the milk teeth becomes dangerous to the child.

Some children cut their teeth without pain or inconvenience ; whilst to others dentition is a dreadful cause of suffering and to many of death. As a rule of almost universal application, it may be stated, that if a child be healthy he will cut his teeth without difficulty, if unhealthy, not. This is consonant to reason ; for it is scarcely to be expected, that the performance of any of the natural actions shall be hurtful to the body when in health, although it is easy to conceive that many of these actions may cause irritation, and consequently lead to disease if the body be pre-disposed to be thus disordered.

The teeth do not cut the gum in the literal acceptance of the word cut. It is a law of the human body that when any part is pressed on by an extraneous substance, it is absorbed, or, in other words, removed by the action of the vessels of the part. If a limb be bound by means of a roller, it

will become less in size ; if a pea be pressed firmly on the skin, it will gradually imbed itself in the part. In like manner, as the teeth grow, they press on the gum, absorption takes place, and the gum becomes thinner, until it at last gives way and the teeth appear in the opening.

It is remarked above, that this process is accomplished without pain or difficulty if the child be healthy ; but that it is otherwise if the child be habitually disordered. One of the attributes of health is, that the body can allow itself to be pressed on to a certain degree, or be otherwise subjected to sources of irritation without irritation being produced. A healthy person would bear with impunity a pea to be imbedded in his flesh by the process alluded to above : if he were unhealthy, such an attempt would probably produce much inflammation. In like manner, if a child be healthy, it cuts its teeth without difficulty ; if not, the pressure of the teeth on the gum becomes a cause of irritation, inflammation is produced, and the child suffers : or, where he is peculiarly irritable and predisposed to disease, more formidable complaints are brought on. In general, this disorder from teething is shown only by the child being cross, by his mouth being irritated and inflamed, and by the presence of some degree of fever ; but, in many cases, still more severe disease shows itself, fevers are produced or are aggravated, and disorders of the nervous sys-

tem, such as convulsions, and inflammation of the brain, or water in the head, occur.

Even healthy children are sometimes brought into danger by the irritation which cutting the teeth produces. All the children of one family took cold: the elder children suffered but little, but the youngest, who was cutting the four first grinders at the time, became suddenly much worse, the gums swelled and were much inflamed, symptoms of inflammation of the brain came on, the child had a long illness and was with difficulty saved from death. In this case, the accidental cold caused the child, who had been before perfectly healthy, to become irritable, and thus the teething became a source of dangerous disease; whereas, if the child had not thus taken cold, he would probably have cut the four grinders without injury being produced.

It may appear to be extraordinary that cutting the teeth should be such a formidable cause of irritation; but the bodies of children are particularly irritable; they are peculiarly susceptible of receiving impressions, and therefore a very slight cause of irritation will often be sufficient to produce the most dangerous diseases. This irritability goes off when the child grows older, as the subject under consideration proves; for, although cutting the first set of teeth is often so hazardous to children, cutting the second set is very seldom attended by material inconvenience.

The evil which arises to children from dentition is very various in its kind; indeed it comprises nearly all the diseases to which children are liable. The mode of production is very simple. The child is rendered more irritable, or, in other words, is predisposed to disease, by being in a state of disordered health; the process of dentition acts as a new source of irritation, and produces its effect, in some cases, by directly exciting the consequent disease, and in others by more violently predisposing the body to be acted on by the exciting causes of that disease.

Some children cut their teeth with a cough, others with a purging, and the latter, especially, is thought to be a favourable symptom of dentition. So indeed it is, inasmuch as it reduces the actions of the constitution, in the same way as any other evacuant would do. Still it is itself a disease excited by dentition in a child whose alimentary canal has become prone to disorder on account of some previous injudicious treatment, especially as respects his feeding. The cough, in like manner, is produced by dentition acting as an irritant in a child who is predisposed to inflammatory diseases of the chest.

Again, dentition predisposes the body to be acted on by some of the causes of fever. Most children are feverish whilst cutting their teeth; but dentition frequently aggravates common feverish complaints and makes them dangerous, as

is shown by the case which is related above. The danger of fevers arises from the accidental inflammations, or other obstructions of particular parts, by which they are frequently accompanied; and the seat of these inflammations, or other obstructions, is generally determined either by the peculiar weak part of the person's body, or by the accidental presence of the exciting causes of such inflammations of the parts alluded to. In general, dentition acts, in these cases, by predisposing the body to be more easily affected by the exciting causes of these diseases: but, in other cases, it acts as their exciting cause. Let it be supposed, for instance, that the lungs are a child's weak part, and that, under ordinary circumstances, he would have a cough during dentition—let him be exposed to cold whilst cutting his teeth, and not only will he be more disposed to take cold at such a time, but the fever will be much more likely to put on the form of inflammation of the lungs than under ordinary circumstances. Here then dentition acts as a violent predisposing cause of disease. But let the child be predisposed to inflammation of the brain, then dentition will often act as an exciting cause; for whenever the body of a child is disordered, teething will create a greater flow of blood to the head than is natural. This increased quantity of blood will often be alone sufficient to excite inflammation of the brain when the body is predisposed to that disease; but it will

have this effect more certainly, when it is joined to the inflamed and therefore irritating state of the gums which always attends dentition under such circumstances.

The material fact for recollection in this general account of the evils which accrue to children from the process of dentition is, that a previous disordered or unhealthy state of the child is, in the great majority of cases, necessary, before cutting the teeth can become a cause of disease. This is the material fact ; for, if such be the case, it is generally our own fault when our children suffer much during teething. Were infants fed and attended to according to the plan laid down in a preceding page, dentition would be, comparatively speaking, an unimportant process. But, as the affairs of nurseries are at present conducted, parents may congratulate themselves when their children have passed the period of dentition ; for it certainly forms one of the most important æras of a child's life. Danger will occasionally arise even in the most healthy children, and in those who are the most properly attended to, as a case related above shows ; but the general fact is, that, if infants be fed on the proper diet, if air, exercise, and clothing, be allowed them in due proportion, and if their minds be kept under controul, the period of teething will pass over almost without being remarked.

CHAP. XII.

On the Evils of Teething continued.

NOTWITHSTANDING so much may be done to avert the dangers which threaten children during the period of dentition, yet, whilst so many infants die or suffer greatly whilst teething, scarcely any of them escape some degree of inconvenience. In almost all children, the gums are much inflamed and swelled, the mouth is hot, the tongue white, and the skin dry and hotter than is natural; the child too is restless, and shows that he suffers inconvenience by biting his fingers, or any toy which he may hold in his hand. In more severe cases, the fever is increased in violence, the cheeks are deeply flushed, and the child starts in his sleep, and is very cross when awake. In short, considerable fever is present, and is in all cases attended by so much local cause of uneasiness as to make him very irritable.

When symptoms like these occur, it becomes necessary to relict the child with regard to the quantity and quality of his food, for it will generally happen, in such cases, that he has been partially or wholly weaned. The usual remedies

also in cases of fever are indicated ; such as purgatives, the warm bath, and, if symptoms of inflammation of any vital organ be either present or threaten, bleeding. If the child live entirely on the breast, he should not be permitted to suck so often as before ; if he be partially weaned, all food except the breast milk should be interdicted ; whilst, if he have been wholly weaned, fluid food only should be allowed until the symptoms have in some degree yielded.

In thus recommending purgative and other medicines in these cases, it becomes proper to observe, that in the majority of cases, at least, where the child was previously healthy, and had been fed properly, it will be sufficient to make the above-mentioned restrictions in his diet without giving him medicine ; for, under such restrictions, the feverish irritation will subside in the course of a few days.

A great local means of giving relief still remains for adoption. Lancing the gums should never be neglected in these cases. It is true that many persons are afraid of this remedy ; but it is without a cause : for, the best writers and anatomists agree, that lancing the gums never produces injury to the child. The gums appear to possess the property, through life, of being very patient of injury from external causes of irritation ; they bear to be cut and bruised without suffering materially. In this case, therefore, no injury accrues

from the division, and much good results from it ; or, even, if the tooth do not come permanently through, yet the vessels of the part are emptied of their blood, the tension is taken off, the inflammation is lessened, and, to a certain degree, the cause of irritation is removed. In the same way, it is untrue, that, if the wound in the gum heal over the tooth, the future passage of the tooth is made more difficult by the cicatrix in the gum being harder than the gum is in its natural state. The scar on the gum is not harder than the natural gum is : indeed, if the analogy of the skin may be taken, it is softer ; for all cicatrices on the skin are less capable of resisting injury than the skin itself is, and hence an old wound is more likely to break out again than a new ulcer to be formed on the unbroken skin.

At all events, it is the opinion of well-informed medical men, that lancing the gums, when they are swelled and inflamed during dentition, is always advantageous, and that it is never followed by harm, and therefore that it ought to be adopted in every allowable case.*

In the majority of cases, this fever of teething will gradually give way to the treatment which

* The mode of lancing the gums is not immaterial. If an infant's mouth be examined, it will be seen that a ridge runs along the middle of the gum for the whole circle of each jaw. This ridge is harder and more compact than the rest of the gum, and, therefore, it probably is of essential service to the infant in press-

is here recommended; but it is still necessary to keep a watchful eye on the child; not only because more dangerous diseases are hanging over him, but because they may be actually present in his constitution. In all cases of feverish complaint, indeed, great care and observation are necessary, not only to mark the time when more severe diseases creep on during the existence of such complaint, but to be sure that they do not exist at the time.

When the fever is simple, that is, when no part of the body, in particular, is oppressed or obstructed or inflamed, it is seldom attended by dangerous symptoms; and, therefore, though the

ing on the nipple, and in performing the other very limited offices for which something like teeth are necessary to a child. In lancing the gums, it is necessary to divide this ridge; for although the front teeth of an infant appear, on examination, to push forwards the gum so much in front as to make it probable that they will cut the gum at that part, yet it always happens that they appear within the ridge.

In lancing the gums, therefore, the part should be cut freely, and in the shape of an X, the incisions being carried down to the tooth, and made to cross each other on the tooth itself. They should also be made less freely on the inside than the outside of the tooth; for, as the rudiments of the second set of teeth are placed in the jaw within the circle of the first set, a deep incision in that part might be injurious. It is necessary too that the incisions fairly lay bare the teeth; for, unless this be done, the lancing will not prevent the tooth from still pressing on the gum: especially as the cavity in the gum, in which the tooth lies, is lined by a smooth and denser structure than that of which the rest of the gum is formed.

skin may be very hot, and the cheeks much flushed, the pulse very quick, and the other symptoms of fever violent, no present danger is to be apprehended. But if oppression or obstruction, or inflammation of any vital organ occur, and such diseases would be very likely to arise even on account of the quickness of the pulse and consequent increased action of the heart alone, then danger approaches, and it is requisite that this new aspect of the complaint be recognized and attended to as speedily as possible.

The important organs which are here alluded to, and which are so liable to give rise to dangerous diseases when they are obstructed or inflamed, are principally situated in the three great cavities of the body, namely, of the head, the chest, and the abdomen ; and as none of these organs can be materially deranged without corresponding symptoms being produced, it becomes necessary, in simple fevers, to make frequent and minute examinations of the state of action of these organs.

When the brain, or principal organ contained in the head, is inflamed, or is oppressed with blood, head-ach to a greater or less extent will be present, either with or without, too, a similar pain stretching down the back-bone. Head-ach occurs indeed in most cases, even of simple fever, where no violent symptoms exist ; but where the brain is more decidedly implicated, the symptom

will be more urgent, there will be also heat of the scalp, and a great increase of pain on the patient's shaking his head. The eyes too will be unable to bear the light, and the face will often be much flushed; restlessness will be present, the child also will be dull and heavy, and peevish, or he will be very irritable, and will start with alarm at small noises: indeed more urgent symptoms will progressively show themselves, such as delirium or a state of stupor.

In examining, therefore, whether the brain is affected in the feverish complaints which arise during teething, a reference should be made to all these symptoms, and if the child do not labour under a very urgent state of any of them, it may be concluded that the head is free from dangerous symptoms. Nevertheless, as inflammation of the brain, or, in other words, water in the head, more frequently arises during the feverish complaints of teething than inflammations of other vital organs do, or than it does in the fevers which arise from cold or other similar common causes, it is necessary to be very particular in taking measures to be satisfied that no complaint of that kind is creeping on undetected; and, therefore, if the least doubt on the subject exist, let it be resolved by the greater experience of a medical man.

But, as the subject of inflammation of the brain in children is very important, and as similar dis-

eases of the head more frequently arise during teething than at any other period of a child's life, it will perhaps be proper to enlarge further on the signs of head-affections in children.

A good treatise on Hydrocephalus is still a desideratum. All authors, who have written on that subject, are wanting in the important particular of describing the symptoms of hydrocephalus as they occur in children of different constitutions. Hydrocephalus is described, by nearly all of them, merely as a disease of inflammation; and yet, many children die of disease of the brain from teething, or other cause of hydrocephalus, without inflammation forming any part of the complaint. The child of a medical man was suddenly attacked by head-disease; his brain was evidently affected; indeed his powers were, as it were, overwhelmed by the disorder. The child's father imprudently bled him; when he suddenly sunk and died—increased action of the heart and arteries never forming a part of the symptoms, except just before death occurred, when a transient excitement of the heart ushered in the fatal event.

This case bore an accurate resemblance to those cases of congestive fever described by Dr. Armstrong, in which, the cold fit continues throughout the disease, and the hot fit never appears. In fact, the child died of congestion of the brain without inflammation; for hydrocephalus being

only a fever, in which the great local symptom of the complaint is situated in the brain, it is subject to the same laws as all other fevers are: that is, it may either be characterized by the symptoms which mark a congested state of the veins of the part, or by simple excitement of the arteries, or by a true inflammatory state.

The symptoms which characterize these different states are very different from each other, and the treatment of them is also very various: we shall not, therefore, possess a perfect account of hydrocephalus, until some author investigates the disease on this or a more extended principle.

Dr. Nicholl, the other day, wrote an excellent little treatise on what he calls Erythism of the brain, by which term he designates very many and various states of oppressed and excited brain; states, as it is important for us to remark, which materially differ from the state of pure inflammation of the brain. Great praise is due to Dr. Nicholl for thus extending our knowledge of hydrocephalus so essentially; for although it is probable, that he is ignorant of the true relation which these cases bear to the inflammatory hydrocephalus, yet, to have observed such important facts is no mean sign of intellect; and, it cannot be doubtful, that his work will lead other medical men to view the disease in a new light, and that thus, perhaps, the foundation is laid for an im-

proved pathology of a disorder which is often incurable, and always very dangerous.

The symptoms which mark that form of the disorder, in which the veins of the brain are congested or overloaded with blood, differ widely from those of inflammation of the brain: indeed, they bear an opposite character. In the congestive case, the skin is cool, and of a muddy appearance; the bodily powers are languid and oppressed, the pulse is soft, compressible and heavy, and the child's mental, as well as bodily powers, are sluggish and overwhelmed: in inflammation, on the contrary, the skin is hot and flushed, the pulse hard, bounding and resisting, and both the mental and bodily powers are in an equal degree excited to a state of preternatural activity. These are great and important differences; and, when it is recollected, that particular cases take this or that type according to the internal peculiarities of the child—when also, that these individual peculiarities may be so varied as to afford every variety of case between the most marked form of congestive fever and the purest and most violent inflammation, it is not wonderful that the works in which the previous or actual symptoms of hydrocephalus are described, should be defective. They contain, indeed, a great variety of symptoms, many of which, from being of opposite characters, are incompatible with each other, and therefore could not exist in the same patient.

This, then, leads to the great fault of the existing works on hydrocephalus. A multitude of symptoms are described in them, as occurring in hydrocephalus, and which do really occur in certain cases of the disease; but, for want of that knowledge of the pathology of the disease which would explain this great variety of symptoms, the whole of them are mingled together without order or connexion, and form a confused mass of contradictory information, which thus becomes nearly useless from its mere extent and minuteness.

It should be further stated, that since, in probably every case of the purest inflammatory hydrocephalus, the first symptoms of the disease put on the congestive form—because almost every fever has its cold fit, and the latter, and the state of congestion, here alluded to, are nearly synonymous—the symptoms, which precede an attack of hydrocephalus, are, generally speaking, similar: at least they are much more uniform than those which characterize the disease when it has fully formed and become imminently hazardous. This is very important, especially to the unprofessional readers of these pages, the legitimate object of whose medical studies should be the prevention of diseases, by marking and dissipating their preliminary symptoms, and not the cure of them when fully formed.

The very earliest then of the symptoms of hy-

drocephalus are those of sluggishness both of mind and body ; for although, where the disease follows the irritation of teething, these symptoms are less permanent than when it is produced by irritation of other parts of the body, and although the irritability, which teething directly induces, gives a somewhat opposite tendency to the symptoms, yet this very circumstance affords an additional discriminatory mark of the true state of the case ; for the child will be at once irritable and sluggish—fretful and heavy.

One of the first symptoms which precedes an attack of hydrocephalus is an indisposition in the child to be amused. The patient becomes silent and irritable, avoids his friends, dislikes to be noticed, and shuns the light. His complexion begins to fade, and his eyes appear dull ; his appetite fails, and, at the same time, his secretions and excretions are in a great degree suspended. He complains also sometimes of giddiness, as well as of pains in other parts, especially in the nape of the neck ; and yet he will answer “ no ” if asked if he be ill. In addition to these symptoms, Dr. Golis of Vienna, in his late work on water in the head, remarks, that children, who are threatened with this disease, walk as if with labour, and without equipoise or firmness. “ In stepping forward,” he says, “ they often raise the foot as if they were stepping over a threshold, and they totter and stagger as if drunk.” Also, in conclusion, he says, that

“indifference succeeding to increased sensibility and irritability, a constipated state after habitual looseness or diarrhœa, a scanty and usually yellow urine with or without sediment ; dryness of the skin, which, previously, on the slightest exercise, even on eating and drinking, and particularly during sleep, perspired profusely ; sleep without medicine suddenly occurring in restless children ; remarkable gravity and earnestness which had never been previously noticed—these, taken together with the symptoms already mentioned, are the signs by which the turgescence of hydrocephalus may, with great justice, be suspected.”

The word turgescence, here used, is a very proper one, for it probably describes the true state of the brain under these circumstances.

Infants, when threatened with the disease, vomit more frequently than in the healthy state ; they “wake suddenly with a cry, become soporose from slight overloading of the stomach ; and their pulse, from trifling indigestion, or even in the best (apparent) health, frequently deviates from its natural regularity.”

In some children, symptoms, like those above described, continue with more or less intensity for some time, often for many days. In some, they go on even to the end of the disease ; the child only becoming more listless and inactive until occasional paroxysms of fever, with flushed cheeks, either do or do not occur, the skin being, in the

intervals, pale, and of a dirty hue ; the child falls away, and becomes flabby, as well as emaciated ; and, at last, the stupidity and listlessness degenerate into coma, and death follows, either with or without convulsion, and a preliminary attack of fever of greater and more continued violence.

These are the cases of congestive hydrocephalus which are mentioned above, cases in which little or no arterial re-action occurs, and of which inflammation forms little or no part.

In other cases, and as it more commonly happens, the symptoms of congestion, as above described, give way, and are gradually changed for symptoms of an opposite character. The senses of the patient become acute instead of dull ; he is sleepless instead of torpid ; his irritability is increased, so that he expresses alarm on being touched, slight noises terrify him, and he cannot bear the light ; he throws back his head and knits his brow ; the pupils of his eyes are of a preternatural smallness ; he screams frequently, and for no apparent reason, his thumbs are bent into the palms of his hands, indeed the hand is sometimes even bent on the arm, the fingers being extended downwards, whilst the toes are bent on the soles of the feet ; fever comes on or increases, so that the skin is hot, and the cheeks are flushed ; the head, too, is particularly hot, especially at the front and back parts, and the child puts his hand

frequently to his head, or pulls often at the nape of his neck.

These symptoms, when decidedly marked, portend the actual existence of inflammation of the brain, or of a greatly excited state of the brain at least; and therefore, if even they exist in a slight degree, no time should be lost in placing the patient under the care of a medical man.

It very commonly happens, however, that both the symptoms of congestion, and those of actual inflammation, are accompanied by signs of great derangement of the digestive organs; such as a very foul tongue, an offensive breath, an unnatural state of the intestinal discharges, a tumid state of the abdomen, great tenderness in that part, on pressure being made, and a constant tendency in the child to pick his lips or finger-ends, or the bed-clothes. But these symptoms of abdominal derangement are not present where the disease occurs in healthy children from teething; nor in those cases of hydrocephalus where it arises from a blow, or from cold, or from any other common cause which is not connected with complaint of the digestive organs—that is, where the child had been previously in tolerably good health from having been properly fed and attended to. But as, perhaps in the majority of cases, a deranged state of the digestive organs is one of the most efficient predisposing causes of hydrocephalus, even when teething is the exciting cause of the disease,

these symptoms of abdominal derangement, or rather of infantile remitting fever, are generally found to precede or accompany the former disease when it is present; especially, as, not only the infantile remitting fever not unfrequently degenerates into hydrocephalus, but the symptoms of the former are often superadded to those of hydrocephalus in the progress of that disease. The explanation of these latter circumstances is, that so great is the consent of action between the brain and the digestive organs, that, whilst a complaint in the latter, attended by a fever, is exceedingly apt to induce or to be followed by a similar complaint in the former, so does an excited state of the former as frequently produce disorder of the digestive organs.

In fact, it is perhaps this close connexion between the brain and abdominal viscera, which constitutes the difficulty of detecting incipient hydrocephalus, and of deciding whether particular cases are merely instances of infantile remitting fever, or are cases of hydrocephalus.

It is needless, however, to enter further into these minutiae in this place; but it is well to have them pointed out, because it shows how important it is to be particularly vigilant in attending to the first signs of disorder in children, as also for medical men to be unwearied in observing the symptoms of their diseases when present, lest a fatal complaint may be on the eve of appearing, or be

actually in existence, when the case is looked on as one of no importance.

It should be repeated, that children never make complaints, nor show signs of disorder, unless they are tired or hungry, or are actually ill; and therefore as they are, when in health, never tired, except on the approach of their hours of rest, nor so hungry as to be cross, except at similar stated times, it may be confidently anticipated, that disease is not far distant, when even the slightest symptoms of disorder appear. A very healthy little girl, some weeks ago, while cutting her teeth, became a little cross and tiresome; she would, on no account, leave her nurse, nor could the nurse amuse her in the usual way; and she appeared in other respects dull and disordered. Her friends decided that it was nothing, or that the child only fretted after her little sister who had left her but a few days before. But they were told it was useless to deceive themselves, and that her crossness was disorder, which would terminate in disease unless it were dissipated; for that the child's tongue was white, and her irritability could not have been produced by the departure of her sister, as she had been in good spirits for the few days which immediately followed that circumstance.

But, although this view of the subject seemed to be the correct one, it was not necessary to use violent means for the relief of such a complaint.

The child had been partly weaned, and therefore it was only recommended that all food should be interdicted, except her nurse's milk, and that the child should be kept quiet and in a mild temperature. In a few days more, the symptoms of ill-health vanished, and the patient regained her spirits, although her sister did not return.

Thus it is, that even the slightest symptoms should be attended to; and it may be mentioned, that one of the commonest of these apparently trivial signs of incipient disease is, for a child to lean his head for a moment on his mother's knee, or to cease suddenly, and for an equally short time, from his accustomed occupations. Indeed, this symptom is closely connected with disorder of the brain; as probably so momentary, and therefore slight an affection of any other part except the brain, would not produce so decided an effect on the child's sensations as to produce the symptom in question.

It is not intended to give a detailed account of hydrocephalus on the present occasion. Teething is so common an exciting cause of the disease however, that it seemed a fair opportunity of giving some account of those signs of disorder which precede it on that and similar occasions. And, moreover, whilst it would be irrelevant to enlarge here on the symptoms of hydrocephalus, when actually present, it is not intended to discuss even the mode of treating these preliminary or premonitory symptoms.

It may be said, indeed, in conclusion, that low diet, purgatives, rest, and probably the warm bath, form the essence of the necessary treatment; and that, by the careful adoption of such remedies, joined to lancing the gums, as before mentioned, if necessary, disorders like these will, in general, terminate after the lapse of a few days.

CHAP. XIII.

On Weaning, and on the Diseases incident to that period.

THE period of weaning is often attended with considerable danger. It is no uncommon occurrence for children, who have never suffered a day's ill health whilst nourished by the mother's milk, to become sickly immediately or soon after weaning, and to suffer from bowel complaints, convulsions, and other diseases, to an alarming degree.

When the weaning has been attempted before the front teeth have pierced the gums, unless the change from the breast milk to artificial food be

very carefully managed, disease is very generally induced. Not unfrequently the food given is but ill adapted to the state of the infant's stomach, hence irritation of the alimentary canal takes place, which, when long continued, as has been shewn in the preceding essays, frequently leads to hydrocephalus.

One of the most frequent and fatal of the diseases of children, has been ably described by Dr. Cheyne, under the name of *Weaning Brash*, or *Atrophia Ablactatorum*. It is an atrophy or wasting of the body, and from its appearance soon after weaning, he considers it the consequence of that change being made either too suddenly, or at an unfavourable season.

It takes place from two to three, or sometimes even so late as six weeks after weaning. The symptoms are purging, attended with pain and green coloured dejections; after a time retching, with or without vomiting; when the latter occurs, the matter brought up is bilious. Loathing of food, emaciation, restlessness, thirst and fever follow. Sometimes a hectic blush appears on the cheek, but the most marked symptom is constant peevishness. The evacuations are very various. Towards the close of the disease, swelling of the extremities and drowsiness supervene. This disease sometimes proves fatal about the sixth or seventh week, sometimes sooner, by incessant vomiting or purging, or by convulsions.

The disease is most frequent in children weaned abruptly before the eighth or ninth month, and occurs chiefly in the autumal months.

Dr. Cheyne considers the exhibition of calomel in small doses night and morning, or in larger doses at night only, as the best and most effectual treatment: he adds, "I never found, in the many cases in which I have given calomel, that it produced salivation, or any other unpleasant effect; and I am now convinced, that it is not only one of the most general and active medicines in the Pharmacopœia, but that it is likewise one of the least hurtful."^{*}

The experience of the Editor does not accord with that of Dr. Cheyne in the treatment of the bowel complaints in children: so far from finding calomel generally necessary or beneficial in these diseases, he has frequently witnessed the irritation of the bowels kept up so long as the use of colomel has been persisted in.

The most effectual remedy in the bowel complaints of children soon after weaning, when practicable, is to restore the nutriment of the breast milk for a time, and when the food is thus adapted to the digestive organs of the infant, the mildest laxatives to carry off any offending matter will generally suffice.

* Cheyne on Atrophia Ablactatorum, p. 42.

When the breast milk cannot be resorted to, artificial food the least capable of fermenting or of producing irritation must be substituted. The quantity of food must not be in excess. Milk whey, thin arrow-root or gruel, with a very small proportion of milk, have been found to agree very well, when thick food too freely administered has seemed to keep up the irritation, whatever medicines might be given to counteract it. In some instances beef tea, or broth, freed from the oily part, may be substituted.

After the bowels have been cleansed by mild laxatives, such as castor oil, rhubarb, magnesia, &c. the correction of acidity in the first passages, and the occasional use of anodynes, will generally conduce to recovery, provided the diet, temperature, &c. be free from error.

Much however will depend upon the early and careful management of such diseases; for when the disease has been allowed to continue unchecked for a long period, and has proceeded to a fatal termination, dissection has shewn numerous ulcerations of the mucous membrane lining the intestines, with corresponding enlargement of the mesenteric glands and general wasting of the body.

The proper period for weaning is after the four large incisor or front teeth have been cut,

and this takes place, not at any determinate period, but sooner or later, according to the health and strength of the child. In weakly children dentition is often later by several months than in the healthy and robust.

The substitution of artificial food for the breast milk should be gradually effected; care being taken that the intervals of feeding be neither too frequent nor too long, and that the food be mild and nutritious, and not much thicker in consistence than the breast milk for which it is substituted. When it is found that the health of the child does not suffer from being fed in part, the proportion of artificial food may be gradually increased, diminishing the relative quantity of breast milk, till the weaning be effected.

CHAP. XIV.

On the mode of bringing up Infants by Hand.

The proper management up to the period of teething, is clearly shewn in the preceding Essays; but there is one condition of great importance to the welfare of infants so circumstanced, that has not been considered; namely, when a mother is unable to suckle her child, and circumstances do not admit of the aid of a wet nurse. That such instances do frequently occur in the middle and humbler classes of society is well known to medical men, whilst the prejudices of some of higher rank occasionally operate as powerfully as the necessities of the less opulent part of the community. That the result of the attempt to bring up children by hand in London, and large cities, is generally disastrous, is a fact too notorious to be called in question.

The author of the Essays was well aware both of the omission and of the difficulty of the task; and hoped had life and health been spared to him to have resumed the subject.

That under favorable circumstances, child-

ren of good original stamina may be reared by hand, cannot be doubted, for many successful instances might be adduced ; but if an infant be weakly, and the care neither judicious nor unremitting, the sending a child to be dry-nursed is nearly equivalent to a sentence of death upon the hapless infant.

Mr. Newnham has lately published an elaborate treatise on Physical, Moral and Intellectual Education, which contains many excellent precepts. In some of the practical points relating to the physical education and management of infants and children, Mr. Newnham's views would seem more suited to the robust offspring of the peasantry, or others leading a tranquil country life, than to the less healthy progeny of those who have long resided in, and have acquired the artificial habits of large cities. Mr. Newnham is of opinion, that dry nursing is preferable to wet nursing when the mother is unable to suckle her child ; but the unfortunate result which generally attends the dry nursing of London children, and the comparative safety of wet nursing, lead the Editor to an opposite conclusion to that at which Mr. Newnham has arrived.

In a series of Medical Essays which have recently appeared in the Literary Gazette, and which, though published anonymously, yet contain internal evidence of habits of accurate ob-

servation and induction, the importance of wet nursing is fully appreciated. "Although nature has provided that the food of the infant should be prepared in the maternal system, yet, the fitness of this food for the purposes for which it is intended, depends greatly on the health, both corporeal and mental, of the mother. Thus, if a mother be in a state of disease, the secretion of the milk is necessarily impaired; and it may be both deficient in quantity, and of a quality not only not calculated to afford the nourishment which the infant requires, but likely to disagree with its stomach and bowels, and to be productive of disease. A woman so circumstanced, is, certainly, incapable of performing the duties of a mother; and, in such a case, however revolting *the idea* may be to maternal feelings, the infant must be suckled by an alien. I employ the expression 'must be,' because as I shall prove afterwards, no circumstances connected with the health of the mother can authorise the hazardous experiment of dry nursing, or bringing an infant up by the hand."

"But mothers are not alive to the responsibility which they incur, by exposing the infant of the hired nurse to the danger attendant on dry nursing; for few of the unfortunate children whose mothers are engaged as wet nurses, are suckled; and hundreds, I might say

thousands, of infants, are sacrificed annually to the necessities or the cupidity of their mothers, and to the unnatural habits of fashionable life, improper management, self indulgence, or unrestrained temper."

Dr. Merriman has stated, in a note to the eighth edition of the late Dr. Underwood's treatise on the Diseases of Children, edited by Dr. M. and published since the commencement of the present year;—"but neither the 'Grandmother,' nor Dr. Armstrong, nor any other of the advocates for *dry nursing*, seem to be aware of the great fatality which attends the attempt thus to rear children. It has been a part of my duty to endeavour to ascertain the amount of mortality among infants from this source, and after much careful inquiry and investigation, I am convinced that the attempt to bring up children by hand, proves fatal in *London*, to at least seven out of eight of these miserable sufferers, and this happens, whether the child has never taken the breast at all, or having been suckled for three or four weeks only, is then weaned. *In the country*, the mortality among dry-nursed children is not quite so great as in *London*, but it is abundantly greater than is generally imagined. The summer is the most favourable season for making the attempt; but if parents were fully aware, of the hazard to which their

children are exposed, in the endeavour thus to bring them up, they would rarely choose to place them under the care of the dry nurse."

Few circumstances present a more striking contrast than that exhibited by a healthy child suckled by an affectionate and intelligent mother, and another equally healthy at the birth, but deprived of the food which nature had provided for it, and consigned to the mismanagement, for care it cannot be called, of an ignorant hired nurse, whose only aim seems to be how to obtain the greatest share of leisure, and to afford as few attentions to the infant as practicable.

The former exhibits the picture of health and buoyant spirits, delighted at almost every thing he sees or that comes within his reach; the latter, when not dosing, in consequence of opiates or of gin, or other spirits, exhibits a picture of fretfulness and misery rarely to be met with under other circumstances. Not unfrequently this transition from the one condition to the other, takes place within the short period of a week or two, in children who have thriven well upon the breast milk during the early period of infancy, but who have been consigned to negligent and ignorant dry nurses, so far removed from the parent's residence as to be out of the reach of careful

superintendence. The editor has known many infants thus speedily reduced from a state of robust health and activity, to one of merely passive existence, unable to support the body without adventitious aid; and in some instances, wherein the defective management has not been early corrected, death has resulted.

Between the extremes pointed out of a healthy child suckled by its mother, and of the misery and disease which result from the usual mismanagement of dry nursing, may be considered the case of a healthy infant, deprived of the breast milk, but nursed with the care of an affectionate mother, or of an intelligent and faithful nurse.

With the necessary attentions to strict cleanliness, to active or passive exercise in the open air; to clothing, temperature, and, above all, to the selection of appropriate food as a substitute for the breast milk, a very tolerable degree of health may be enjoyed during the periods of infancy and childhood; but to determine the proper food, and the periods and mode of administering it, have been problems of very difficult solution; neither are medical men generally agreed as to any uniform mode of treatment.

Much of this difficulty arises from the difference of constitution, owing to which, food, which may be very proper for one individual

of strong powers, may be very ill adapted to another, whose powers are feeble; not to mention idiosyncrasies, which in infants, as well as in adults, require to be carefully considered in laying down a plan for any individual case.

The action of the saliva in promoting digestion does not seem to have obtained sufficient attention in the bringing up of infants by hand. In the usual mode of feeding, thick bread and milk, or panado, are forced from a boat, or spoon, into the mouth of the infant, with a rapidity, compared with the gradual supply of the breast milk, which might almost be termed cramming by wholesale: should the infant, as he generally does, show signs of uneasiness, his mouth is stopped by another boatful, till, probably, his stomach rejects the load, and, for a short time, he is relieved.

Now, in the action of sucking, the milk is generally but slowly furnished, and not without a strong action of the muscles of the mouth, tongue, and fauces, by which a copious supply of saliva accompanies every portion of the milk drawn from the breast: this admixture of saliva with the food, whether in infants, or in others more advanced in life, seems indispensable to the proper digestion of the food; and experience demonstrates that the best substitutes for the breast milk, in bringing up infants by hand, are those which approximate

the properties of the milk itself; and the best mode of administering it, seems to be that which will only admit of a gradual delivery of the nutriment, and not without a similar exertion on the part of the infant to that required in taking the breast, the only natural and safe mode of nutrition. Hence the suckling bottle is a valuable help in the attempt to bring up children by hand.

The intervals between the administration of food, the quantity at each period cannot be previously determined; but must in a great measure be left to be determined by the attentive mother or nurse: generally, however, the intervals are too short, and the quantity given excessive. A much smaller quantity of food will satisfy an infant when conveyed by the suckling bottle, or other similar contrivance, than when given by the boat or spoon. The liquid should be as nearly the warmth of new milk as may be.

The quality of the food, as has been before alluded to, is a question of considerable difficulty. In weakly children, food prepared from lean meat, such as beef tea, thin broth, and the like, often agrees, when preparations from vegetables have been found to disagree. Generally, however, milk whey, (prepared by rennet,) or cow's milk largely diluted with barley water, or thin gruel, previously strained,

and slightly sweetened, have been found to answer tolerably in the early months. Some children have thriven well when fed only with milk and water during the early months; whilst in the more advanced months, an increase of the consistence of the food by the addition of arrow root, baked flour, or biscuit powder, has been made without inconvenience to the infant. Asses milk, mare's milk, chicken broth, and numerous other articles have been recommended; but the editor is not aware that they generally possess any decided advantage over the simple compositions of diet previously pointed out, when carefully adapted to the health, strength, and constitutional peculiarities of the infant.

Together with appropriate diet, attention to temperature, clothing, cleanliness, and exercise in the open air, should not be omitted: indeed the same precautions, so ably pointed out by the lamented author of the preceding Essays, as necessary to the preservation of the health of infants nourished at the breast, should be carried into effect with still greater care, inasmuch as an infant brought up by hand is much more liable to be disordered from slight causes than the child nourished by the food which nature has provided.

The precautions respecting food should be carefully observed, avoiding the repetition of

whatever is found to disagree with the stomach or bowels so as to induce vomiting or purging, till the period of teething be so far advanced, that at least, four of the incisor, or front teeth, and four of the double teeth, have perforated the gums. After this period, a moderate portion of solid food, such as bread with milk; and, occasionally, animal food, may be permitted.

During the period of teething the bowels of children are apt to become disordered from slight causes, and improper food at such times is a fruitful source of illness. Convulsions are often induced by crudities taken into the stomach. Much curious and useful information may be found in a paper by Mr. Haden, published in the transactions of the Associated Apothecaries and Surgeon-Apothecaries of England and Wales, entitled, "*Cases in which certain kinds of food commonly thought to be indigestible have seemed to act as violent narcotic poisons.*"*

It is not only the immediate effects of improper food which ought to be guarded against, but those more frequent, though slight deviations, which, whilst they pass unnoticed, too often lay the foundation of fatal chronic diseases. These, when neglected in their early progress, are but too apt to produce diseases of

* On the subject of convulsions the medical reader may consult Mr. North's recent work.

structure which baffle all attempts at remedial treatment. Dissection in many such cases has shewn numerous ulcerations of the mucous membrane lining the intestines, with enlargement of the mesenteric glands; the liver also much diseased; whilst adhesions of the peritoneum, or lining membrane of the cavity of the belly, and of the intestines to each other, with innumerable points of coagulated lymph, resembling in appearance incipient tubercles, are not unfrequently observed. Tubercles of the lungs, ending in consumption, and hydrocephalus, are much more frequent in children whose general health has been impaired by improper feeding, than in others.

CHAP. XV.

Of the management of Children from the period of Teething to the commencement of School Education.

Little need be said under this head to the parent or nurse who has successfully conducted the bringing up of a child to this period.

The selection of plain and wholesome food; the observance of regular hours, both as to food and rest; the clothing, so free as not to impose restraint, and so warm as to make the individual in a great measure independent of the fire in the colder season of the year; the furnishing motives and means for abundant and safe exercise in the open air, with the occasional use of the cold or tepid bath; or, in the absence of bathing, frequent and strict ablution of the whole body, are the chief physical circumstances to be attended to in the preservation of the health of children.

It is essential to the happiness and future welfare of children, that the conduct of those to whose care they are entrusted, should be governed by reason and not by passion. Every kindness, every indulgence, compatible with propriety, should be freely conceded: a child should never be allowed to entreat, or even to request a second time, without compliance, that which it is proper to grant at once; neither should any entreaty of the child extort indulgencies, which may either be detrimental to the child himself or to others.

By mild and firm conduct in carrying into effect these simple principles, habits of content and of rational submission are established, and many causes of discomfort avoided:—for parents who indulge their children beyond

measure, forget that they are laying up stores of disappointment for them when they meet with others in the world, who, in common intercourse, will not concede more than they expect to have conceded to themselves in return.

The influence of moral treatment in the early periods of infancy, so ably pointed out by Mr. Haden in the preceding Essays, is still greater as the child advances in years; and the foundation for intellectual education must also be laid by the intelligent parent long before the usual commencement of school education. Were parents sufficiently aware of the advantages, nay, of the necessity of combining the physical, moral and intellectual education of children, to ensure healthy bodies and sound minds in their offspring, many of the evils which embitter life at later periods might be avoided.

The usual diseases of childhood, such as measles, hooping cough, scarlet fever, &c. may be attended with danger, and of course the assistance of the family medical attendant will be required on such occasions; but the danger of these and other diseases is much diminished by the previous state of health, if that have been generally good.* That great

* The reader may for fuller details on this subject refer to page 36, on the Causes of Disease in Children.

care is often required in the treatment of such diseases cannot be doubted, for though, in some mild instances, the disease would probably run a favourable course without assistance, yet it more frequently happens that the inflammatory symptoms attending these diseases being but imperfectly subdued, protracted illness is the consequence. It is a common observation that the *sequellæ* of measles are more to be dreaded than the measles themselves.

CHAP. XVI.

On Preparatory Schools, and on the Precautions and Management required to promote Health.

Arrived at an age at which children are usually sent to preparatory schools, the daily superintendence of parents ceases: it, therefore, behoves them to examine well, and to assure themselves, that the arrangements of the establishment selected, be compatible with health.

Generally, the time applied to book learning, is too long, and that allotted for exercise in the open air, too short. Frequently the hours of

application are made irksome by their continuance, whilst a much greater, and more solid progress may be effected, by strenuous application, continued but a short time, at any one period.

The simple walking, or marching in ranks, at a measured or drawling pace, as often observed when the children of a school are allowed to take the air, is not the kind of exercise fitted to promote health and strength. The more active games, so delightful to childhood should be freely permitted and encouraged—gymnastic exercises should form a part of the arrangements of every establishment for the instruction of children, or of youth.

The clothing is very often inadequate, and in females particularly, warmth and comfort are too often sacrificed to a barbarous taste, called fashion, by which the arms, neck, and a great part of the chest, are left wholly uncovered; whilst the tightness of the stays impedes the free motion of the chest, so essential to free and healthy respiration. When to these circumstances, the effects of confinement in the school rooms, without brisk exercise, are added, it is not surprising that, in severe weather, colds, chilblains, inflammations of the chest, and other diseases should be the result.

Many of the affections of the joints, swellings of the glands of the neck, and the varied

forms of disease comprehended under the general term *Scrofula*, (seldom even hinted at in the hearing of parents) are induced by errors in diet, clothing, and general management, and occur in the children of parents who have never laboured under any scrofulous taint. The commonly received notion that *Scrofula* is an hereditary disease, is, in the majority of instances, a vulgar error, which saves the trouble of investigating the causes of disease in each individual patient. The fact is, that the healthiest child may, by improper management, be soon reduced to the condition of one afflicted with *Scrofula*; whilst, on the other hand, children of weakly constitution, when organic disease does not already exist, may very generally be rendered healthy by judicious care and proper management, whenever the means of parents may enable them to carry into effect the ameliorations adapted to the peculiar state of health of the individual.

Errors of diet in establishments for the instruction of children, are not unfrequent, even when no doubt can be admitted of the kind intentions of the conductors of such establishments. The most common error is, a too limited proportion of animal food, and a too great preponderance of broths, puddings and vegetables; whilst many improper indulgencies in fruit, in pastry, &c. occur without the know-

ledge of the principal. Digestion is impeded by bodily or by mental exertion, therefore a moderate interval should be allowed after each meal, before either active exercise or application to study be enforced, or even permitted.

Whilst strict cleanliness should be observed, the floors of the sleeping rooms should not be too frequently washed, particularly in winter. The damp atmosphere produced thereby, being very injurious. The boards absorb a considerable quantity of moisture, which is slowly given off to the surrounding air.

By painting the floors the absorption of water by the wood is prevented, and cleanliness may be effected with much greater ease and safety. This plan is adopted in the hospitals in Holland, and they are kept remarkably clean and dry.

The use of the cold or tepid bath, according to the season, is of great use in preserving health. The body should not be allowed to be chilled, the clothing being carefully adapted to the vicissitudes of the season. When the weather does not admit of exercise in the open air, provision should be made for active amusements under shelter.

A very common error in the dormitories or sleeping rooms of some boarding schools, is the insufficiency of bed clothing. It is essential to health that the body should not be long reduced to a lower temperature than is consist-

ent with comfort; whilst excess of heat, on the other hand, enervates the body. Between these extremes a judicious medium should be observed. Great care should be taken that too great a number be not crowded together; an ample cubic space should be allotted, to prevent the air from becoming speedily deteriorated by respiration.

It is to be feared the attention of parents has not been sufficiently directed to the early choice of a profession or calling for their children, and the advantages which may be derived from forming the habits, and pursuing those studies which may be the most useful to the individual in a more advanced period of life. It has been shewn in the preceding Essays, that habits, good or bad, may be acquired even in infancy, whilst the pliancy of childhood is so generally admitted as to be proverbial.

It is not the intention of the writer of these remarks to enter into the details of this interesting and highly important subject; but he ventures to refer parents desirous of investigating for themselves, to the able and valuable works of Mr. and Miss Edgeworth on general education, and to that of Mr. Edgeworth on professional education. Should any of his medical brethren be desirous of considering the subject of early education, as applicable

to the medical profession, the result of the Editor's experience may be found in an "Essay on the Education and duties of the General Practitioner in Medicine and Surgery," published a few years since.

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