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Contributors

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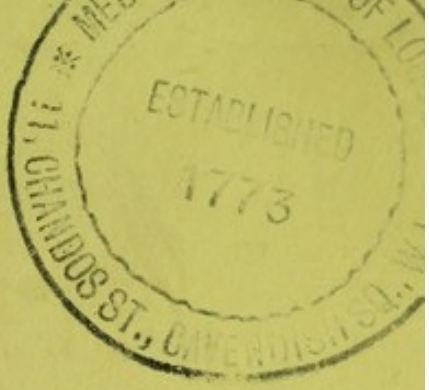

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DOROTHY

AGED 1 YEAR AND 8 MONTHS

(Photographed September 29th, 1888)

SUGGESTIONS TO MOTHERS

ON THE

MANAGEMENT OF THEIR CHILDREN

BY A MOTHER

REVISED THROUGHOUT BY A PHYSICIAN

Second Edition

LONDON
J. & A. CHURCHILL
11 NEW BURLINGTON STREET
1889

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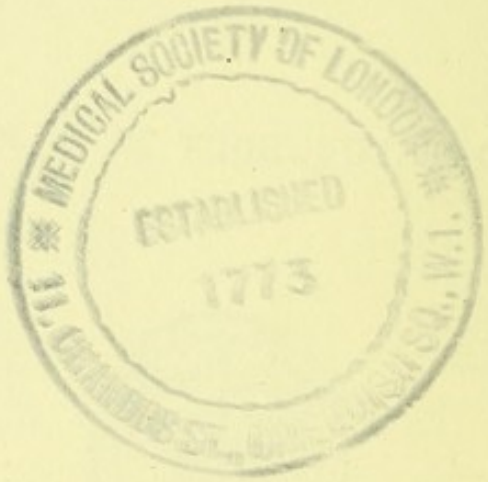

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TO

SIR ANDREW CLARK, BART., LL.D., M.D., F.R.S.

PREFACE

TO

THE SECOND EDITION

HAVING been asked to publish a second edition of my former little book, I have not only looked carefully over what I originally wrote, but I have added to it, and have made certain alterations which have been pointed out to me as being likely to be of benefit. It is with the hope of helping young mothers that I have rewritten these 'suggestions.' I was once so utterly ignorant of all that might affect infants or children, that I would have been thankful for *any hint*, and I feel assured that there must necessarily be many who are similarly placed, who may be glad of the knowledge I have in the course of years acquired, as regards the bringing up of infants and children, and may find my 'suggestions'—even those that may appear irrelevant—useful.

> Old experience do attain
> To something like prophetic strain.—MILTON.

When people are going into a foreign country they think it necessary to get a guide-book, and if anyone they know has been there they will ask many questions, the subject, especially if they are going to reside there, becoming of great interest and importance. When a doctor first sees a patient he enters into all sorts of particulars relative to the person, and his condition, if the case is doubtful or serious ; nothing being too

trifling to be inquired into; important results hingeing on, perhaps, apparently unimportant details. Why do people look upon infants and children as requiring no 'guide-book,' no previous knowledge whatever for their bringing up? As to this, I think I cannot do better than add Herbert Spencer's remarks on the subject:[1] 'Seriously, is it not an astonishing fact that, though on the treatment of offspring depend their lives or deaths, and their moral welfare or ruin, yet not one word of instruction on the treatment of offspring is ever given to those who will by-and-by be parents? Is it not monstrous that the fate of a new generation should be left to the chances of unreasoning custom, impulse, fancy, joined with the suggestions of ignorant nurses and the prejudiced counsel of grandmothers? If a merchant commenced business without any knowledge of arithmetic and book-keeping, we should exclaim at his folly, and look for disastrous consequences. Or if, before studying anatomy, a man set up as a surgical operator, we should wonder at his audacity and pity his patients. But that parents should begin the difficult task of rearing children without ever having given a thought to the principles—physical, moral, or intellectual—which ought to guide them, excites neither surprise at the actors nor pity for their victims. . . . Equally great are the ignorance and the consequent injury when we turn from physical training to moral training. Consider the young mother and her nursery-legislation. But a few years ago she was at school, where her memory was crammed with words, and names, and dates, and her reflective faculties scarcely in the slightest degree exercised—where not one idea was given her respecting the methods of dealing with the opening mind of childhood, and where her discipline did not in the least fit her for thinking out methods of her own. The intervening years have been

[1] *Education: Intellectual, Moral, and Physical*, pp. 25, 26, 27, 146.

passed in practising music, in fancy-work, in novel-reading and in party-going, no thought having yet been given to the grave responsibilities of maternity, and scarcely any of that solid, intellectual culture obtained which would be some preparation for such responsibilities. And now see her with an unfolding human character committed to her charge ; see her, profoundly ignorant of the phenomena with which she has to deal, undertaking to do that which can be done but imperfectly even with the aid of the profoundest knowledge. . . . Regarded from any but a conventional point of view, the fact seems strange that, while the raising of first-rate bullocks is an occupation on which educated men willingly bestow much time and thought, the bringing up of fine human beings is an occupation tacitly voted unworthy of their attention. Mammas who have been taught little but languages, music, and accomplishments, aided by nurses full of antiquated prejudices, are held competent regulators of the food, clothing, and exercise of children.'

I have been told my work is not complete without a chapter on education. There are so many arguments, so many theories, so many ideas as regards education now, that the subject seems nearly exhausted. I have only, however, jotted down a few thoughts which have at various times occurred to me. In bringing under notice what is, perhaps, in the minds of many, the ideas may appear wanting in freshness. Sometimes, however, old ideas, when brought under one's notice, appear in a light they did not before :

> To know that which before us lies in daily life,
> Is the prime wisdom.—MILTON.

I have culled from some of our great authors anything which I have found bearing on what I have written, feeling their words have the impress of those great minds which have made

the nobleness of the world's history, and that they more adequately express my thoughts than I can find words to do :

> But words are things, and a small drop of ink,
> Falling, like dew, upon a thought, produces
> That which makes thousands, perhaps millions, think.
>
> BYRON.

Those who would cavil at my having made use of others' works, to express my thoughts, will, I hope, be but few.

'To demand that any writer, be his powers or calibre what they may, should avail himself of no materials whatever, except those that arise out of his own resources and invention, is as unjust and extravagant as it would be to insist that a Michael Angelo or a Canova should have no credit for a statue, because they did not create the block of marble from which it was produced.'—COLTON, *Lacon.*

My work is a woman's book for women (it does not trench on medical ground), and is written merely with a view to supplying a little help to young mothers in ordinary nursery affairs. In all matters of moment, or illness, I would 'suggest' the old proverb, 'A stitch in time saves nine,' and would add, 'Consult the doctor.' I have cited various, and some of the most eminent, medical opinions relative to the subjects I have written about, as my last book called forth the remark, 'Well, all you say may be true, but what data have you to back up your opinions?' Naturally the opinions of medical men are not only valuable in themselves, as being often the result of laborious research, but they inspire also more confidence in people receiving what is set forth, as right.

> And what is writ, is writ,
> Would it were worthier.—BYRON.

PREFACE

TO

THE FIRST EDITION

THE successful bringing up of infants and children is of importance, not only to parents who have young children, but is also a matter of moment and interest to those who have the charge or care of them. Few are so wanting in thought, feeling, or heart, or so careless, that they are indifferent how the children, for whom they are responsible, are cared for and brought up. Many times people err more from want of knowledge than from want of heart. That often lack of a little knowledge causes unnecessary pain, and sometimes ultimate injury to many young infants and children, and is productive of much waste of young life, is a matter of deep regret to many thoughtful people who have had the subject brought under their notice.

'We no longer attribute the untimely death of infants to the sin of Adam, but to bad nursing and ignorance.'[1]

That it is possible, without any knowledge or instruction of any kind, to be able to undertake the management and bringing up of infants and children by hand, is one of those popular delusions which each year claims a large sacrifice of young life. The care of horses, cattle, poultry, &c., presupposes some amount of knowledge or previous teaching, but it is too generally assumed that everyone knows how to bring up

[1] *Maxims of General Garfield.*

infants and children. Many people have an idea that it comes intuitively to women to take care of children, and that every woman is naturally endowed with the knowledge of how to take care of a baby, which knowledge will develop of itself, without any help, as soon as occasion arises. That this is fallacious requires only a little thoughtful consideration to make itself manifest to any reflective mind. There are schools of cookery, there are institutions where sick nursing is taught, and places have been founded of various kinds where people are instructed in things they wish to be proficient in, but a place where people might be instructed in the best way to bring up infants and children seems still one of those undeveloped ideas which occur occasionally to philanthropic persons, but of which the need is apparently not felt. A place where those taking positions as nurses to infants and young children might be taught the best way to bring them up, and who could be shown, in a simple, easily understood manner, the various things likely to promote or retard the healthy growth of infants and children, appears to many one of those Utopian ideas which might be realised one day, but which is equally well remaining a visionary idea. If this little work gives even only one useful hint, or is only of a little service in helping anyone to bring up an infant or child, it will not have been written in vain. That many take places of responsibility with young children who are not only ill-adapted for the position they take, but are also, from want of knowledge and experience, totally unfit for their post, is a fact brought often too obviously to the notice of people. Topsy's 'I 'spect I grow'd'[1] is the experience of thousands—no help being given to further or facilitate that process, thus sometimes developing all the evil qualities of human nature, which are afterwards only kept in check by the trammels of society and the observances

[1] *Uncle Tom's Cabin* (Mrs. Stowe's).

of civilisation. Where there is sufficient means the prevailing idea is, 'Get a good nurse,' and everything will be all right. And granted that an experienced, careful person is found, no doubt all does go well; but how many are there who cannot have the advantage of getting someone who has knowledge in the care and management of young children? And how many are there who are not in a position to have a nurse, and who have to rely on their own judgment and sense, gaining their experience sometimes with pain and much trouble? As regards bringing up children by hand, the general idea is,—give a baby a feeding-bottle, with some warm milk and water, or any of the advertised patent foods for infants; the child will take the food given, and if this is given when the child cries, or appears hungry, it will not only live, but will grow up very well, the nature of the food, or whether the child is strong or delicate, or is tended with care, being of no consequence whatever. In fact, with just a little help, nature will arrange the little matter of growing up, and if nature fails to be so accommodating, 'Well, the child was weakly; what could you expect?' or, as one will sometimes hear, 'Poor dear! it's a blessing the Almighty has taken it; it would only have grown up delicate, and have been perhaps a misery to itself and others,' on the principle of the ancient Spartans, 'that the delicate and feeble should not survive.' But, on the contrary, the weak and feeble should be carefully tended, for with care and attention very often a delicate child will grow up perfectly strong. It is quite possible for a poor puny baby, with efficient and proper care, to grow up strong and the happy possessor of good health, and it is equally possible for a strong healthy baby to become weakly and feeble through want of care and attention, and how often in a very delicate frame there is great talent, which only requires time and opportunity to develop. Some of the greatest people have been weak, and, in some instances, afflicted children.

Sir James Paget writes :—

'It is said, whether as fact or fable, that the pursuit of science and of all the higher learning followed on the first exercise of the humanity which spared the lives of sick and weakly children; for that these children, being allowed to live, though unfit for war and self-maintenance, became thinkers and inventors. But learning is not now dependent on invalids; minds are not the better now for having to work in feeble bodies; each nation needs, for its full international influence, both health and knowledge, and such various and variable health, that there should be few places on earth or water in which some of its people cannot live, and multiply, and be prosperous.

'If, therefore, we or any other people are to continue ambitious for the extension of that higher mental power of which we boast, or for the success of the bold spirit of enterprise with which we seek to replenish the earth and subdue it; if we desire that the lessons of Christianity and of true civilisation should be spread over the world, we must strive for an abundance of this national health—tough, pliant, and elastic—ready and fit for any good work anywhere.'[1]

That attention to the various things, such as fresh air, baths, proper clothing, easily digested, wholesome, and nutritious food, adequate exercise of the body and sufficient rest, tend to promote (in fact, are the foundation of) health no one would question, yet people too often treat children as if attention to these matters were of no importance, and it signified but little under what circumstances children grew up. Life appears a simple affair, and it is only sometimes, when illness arises, that life assumes a different aspect, and becomes, perhaps, a problem demanding serious thought. That life can be

[1] 'National Health and Work.' Address delivered by Sir James Paget, Bart., F.R.S., at the International Health Exhibition, June 17, 1884; H.R.H. the Prince of Wales, K.G., in the chair.

sustained under very adverse circumstances, and that children will survive great ill-usage, and will grow up sometimes with no care whatever, is very palpably brought before one in cities and large towns; but that children grow up equally well no matter how they are brought up, no matter what influences they are subjected to, no matter what place they pass their daily life in, and no matter what kind of people they are in daily contact with, no sane person would affirm. We are, on the contrary, all more or less creatures of habit from the earliest moments of life, and are influenced powerfully for good or ill, not only by the nature of our whole life, and by our surroundings, but also by those apparently trivial circumstances which appear to demand no thought or attention. An old proverb says, 'Choose that manner of life which is best, and custom will render it agreeable.' It should be the first duty of all those having the charge and responsibility of infants and children to try and choose for them 'that manner of life which is best,' and to endeavour from even the first days and years of life to cultivate those habits and to follow those things which tend to promote health; and it would be well if it were borne in mind more constantly than it is, how greatly, not only comfort of body, but also how much happiness depends on health. '*Non est vivere, sed valere vita*'—Life is not mere existence, but the enjoyment of health.

Errata.

For *Diseases of Infants and Children*, pp. 82 et seq., read *Diseases of Infancy and Childhood.*

For *Sagous* read *Sajous* throughout.

Page 567, note [1] *for* part 31,775 *read* part 3, 1775.

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MANAGEMENT OF CHILDREN

CHAPTER I.

GENERAL REMARKS.

THE great Teacher of Mankind has said of little children, 'Of such is the Kingdom of Heaven;' and in their innocence, purity, and truth they are fitting emblems of a higher and better world. It is only too sad to think that it is possible to spoil what is so beautiful, and it is very painful to know how easy it is not only to spoil the minds and natures of young children, but also how soon a young infant may have health injured, perhaps permanently, by inattention, want of thought, or want of knowledge. No sight is more lovely than a young baby asleep. Carefully tended, clean, rosy, healthy and well, in the unconscious placidness of infancy, it lies, appealing in its tenderness and helplessness to all the best sympathies of human nature. Awake, with the first dawning, perhaps, of intellect appearing in its little involuntary movements and artless gestures, it still more claims notice.

If mothers would only accept (in its true sense) the responsibility involved in the charge of young children, and the responsibility attached to the care of those tiny, helpless little creatures, on the judicious bringing up of whom so much depends, and if only even a passing thought were given to the great work which lies in a mother's hands, how much good might be done, and how much pain and sorrow might often be spared! A little book (all its pages unsoiled, clear, and open) is given into the hands of a mother. In her hands it lies to inscribe the first pages, whether for weal or for woe.

The sad way in which 'Finis' concludes many lives is often referable to the early bringing up, and too often with infants and young children they are left in the entire care and charge of people who are unsuited to have so grave a responsibility. Young mothers are too apt to delegate their trust to others, forgetting that they themselves are answerable for the welfare of their infants and children. Because one ignores a duty it none the less remains a duty, and the first and very clear duty of a mother is to look personally, minutely, and constantly to her children, neglecting and leaving undone nothing which tends to their good health, comfort, and happiness. It rests much more with a mother to influence her children than a father.

The bringing up of infants and children is universally conceded to women. A man's sphere is in the world; a woman's sphere is home. It is impossible for a father, often the 'bread-winner' of a family, and seeing but little of his children, to have the same influence over them that the mother has, who is always near them, or even the same influence as those in daily contact with them. It is in a mother's power to exercise the greatest influence over her children. Day after day children's lives are being formed, day after day their dispositions and characters are being developed, and the teaching of a good mother, wisely exercised, will affect the whole after-life as well as early years of her children. How much want of thought has to do with the neglect of much that is useful and important in the bringing up of children is often brought to one's notice.

As Hood has graphically expressed it, 'Evil is wrought by want of thought as well as want of heart.' And as regards infants and children in most instances this is exactly so. 'Want of thought' and want of that knowledge which comes from experience, and not 'want of heart,' are often at the root of infants and children not doing well, and in many instances a hint given by someone having experience, or some idea expressed by someone having a personal knowledge of bringing up infants and children, will not only open a new train of thought, but will as well be a help in the right direction. That want of thought is often the cause of trouble is of worldwide

application, and is often brought under observation in the affairs of life. 'Want of thought.' How much is expressed in these simple words, and how often does 'want of thought,' and not 'want of heart,' cause not only pain and trouble to the person who is lacking in thoughtfulness, but also brings sometimes unnecessary suffering and distress to others! In no instance is thoughtfulness (and not occasional but constant thoughtfulness) more required than in the care of infants and children.

Infants especially require constant and regular care and attention. It is impossible to be careful at one time and careless at another without causing injury. Regularity in all the details of life, such as feeding, repose, fresh air, baths, &c., is essential to the health of both infants and children. It is of little use to be exact, however, in one or two particulars and not in all. From the first a baby should be fed, put to bed, bathed, and taken out as nearly as possible at the same time each day. Few consider how much the comfort and health not only of older children, but also of infants, depend on regularity. It is thought it does not signify what time a baby is fed so long as it is fed when it seems hungry; what time it is put to bed, or bathed, and dressed, and taken out; whereas an infant cannot be too soon tended in a regular and methodical manner.

It is a great pity not to bring up infants and children with regular habits, which are not only most important, and most conducive to health, but are also productive of comfort. Where infants and children are brought up in a haphazard manner it is impossible to cultivate habits which are likely to contribute to health. Many regret in after-life their early bringing up; and the not teaching children habits of order and method is sure to exercise a detrimental influence on their life.

All persons employing people to be with young infants and children, in the capacity of nurse, should from personal observation see that the person chosen is suitable to be over young children—a post demanding patience, kindness, gentleness, yet firmness, self-control, cheerfulness, and tact, and above all

nice-mindedness, exact truthfulness, and a nice, pleasant manner. A person with a brusque, cross, abrupt, or harsh manner is not suitable to be constantly with young children. Nor is it advisable to place a melancholy or a very silent person over children. To choose a good-tempered person, and amiable, is most essential. A good temper is like the sunshine, it brightens whatever it comes in contact with ; whereas a bad temper is as the east wind, which chills whatever is brought under its influence.

Children are very susceptible of the temperament of those constantly with them, and even quite young infants are sensible of a cheerful, genial face, and when looked at and talked to in a bright, cheery manner will respond by smiling and cooing. Some dispositions are more sensitive than others, but all children are keenly alive to kindness and pleasantness of manner, and nothing can be more cruel or more reprehensible than to be constantly ill-tempered with children. They are so at the mercy of everyone that their dependence on the kindness, thoughtfulness, and good-heartedness of those around them should be recognised by all. A child put with a person of an uncertain temper is placed in a similar position to the poor little dog made to live in the lion's cage. When the lion is happy in his temper, '*tout va bien*,'[1] but when the natural disposition of the lion asserts itself poor doggy suffers.[2]

People are always at their best in seeing strangers, more especially when obliged to take a subordinate position. This should not be forgotten in choosing anyone to be placed in a responsible position with infants or children, and it should be seen that the good qualities one may attribute to a person on first acquaintance are realities and not a figment. Characters given with servants are not always correct.

The face is in most instances a good guide to follow as to disposition. How is it possible for anyone whose face tells of evil qualities to be gifted with the reverse of what their countenance too clearly indicates ? The face is invariably the

[1] 'All goes well.'

[2] Some thirty years ago a dog was kept in a lion's cage at the Zoological Gardens, Regent's Park, but eventually the lion killed it.

index of the mind and gives the clue to the nature. It has been rightly said that 'the soul shines through the eyes,' and, with the exception of the mouth, the eyes are the most expressive part of the face. Whether in joy, in sorrow, in anger, or in fear, the eyes express the chief emotions of the mind. When very young children look at a face they are most impressed by the eyes, and if the eyes are indicative of kindness, however plain or even ugly the face, they will not dislike.

A little girl, being once questioned as to an aversion she had taken, replied, 'Her eyes frighten me,' and the poor little thing was quite truthful in replying so. The person indicated had a most unpleasant, hard, cruel look in her eyes. A clear, honest, frank, kind-looking eye will redeem the plainest face from ugliness. Where the eyes seem to betoken a cruel disposition or a bad temper, children should never be allowed to become closely acquainted with what these useful members betoken so unpleasantly, yet often so truly.

> A single look more marks the internal woe,
> Than all the windings of the lengthened oh!
> Up to the face the quick sensation flies,
> And darts its meaning from the speaking eyes.
> Love, transport, madness, anger, scorn, despair,
> And all the passions, all the soul is there.

Persons with a cast in the eye or with any disease of the eyes should not be placed with children.[1]

People are often quite unaware of what really goes on in their nurseries, the unrestrained vulgarity of speech and manner, the tendency to deception, the want of proper guard and control over both speech and temper, of the people placed with the little ones. Children are very keen-sighted, and soon observe, when old enough, what is going on around them. They should never see untruthfulness, deceit, bad temper, or irreverence in those constantly in personal contact with them.[2] Sense of right is formed in children by their outward impressions, and is never learnt by rote. Much mischief is often caused by idle, foolish tales being repeated, and by idle conversation in young children's hearing.

[1] See 'Remarks on the Eyes,' p. 525.
[2] See 'Education,' pp. 662–665.

Many times children are kept awake at night by servants talking in the nursery or in a room adjoining, so that every word is heard by the little ears, which are supposed not to be listening. Nurses become confidential over their supper, or when they are sitting together in the evening, and talk sometimes the greatest nonsense, and quite forget that young children are near, and may be awake hearing all that is said, and if they are old enough to understand what they hear they may get into their little minds a great deal of frivolous nonsense, if nothing worse.

With older children mischief is also often caused by reading books left about, of an unsuitable kind. The number of delightful books in these days of literary production is so great, and books now cost so much less than they did, that no one, with even moderate means, can complain of a want of suitable books for children. The magazines for boys and girls now are educating in every sense of the word, and contain much useful as well as agreeably conveyed knowledge. Children, after all, do not require a great number of books; a few, well selected, is what is needed.

The following is exactly correct both as to books and story-telling :—

'If the effort be well received, story-telling will become an institution in the family. Presently it will be found that the one thing that will not succeed there is what critics call originality. The little human animal listens without much interest until it hears a story that pleases it, and ever thereafter it only desires to hear that story over and over again, told in exactly the same way. When it grows up, its culture may be wide and its taste exalted, yet when it wants to be amused you find it reading its Shakspere or its Dickens for the hundredth time; prowling in the National Gallery before the pictures it has seen oftenest; or listening to the "Messiah," or "Don Giovanni," or Beethoven in C minor, as if these were the latest fashions in music. Or if, as a typical Briton, it "does not understand classical music," and only knows Shakspere as the author of "Hamlet," and "The School for Scandal,"[1]

[1] Sheridan.

it may still read an amazing quantity of novels with great delight and excitement, provided only that they are each its favourite story over and over again, with the same characters, the same incidents, the same scenery, the same names, and the same words. You are half-disposed to admit the identity of the characters, incidents, and scenery; but you doubt the identity of the words.'[1]

How often has one not had to tell the familiar, old, but ever new, Robinson Crusoe!—the same interest and the same delight being shown at exactly the same parts always.

Children are never tired of hearing their favourite tales, and if the stories are what the 'schoolboy' calls 'jolly ones' the interest in them never flags. Red Riding Hood, the utter improbability of which never suggests itself to the child's mind, only the pleasure of hearing over and over again 'What big eyes you've got! The better to see with, my dear. But what a big nose! The better to smell with, my dear. But what a big mouth! The better to eat with—and then the feint of gobbling up the wee pet. With what delight this is always received! Instead of being, as one might imagine, a terrifying tale, cheerfully told by father or mother, it is on the contrary most delightful, and is ever received with the greatest laughter. In pantomime or in tale the old, old stories—Red Riding Hood, Blue Beard, Mother Goose, Jack and the Beanstalk—still have the same attractions for our children that they had for us. As I write, I hear a merry little voice in the garden warbling—

I wish I were over the sea, Jacky,
In the land where the gum-trees grow,
I'd certainly stop with the 'possum on top
When lesson-time came, you know.

I wish I were over the sea, Nellie,
In the kingdom of Cariboo,
With wool for my hair, and nothing to wear,
And nothing at all to do.

We'd never be combed any more, hurrah!
We'd never be brushed, hurroo!
Have dinner at seven, stay up till eleven,
And do as all other folks do.

[1] 'Old Stories in New Novels,' *Pall Mall Gazette*, November 23, 1887.

The little maid whose sweet little voice I hear, and whose summers number five, is, I know, a very good, obedient little pupil, and, although delighting in the idea of being 'with the 'possum on top when lesson time came,' and having no 'combing and brushing,' and the too blissful 'Have dinner at seven, stay up till eleven, and do as all other folks do,' is a very docile little soul. I am afraid a good many of we older folks sometimes sigh for the 'kingdom of Cariboo,' and in the wearisome conventionality of a too rigid and monotonous existence the child's wish for more freedom is echoed by our toilworn hearts.

I think it is unwise and cruel to try and put 'old heads on young shoulders,' to rob bright youth of its gaiety; and I do not see that the little people are any better or even as well brought up by not allowing them to have the simple old tales which pleased our own childish minds. The old 'Is John Smith at home?' with its colloquial answers, 'Yes, sir, he is. Can he shoe a horse? Yes, sir, he can. Here a nail (tapping the tiny foot, which Baby always enjoys) and there a nail, tick, tack, two, that's the way to shoe a horse,' is not only a sufficiently sensible refrain, but a very amusing one to the little mind, unable to comprehend greater things. And the 'Old King Cole was a merry old soul,' and the 'Sing a song of sixpence,' with its disastrous loss of the maid's nose, and 'Little Miss Muffett,' are, with many other simple rhymes of nursery celebrity, not only entertaining, but in some measure educating, to the little mind, by giving a knowledge of the just appreciation of language.

'Little Miss Muffett' has been immortalised by one of our greatest living painters of children,[1] who has with poetic grace depicted 'little Miss Muffett' sitting on her 'tuffett,' and with accurate fidelity to nature has represented poor little 'Miss Muffett's quaintly touching despair at the approach of the "large spider," who sat down beside her.' Some say, having grown grave and wise with years, and having lost all taste for the simple things which please childhood, 'But these are such foolish, stupid, tales and rhymes. It's much better to tell

[1] Millais.

children nice sensible tales with a good moral and rhymes, instilling some good lesson.' But children are very much like ourselves, and can't be always being made good and learned. They want to be amused. Roast beef is undoubtedly very wholesome, but no one would advocate all roast beef; and, just as older people are pleased with simple songs and old ballads —'Cherry Ripe,' 'My Mother bids me bind my Hair,' 'Old Robin Gray'—so children are diverted by simple rhymes and stories with no especial teaching.

I think the old nursery stories and rhymes, what they call Christianised, are not only spoilt, but vulgarise Christianity. Religion should never be rendered a weariness to children by being made an excuse for taking away all the little bright, if foolish and trifling, things of life. If it is, they will in no way be bettered. What is to be deprecated is the stories written with the avowed object of inculcating good, yet presenting error in so attractive a light that in the pleasure of reading so exciting an account of wrong-doing, the little moral at the end of the story is lost sight of, or is passed over as a necessary concomitant of story-telling, but one not concerning the reader. Who will endorse, 'Vice itself lost half its evil, by losing all its grossness?'[1] And who will say that they are mentally improved by reading bad books, however cleverly written? Another delusion is that bad books in another language don't have as harmful an effect as if written in one's own tongue. If one perfectly understands a book, no matter the language it is written in, the effect on the mind will be the same.

There is no doubt some of the cheap illustrated papers are most pernicious for young children to have. The pictures are often vulgar in the extreme, although supposed to be funny, and who can tell that the little people don't get as much harm by merely reading here and there as if the whole were read? Mothers say, 'But my boy is so innocent, even if he reads bad things he does not understand them.' Is it certain boys are so innocent, and that they never find out the meaning of what they read? Aristotle, in speaking of the education of the

[1] *Reflections on the Revolutions in France*, Edmund Burke, vol. iii. p. 332.

young, writes :[1] 'Let the rulers take care that there be no image or picture representing unseemly actions.' One thus sees the idea that harm might ensue from the young seeing pictures of a lowering tendency dates from a very early time.[2]

There are those who say that it is doubtful what amount of good is done to children by reading the Bible. This view is strongly opposed by a great number whose talent, clear-sightedness, and thoughtful consideration of the matter must carry weight. The late Mr. W. E. Forster said of the Bible,[3] 'The English people cling to the Bible, and no measure will be more unpopular than that which declares by Act of Parliament that the Bible shall be excluded from the school.' Mr. Forster added, 'Some words that have been put into my hands lately, which were written by one for whose genius we have all a great respect, speaking of the old English Protestant Bible—the words are better than anything I can say. The words are as follows: "Who will not say that the uncommon beauty and marvellous English of the Protestant Bible is not one of the great strongholds of heresy in this country? It lives on the ear like a music that never can be forgotten—like the sound of church bells which the convert hardly knows how he can forego. Its felicities often seem to be almost things rather than mere words. It is part of the national mind, and the anchor of national seriousness. The memory of the dead passes into it. The potent traditions of childhood are stereotyped in its verses. The power of all the griefs and trials of man is hidden beneath its words. It is the representative of his best moments, and all that has been about him of soft, and gentle, and pure, and penitent, and good speaks to him for ever out of his English Bible. It is his sacred thing, which doubt has never dimmed and controversy never soiled. In the length and breadth of the land there is not a Protestant with one spark of religiousness about him whose spiritual biography is not in his Saxon Bible."'

The effect of a study of the Bible in educating the mind to a more lofty standard has been remarked by many writers,

[1] *Politics*, vii. 17.

[2] See 'Education,' p. 666.

[3] *Education Debate*, 1870, p. 47.

and even by those unwilling to acknowledge its teaching. Green, speaking of Milton's 'Paradise Lost,' remarks, 'The sublimity of conception, the loftiness of phrase, which he [1] owed to the Bible.' [2] And again, writing of Bunyan's 'Pilgrim's Progress,' Green adds, 'In no book do we see more clearly the new imaginative force which had been given to the common life of Englishmen by their study of the Bible. Its English is the simplest and the homeliest English which has ever been used by any great English writer; but it is the English of the Bible.' [3]

In the 'Education Commission Final Report' [4] mention is made of the benefit of religious instruction founded on Bible teaching. The Commission (composed of the first intellects of the age) say, 'While differing widely in our views concerning religious truth, we are persuaded that the only safe foundation on which to construct a theory of morals or secure high moral conduct is the religion which Jesus Christ has taught the world. Thus, as we look to the Bible for instruction concerning morals and take its words for the declaration of what is morality, so we look to the same inspired source for the sanctions by which men may be led to practise what is there taught, and for instruction concerning the helps by which they may be enabled to do what they have learnt to be right.' [5]

There is a great deal said nowadays of science not agreeing with the religion of the Gospel, and that if we acknowledge the teaching of science we must alter and leave aside much of what is taught us in the New Testament. Mr. Balfour, speaking at the Church Congress, October 2, 1888,[6] said of science *versus* the religion of the Gospel, 'It was the glory of science to change. If it did not change it would be dead. If it did not day by day and hour by hour augment its store it would no longer be living knowledge. But religion, which was based upon the eternal principles of human nature, and

[1] Milton.
[2] Green's *History of the English People*, p. 584.
[3] *Ibid.*, p. 614.
[4] *The Education Commission Final Report.*
[5] *The Times*, Thursday, June 28, 1888.
[6] *Ibid.*, Wednesday, October 3, 1888.

which ministered to the eternal wants of human souls, remained, and must remain, essentially the same. The technical terminology of theologians might change; but did these changes affect the real substance and essence of religion? Looking back over 1,800 years we felt that we had indeed inherited the religion as Christ taught it to us, and that all the changes that had subsequently occurred had made no alteration in its inmost essence. He felt himself that religion appealed as freshly now to the hearts of men as ever before. He saw nothing in the circumstances of modern life to alter that; he saw everything to increase it. Science continually changed, but as long as human hearts remained what they were, as long as suffering existed, as long as the sense of weakness oppressed us in the face of the overwhelming forces of inanimate nature, so long should we and our children be able to draw inexhaustible sources of comfort from the same streams which had fed our forefathers.'

Where people are desirous of bringing up their children in a manner to fit them for the higher duties of life, they should see that their daily life is passed with persons of good principles. Where children are much with their parents, and they are cultivated, refined people, they grow up with a higher tone of mind.[1] All parents should try and gain the love of their children. All children have tender hearts, and need the love, attention, consideration, and thoughtfulness which only those who are parents can give. It is very sad, and greatly to be deplored, when children get from servants and from strangers the tenderness which should come from their parents. Children should always feel that in their little childish griefs and troubles they have someone kind and sympathetic, and who loves them, and takes an interest in them, to whom they can go, sure of finding that comfort which springs from an interest in their welfare and happiness.[2] And when they come for, and need, consolation they should never be repulsed and sent away with harshness, coldness, or roughness. Mother is tired, and so the little one, only prattling, innocently teasing,

[1] See 'Education,' p. 587. [2] *Ibid.*, pp. 588, 596.

and only wearisome because of Mother's tiredness, or perhaps preoccupation of mind, is sent away with a cross word, 'I wish you wouldn't bother so.' The sharp, biting words cut across the little heart like a knife—the first check, and consequent destruction of spontaneous feeling.

Do the following beautiful lines in their simplicity and truth, appeal to and touch any mother's heart to be more guardful of the harsh, the hasty, the unreflecting words of thoughtless reproof ?[1]

Tired Mothers.[2]

A little elbow leans upon your knee,
Your tired knee, that has so much to bear;
A child's dear eyes are looking lovingly
From underneath a thatch of tangled hair.
Perhaps you do not heed the velvet touch
Of warm, moist fingers, folding yours so tight;
You do not prize this blessing over much,
You almost are too tired to play to-night.

But it is blessedness! A year ago
I did not see it as I do to-day—
We are so dull and thankless, and too slow
To catch the sunshine till it slips away.
And now it seems surpassing strange to me
That, while I bore the badge of motherhood,
I did not kiss more oft and tenderly
The little child that brought me only good.

And if some night when you sit down to rest
You miss this elbow from your tired knee;
This restless, curling head from off your breast;
This lisping tongue that chatters constantly—
If from your own the dimpled hands had slipped,
And ne'er would nestle in your palms again;
If the white feet into their grave had tripped,
I could not blame you for your heartache then.

I wonder so that mothers ever fret
At little children clinging to their gown;
Or that the footprints when the days are wet
Are ever black enough to make them frown.
If I could find a little muddy boot,
Or cap, or jacket, on my chamber floor;
If I could kiss a rosy, restless foot,
And hear its patter in my home once more—

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[1] See 'Education,' p. 588.

[2] Anonymous.

If I could mend a broken cart to-day,
To-morrow make a kite to reach the sky—
There is no woman in God's world could say
She was more blissfully content than I.
But, ah! the dainty pillow next my own
Is never rumpled by a shining head,
My singing birdling from its nest is flown—
The little boy I used to kiss is dead.

Nothing that distresses and troubles a child is too trivial to be looked to. It is not older people only who are capable of being worried. Children can equally feel harassed and vexed, and the little things of life are never too trifling to be attended to. It is not necessary or wise to magnify every little trouble, and to coddle children; but if children were less carelessly looked to, and were attended to in a less perfunctory manner, there would be less suffering in the world. How often one hears it said of a bad habit or a bad temper (increased, if not caused, by the injudicious training and thoughtlessness of those over children), 'Oh, he or she will grow out of it,' not the slightest effort being made towards helping the child to get into a better state. How is it possible for any young creature to do of itself, unaided, that which may involve irksome self-denial? And how is it possible to grow suddenly out of anything more or less permanently fixed by length of time? Does a tree, grown ill-shaped by being badly placed, alter suddenly to a good shape by being better placed?

What has become, by long habit, more or less part of nature is not easily or quickly altered. Nature ever accommodates itself to its surroundings, and grows suited to and formed by its daily existence. Everything in nature is of slow growth. This is seldom thought of, and in life people too often look at the result, entirely overlooking what has led to it. If when people see a child inclined to be untruthful, or to equivocate in little things, they at once corrected the child, and watched to see that the habit of prevarication and wishing to mislead did not grow confirmed, and, if old enough to comprehend, they pointed out how much trouble the habit of untruthfulness is likely to cause; also, if when parents saw a child

giving way to temper, or a sullen disposition, they showed the child how sad it is to give way to temper, and how much sorrow and pain may be caused (not only to others, but to oneself) by bad temper, and the necessity for and benefit of self-restraint, there would be fewer distressing troubles caused in after-life by the want of self-control and the want of truthfulness.

Of all things which children should be broken of, the habit of mischief-making should claim the first attention, as this most pernicious habit, if indulged in, will most assuredly cause much avoidable pain and distress. A mischief-maker—is there anyone in life more despicable? In the little tale-bearer one has the beginning of the future mischief-maker.

'Tis mischief-makers that remove
Far from our hearts the warmth of love,
And lead us all to disapprove
  What gives another pleasure.

They seem to take one's part, but when
They've heard our cares, unkindly then
They soon retail them all again,
  Mixed with their poisonous measure.

And then they've such a cunning way
Of telling ill-meant tales; they say,
'Don't mention what I've said, I pray;
  I would not tell another.'

Straight to your neighbour's house they go,
Narrating everything they know,
And break the peace of high and low—
  Wife, husband, friend, and brother.

Oh that the mischief-making crew
Were all reduced to one or two,
And they were painted red or blue
  That everyone might know them!

For 'tis a sad, degrading part
To make another's bosom smart,
And plant a dagger in the heart
  We ought to love and cherish.

Then let us evermore be found
In quietness with all around,
While friendship, joy, and peace abound,
  And angry feelings perish.

The habit is too prevalent of giving other people and other people's things but a grudging praise. The supreme height of

egoism is reached when we always feel our own belongings, our own friends, our own habitation, horses, books, pictures—in fact, all that belongs to us—just because it does belong to us—is better than anyone else's. The self-complacency of the Irishman's 'Shure it's the best of everything I have. It's meself knows better than anybody what to buy,' is equalled, if not exceeded, by many, who only add one little addition, 'I am always right.' Children's 'Oh, yours is not so nice as mine ; mine's the best,' is the first step to egoism. The honest satisfaction—unenvying others—of the contented, who would cavil at ?

It is the overbearing self-sufficiency of the egoistic that one wishes to enter a protest against. Oh, the weariness of being always in contact with the utterly selfish, whose one centre is themselves, from which everything radiates ! who bring all to the dead level of their own selfish ideal—the great 'I' of life ! 'I do so and so.' 'I like that.' 'I wish this.' Always 'I.' Self the one ruling principle—encased in a cold mantle of selfishness, as impenetrable to the genial emotions of life as the Arctic ice is to the beaming influence of the sun. Where children are allowed to grow up anyhow, and are not taught self-control and the habit of trying to correct and keep under their little failings, how can it be expected that they will grow up well ? Also, if children see the same faults uncorrected in those over them that they are told to correct in themselves, how can it be imagined even that they will try and begin the work of self-reformation ?

In bringing up children people rarely take into consideration the disposition and the nature, both physical and mental, of children ; their hereditary predisposition to many things, and the fact that children differ. The common mistake is made of thinking all children are alike, whereas, even in a family having the same parents, the nature and disposition of each child differs, and it will rarely, if ever, be found even in the same family, and having the same parents, that two children are exactly similar in disposition. 'Children of the same parents vary in size, feature, complexion, character, and con-

stitution, often very obviously, but sometimes too obscurely for cursory detection.'[1]

Many are too apt to treat children as if they are another order of creation, different to themselves, not subject to the same mental emotions of pleasure, joy, grief, sorrow, pain. And they also sometimes look upon them as not having the same nervous system that all humanity is endowed with ; in fact, they regard children as being without nerves ; whereas the nervous system in children is more highly developed, and is more sensitive, than it is in after-years, when time's hardening influence, contact with the world, and increased power of self-control have blunted and destroyed their more delicate perceptions. The looking on children as more or less mechanical beings, unendowed with the nervous susceptibilities and finer emotions of man, does a very great deal of mischief.[2]

Nationality has also a great influence on disposition. You would not expect a Spaniard, an Italian, a German, a Russian, or even a French, English, Irish, or Scotch person to be similar in either appearance or disposition. The proud, self-restrained Spaniard ; the bright, vivacious Italian ; the calm, phlegmatic German ; the cold, reserved Russian ; the graceful, versatile French ; the honest, undaunted English ; the easily led, impulsive Irish ; the brave, clever Scotch, have each their different natures, which are inherited by their descendants. If, then, nations differ so materially, equally the children of those who have themselves married, or who have had in previous generations relatives married to, people of a different nationality to their own, differ, and the children or descendants will probably inherit the disposition, peculiarities, or characteristics of the people they are descended from.

That likeness to ancestors is inherited there can be no doubt. It is very wonderful sometimes to see the resemblance of children to old family portraits. I have a photograph of a little boy (eleven years old) which in face is *so exactly like* a

[1] *The Story of Creation*, Edward Clodd, p. 166.

[2] See *Huxley's Elementary Physiology* (p. 306) *for the Nervous System, and its Reflex Effect on Actions of the Body*, and *Recherches sur les Fonctions du Système Nerveux*, Paris, 1824.

miniature of the child's grandfather at the same age that everyone thinks the two likenesses are of the same child, only at different times. Yet the one was taken quite lately, and the other painted nearly seventy years ago. And why should not the mental characteristics correspond if the outward resemblance is so complete? To my mind, this child, as in face, equally in nature and mental capacity resembles his grandfather.

Galton writes: 'The family tie has a real as well as a traditional significance. The world is beginning to awaken to the fact that the life of the individual is in some real sense a prolongation of those of his ancestry. His vigour, his character, and his diseases are principally derived from theirs; sometimes his faculties are blends of ancestral qualities; but more frequently they are mosaics, patches of resemblance to one or other of them, showing now here and now there. The life-histories of our relatives are prophetic of our own futures; they are far more instructive to us than those of strangers, far more fitted to encourage and to forewarn us.

'If there be such a thing as a natural birthright, I can conceive of none superior to the right of the child to be informed, at first by proxy through his guardians, and afterwards personally, of the life-history, medical and other, of his ancestry. The child is thrust into existence without his having any voice at all in the matter, and the smallest amend that those who brought him here can make is to furnish him with all the guidance they can, including the complete life-histories of his near progenitors.'[1] [2]

Macaulay's 'A people which takes no pride in the noble achievements of remote ancestors will never achieve anything worthy to be remembered with pride by remote descendants'[3] is equally applicable to individual as to national existence. 'More majorum'[4] has its significance for modern as for past society. There is not the slightest doubt, if people would recall to mind peculiarities, talents, foibles, weaknesses, and failings of near and even remote relatives, they might in bringing up children,

[1] See also *The Story of Creation*, Edward Clodd, pp. 188, 223.
[2] *Inquiries into Human Faculty*, Francis Galton, pp. 43, 44.
[3] Macaulay's *History of England*, p. 239, vol. iv. 1885.
[4] *After the Manner of Our Ancestors*, p. 239, vol. iv. 1855.

to a certain extent, not only guide and direct a child, but could by training give a direct bias for good. Unfortunately we are always looking at the higher attributes of our families—the bravery, the talent, the cleverness—and we completely overlook the lesser, but equally the attributes, and which may equally be inherited, of individual existence—the cowardice, the falsehood, the meanness—and in overlooking these ignoble, but too natural, accompaniments of family character we miss the power of training our children aright. Every family has some good in its history, and we all have some miserable family failings. Look to the petty vices of human nature. The good qualities will develop, and the virtues will take care of themselves.

'There is not the least inherent improbability, as it seems to me,' writes Darwin,[1] 'in virtuous tendencies being more or less strongly inherited; for, not to mention the various dispositions and habits transmitted by many of our domestic animals to their offspring, I have heard of authentic cases in which a desire to steal and a tendency to lie appeared to run in families of the upper ranks; and, as stealing is a rare crime in the wealthy classes, we can hardly account by accidental coincidence for the tendency occurring in two or three members of the same family. If bad tendencies are transmitted, it is probable that good ones are likewise transmitted. Admitting for a moment that virtuous tendencies are inherited, it appears probable, at least in such cases as chastity, temperance, humanity to animals, &c., that they became first impressed on the mental organisation through habit, instruction, and example, continued during several generations in the same family.'

'In regard to the moral qualities,' continues Darwin,[2] 'some elimination of the worst dispositions is always in progress, even in the most civilised nations. Malefactors are executed, or imprisoned for long periods, so that they cannot freely transmit their bad qualities. Violent and quarrelsome men often come to a bloody end. The restless, who will not follow any steady occupation—and this relic of barbarism is

[1] *Descent of Man*, Darwin, 2nd edit., revised and augmented, 1888, vol. i. pp. 189, 190. To be found at the British Museum Library.

[2] *Ibid.*, pp. 210, 211.

a great check to civilisation[1]—emigrate to newly-settled countries, where they prove useful pioneers.' The subjoined from a leading article in the 'Times,' November 17, 1887, shows the indivisible connection between hereditary proclivities and outward acts of the bodily frame :—'What schoolmasters often mean by education will be more easily imparted to children who have themselves received physical training, or to children whose parents possess manipulative skill, than to others. Among the children of the higher classes, as a rule, a considerable capacity for manipulative skill comes as a birthright. The parents play musical instruments, they write, they draw, they follow a hundred pursuits or amusements which require the dexterous use of their fingers, and their children inherit the facilities thus acquired and readily follow the parental example. The excessive manual awkwardness of the children of unskilled labourers must be seen to be believed ; but it may be illustrated by saying that the industry of silk-throwing was driven out of one district in England because the children were not able to piece the silk without an amount of waste which was destructive of profit. They had hands and a grasp, but practically no fingers or delicacy of touch.'[2]

The 'British Medical Journal' (August 1888) writes :—'In the endeavour to lessen pauperism and crime, it is necessary to appreciate the fact that the physical conditions producing the tendency to failure should be recognised early in the educational career.[3] Much good might be done by early training of children with feeble brains and bodies. The children of those who have failed in maintaining a social position, inheriting a tendency to fail likewise, need a careful and prolonged training to eradicate impressions received by their inheritance, and to bring them into harmony with the duties and responsibilities of a self-reliant life. We maintain that children whose make of body or of brain is lower than the average, or whose parentage points to inherent weakness, are

[1] See also *Hereditary Genius*, 1869, p. 347.

[2] *The Times*, Thursday, November 17, 1887.

[3] See *Education*, by Herbert Spencer, pp. 15 to 32, for reasons in favour 'of an acquaintance with the principles of physiology in educating the young.'

a source of social danger; from among them come a large proportion of paupers and criminals. When such children are known, it is wise to take exceptional care to cultivate their intellectual and moral faculties, and by prolonged training or supervision to bring them under the influence of the ordinary rules and manners of society.'

It is an accepted fact, founded on science, that in a third generation hereditary peculiarities and diseases, such as insanity, scrofula,[1] consumption, and other maladies, are often again developed, and sometimes with greater intensity. Darwin writes :[2] 'Insanity is notoriously often inherited ;' and adds :[3] 'Deteriorated mental powers likewise run in the same families.'

> There is a history in all men's lives,
> Figuring the nature of the times deceased,
> The which observed, a man may prophesy,
> With a near aim, of the main chance of things
> As yet not come to life.[4]

Many hold that strange defects are often inherited from a previous generation. Dr. C. H. H. Spronck, in the *Archives Néerlandaises*, gives an account of a man who had on his left hand two thumbs and four normal fingers. It is not generally known that in man, as in all the mammalia, the typical number of digits is seven. Cases where the number of fingers exceeds five are not diseases, but, as Darwin contends, reversion to a primitive ancestral type.[5] [6] [7]

[1] See *General Remarks*, p. 61.

[2] *The Descent of Man*, Darwin, 2nd edit., revised and augmented, 1888, vol. i. p. 190.

[3] *Ibid.*, p. 41.

[4] Shakespeare.

[5] From the remarks made in the 2nd edition of *The Descent of Man*, p. 37, it would appear that Professor Darwin gave up this view later in life.

[6] See Dr. Burt Wilder on 'Supernumerary Digits,' *Massachusetts Medical Society*, vol. ii. No. 3, 1868, p. 9. For further most interesting facts with regard to the descent of natural or acquired peculiarities to the second and remoter generations, see Dr. Theodor Waitz's *Introduction to Anthropology*, edited in English by J. F. Collingwood, Esq., hon. secretary of the Anthropological Society; also M. Broca's (of Paris) work on *Hybridity*, translated into English and edited by Dr. Carter Blake, assistant-secretary of the Anthropological Society.

[7] 'Polydactylism in Man,' *Scientific News*, January 13, 1888.

Climate has also a great influence on life. Dr. Weber says :[1] 'By climate we mean the sum of those influences which act upon the life of organic beings through the air, soil, or water of a district.'

In hot countries people become more or less enervated and have not the sustained vigour and energy that those have who dwell in colder climes ; also in warm weather there is likely to be less strength. This should always be taken into consideration by those having the charge of young children, and they should not be over-fatigued either mentally or bodily in very hot weather. The system that those sometimes placed over children have of making their parents a terror to them is not only harmful and prejudicial in every way, but is also decidedly wrong, and with children who perhaps inherit a very sensitive temperament the effect is most disastrous. Strung up each day to a highly nervous pitch, yet trying not to show it outwardly, I have seen children's nervous system much injured.

If there is one thing sadder than another, it is when a parent is held up as an object of terror to a child. The 'I will tell your papa,' 'I will tell your mamma' principle is a most sad one, making out a father—a mother—those the poor child has cause to be afraid of. Children, on the contrary, should be encouraged to confide in and love both father and mother *without reserve*. Children do not need to be taught to love their father and mother. If their parents treat them rightly, the love will be there ; it only needs opportunity for development. Love cannot be learnt like a lesson, and with true and perfect love there is no room for dread of any kind. 'There is no fear in love, but perfect love casteth out fear ; because fear hath torment.'—1 John iv. 18.

Fear is always a painful emotion. The little faces should never cloud over at the approach of father or mother, and the little hearts should only beat quicker with pleasure and joy at the sound of the familiar voice of what should be to them 'dear father,' 'dear mother.' True love, however great the familiarity, will never be a cause of bringing into exist-

[1] Quoted in the *Lancet*, 1886.

ence other than the highest and noblest feelings of nature. The old saying, 'familiarity breeds contempt' is no doubt perfectly true, because sometimes on closer acquaintance one may discover much that is worthy of contempt; but love which is genuine, honest, and true, such as should exist between parent and child, must be founded on respect, and therefore there can never be any want of esteem. Children, when they get old enough to understand, and to form opinions for themselves, will not love what they despise.

No outward semblance of kindness, yet wanting in reality, will so operate on the feelings of children as to create a state of mind from which affection will spring. If what is necessary—genuine, unfeigned kindness—is absent, it is useless to expect children to show us love. We older ones must take the initiative and first show love to little children, and they will soon reciprocate our affection. The good seed of love never falls on sterile ground with children. Their warm little hearts, unless subjected to the chill of neglect, are always ready to respond. No service is so genuine, so unselfish, so sincere as that which love renders. The service rendered by fear is servile, slavish, and wanting in all the elements of truth, and is only calculated to bring out the worst qualities of human nature. 'Fear is the virtue of slaves, but the heart that loveth is willing.'[1]

Children should early be taught to look forward with pleasure to the return (after any lengthened absence) of parents, but the return must be really a pleasure, or children cannot be expected to find it so. Children are not naturally dissemblers and do not readily disguise their feelings. If they are pleased and happy, they soon show it. No sight is more touching or more beautiful than the sweet, gleeful, expectant faces of little children, 'waiting for father.'

> His very foot has music in't
> As he comes up the stairs.[2]

And how the little joyous faces light up when they see the

[1] Longfellow. [2] W. J. Nickle.

dear, familiar face, all the dearer for absence, their innocent sympathy often helping to lighten the sense of weariness which work in the world so much produces.

Ah, what would the world be to us
If the children were no more?
We should dread the desert behind us
Worse than the dark before.

What the leaves are to the forest,
With light and air for food,
Ere their sweet and tender juices
Have been hardened into wood--

That to the world are children;
Through them it feels the glow
Of a brighter and sunnier climate
Than reaches the trunks below.[1]

Nothing can have a more prejudicial effect on children than favouritism in a family. To show in any way that one child is dearer than another is to create feelings which should never exist. No matter under what circumstances, all the children of a family should be treated alike, and with equal affection. No one can imagine the cruel wound it gives a little child's tender heart to treat it with indifference. If a mother finds her own children a bore, can only bear their presence for a few moments each day, is it to be wondered at if children, so keen-sighted, soon find this out, and are themselves wanting in interest towards her?

To be cheerful is a great help to good health. To depress a child is to lower its tone of health. To some natures especially cheerfulness is health. All the surroundings of children should be bright. Nothing of a gloomy, depressing character should be allowed to form part of a child's life. Why should young natures be made sad and dejected where it is possible to avoid doing so? Nothing in nature is melancholy. The very birds rise in the morning with a note of joy, and unless maimed or injured ever sing a joyous song. Everything in nature speaks of peace, repose, and brightness. Why should human beings, endowed with reason, gifted with mind and intelligence, strike

[1] Anonymous

a different key, and cause gloom and cheerlessness to young natures who would otherwise be as nature formed them, bright and happy ?

The rooms occupied by children should be made bright, light, and pleasant. It is seldom thought of as much as it should be, how essential to the health of children plenty of light, especially sunlight, is. I believe one reason why poor people's children thrive in the face of most adverse surroundings is that they are nearly all day out of doors *in the full light of day* and in the air. Keeping children excluded from sunlight and putting them in dark, gloomy rooms is similar to caging a young bird and keeping it always in the shade : it will soon droop and lose all brightness, becoming dull and songless. I have seen children look pale and delicate although surrounded with every comfort, nay luxury, well fed, well looked after, and I believe the real cause was want of light—want of sunlight—and want of cheerfulness in the people and in the rooms they inhabited.

I am quite sure plenty of light and cheerfulness in the rooms occupied by young people is most essential for promoting good health. Dr. Strange writes :[1] 'In the case of children, constant access to plenty of light through the day, and to the direct rays of the sun for a part of it, is most essential to their health. Light assists in the elaboration of good plastic blood out of the food, and hardens the fibre after it has been formed. It also acts as a stimulus upon the organs of sight, and by this means brings about more activity in the various cerebral functions than would otherwise be the case. The rooms in which young people live in the daytime should be the lightest in the house, and no artificial barriers, as trees and walls, should exclude the sun's rays. Infants in arms are not exposed to the direct light of day nearly to the extent which nature points out as desirable. The young of the domestic animals are seldom found, when in health, to seek the shade.'

Dr. Routh also observes :[2] 'I believe it is imperative that a

[1] *Seven Sources of Health*, p. 67. [2] *Infant Feeding*, p. 481.

nursery should be *freely accessible to external light.* There is, to speak socially, always a cheerfulness in bright light which keeps up the spirits of the child, as the night, from an opposite effect, produces sleep. . . . The absence of light tends to retard growth if it does not in some cases absolutely stop it, and the pasty-white cachectic face is almost always a characteristic of it. For this reason a sombre, dark nursery is to be avoided.'

Of course one does not for one moment suppose that exposing children to the full rays of the broiling midday sun in summer without any protection, so that they feel sick and overcome with the heat and glare of the sun, is indicated. With the sun, as with other things, one can have 'too much of a good thing,' and all benefit may be done away with by want of judiciousness. I am a great believer in sunlight for health, especially with children. When I was a child I was used to the bright sun, clear blue sky, and general brightness and buoyancy of continental life. Soon after I came to England—a little thing of eight years—my schoolroom was on the ground-floor at the back of the house, and having a large wall in front of the window, which had dimmed glass half-way up, got no sunlight, and, although the house (in Portland Place, London) was a bright-looking one outside, yet inside it was dull, heavy, and dark, the back rooms being especially so.

I was taken out daily in a carriage; I was well fed, well cared for in every way, yet I lost flesh, and became thin, white, and delicate, my spirits being much depressed. The family doctor was consulted, who said he would like another opinion. Sir William Jenner was then consulted, who gave it as his opinion 'that I had not enough sunlight and brightness in the room I passed my daily life in; that the mental depression arose entirely from that cause, and that my bodily weakness came from my mind being so much depressed from my gloomy surroundings; that more *walking outdoor exercise* was necessary. Sir William Jenner spoke very strongly against children having the air by being taken out in a carriage only.

Dr. Ellis says :[1] 'After much reflection on this subject the conviction is deeply impressed upon me that during the whole period of childhood the absence of a full exposure to solar influence is one of the great evils of residence in towns. The want of light is not confined to the children of the poor and destitute, growing up in the gloom and wretchedness of their dark homes; children of the wealthier classes are often much neglected in this respect, are kept in darkened rooms, and are taken out for the air in close and covered vehicles.'

I was sent at once into the country. Shall I ever forget the delight of finding my room a sunny one, or all the pleasures of the cheerful, bright little country rectory? And I soon became rosy and strong, and recovered my spirits. Some remarks made in a treatise lately written 'by a writer of high scientific ability and originality'[2] ('The Prevention of Consumption : a New Theory of the Nature of the Tubercle-Bacillus.' By C. Candler. Melbourne, Victoria : Kegan Paul, Trench, & Co.) are worthy of note as bearing upon the effect of sunlight. There is much in the book of interest, but I fear, were I to begin quoting from it, I should incur the risk of being too diffuse. I will therefore, in preference, give an extract from a review of the book in one of the medical papers, and which expresses what is in it relative to the question of sunlight being necessary for health.

Dr. Candler[3] 'holds that the bacillus, the enemy to be fought against, is an "accidental parasite," originating quite outside the animal body under certain atmospheric conditions, inhabiting commonly the neglected nooks and corners of dwelling-houses, and tainting the air with its germs, which are inhaled in vast multitudes by the breath, especially in the still air of closed bedrooms at night. If the inhalation, frequently repeated during a long period, of this specific malaria be the true and sole cause of phthisis, why, the sooner everybody

[1] *Disease in Childhood*, p. 79. [2] *The Lancet.*

[3] *The Prevention of Consumption : A New Theory of the Nature of the Tubercle-Bacillus.* By C. Candler, Melbourne, Victoria (Kegan Paul, Trench, & Co.).—We earnestly recommend this treatise, by a writer of high scientific ability and originality.

knows it, the better ; for the choice and care of the bedroom, also of the ordinary living-room and workroom, is everybody's business, and is not the concern of the physician alone, or in the first instance. The cure also of phthisis, as well as the prevention, may in some instances be obtained, according to Dr. Candler, by simply removing the patient to a habitation, a room or set of rooms, in which the bacilli and their germs cannot exist ; and this condition he unhesitatingly asserts to be produced by a certain amount of chemical action of sunlight. Ventilation alone will not avail, in his opinion ; nor the drying of rooms by fires ; nor the most careful sweeping, dusting,[1] and scrubbing, where there are wooden floors, wall-papers, mantelpieces, cupboards and shelves, and heavy furniture : but large windows having a sunny aspect, regularly kept open to the full daylight for some hours before and after noon-day, with the removal of all shutters, blinds, and curtains in the daytime, will make a bedroom in England, in summer or winter, safer for those liable to consumption than many a noted foreign place of sojourn. And this will prevent the beginning of consumption.'

Dr. Chambers writes:[2] 'The action of sunlight in reddening the blood is familiar to even the poets. The etiolated plant of northern climes is quickly by it rendered crisp and hardy, and the same effect may be inferred to take place in the etiolated animal.'

Dr. Frankland, in a discussion on a lecture on micro-organisms in the air, observed of opening windows :[3] ' He took it that the beneficial effect secured by the opening of windows and ventilation was principally due to desiccation and not to oxygen at all. Most of these organisms not only multiplied and increased, but could only retain vitality in the presence of a suitable quantity of moisture ; and when the open window allowed fresh air to enter, the various moist surfaces which always existed in rooms became desiccated, and the organisms

[1] 'Dust is the harbourer and harbinger of disease.' Quain's *Dictionary of Medicine*, vol. ii. p. 1044.

[2] Dr. Chambers, F.R.C.P. Lond., *Manual of Diet in Health and Disease*, p. 297.

[3] *Journal of the Society of Arts*, April 1, 1887.

which existed in the fully-developed state, such as bacilli and micrococci, would, in all probability, perish rapidly. It was only necessary to bear in mind the well-known researches of Koch on the power which the comma bacilli had of resisting desiccation, for he found that if they were dried and exposed to the air for half-an-hour they were destroyed. The same had been shown in the case of a great many organisms.'

A light wall-paper should always be chosen for nurseries and schoolrooms. Many say that walls stained so that they may be washed over are best for schoolrooms as well as nurseries. The new papers of nursery rhymes, Æsop's fables, &c., are nice, being amusing as well as cheerful to look at. Great attention should be paid, if nurseries or schoolrooms are papered, to see that the papers contain no arsenic. 'Cheap green and yellow papers, as shown by Dr. Leonard Sedgwick, are generally arsenical, and the particles which come from them, and the fine unseen dustings from them, are poisonous. The efflorescence also from walls stained with certain kinds of greens and yellows is dangerous to health, especially when first stained.'[1] Few consider how deadly are the effects of an arsenical wall-paper. In fact, many are not aware that arsenic is likely to be in wall-papers, or, if so, to be injurious.

The following, which I took from the 'Society of Arts Journal,' January 23, 1880, is interesting as evidencing the effects of arsenical paper on the walls of a room:—'Dr. Lauder Brunton, F.R.S., said he would first deal with the question whether it had been proved that the community suffered by the use of arsenical papers. As Mr. Carr had said, it was very hard for one who had not paid attention to the subject to believe that such minute quantities as could be given off were capable of producing any harm, and perhaps it was even harder for a medical man than for one of the general public, because he was in the habit of prescribing arsenic without producing any ill effects, but, on the contrary, doing great good to his patients, and this in much larger quantities than could be given off from a wall-paper. In fact, when he

[1] *British Medical Journal*, 1886.

read a circular about two years ago on this subject, he threw it at once in the waste-paper basket, because he did not think there could be anything in it. A few months afterwards, however, he had to change his opinion entirely. He put up a paper in his sitting-room which he had the assurance of the manufacturer was free from arsenic, as he thought it as well to be safe. He was constantly in the room, and shortly began to suffer from symptoms so markedly those of arsenical poisoning that he went to the man who sold him the paper, and asked if there could be any in it. He said no, every paper they sold was free from arsenic ; but, as his symptoms continued, he had the paper analysed, and found it was loaded with arsenic. A great number of medical men were blinded, like himself, by the fact that they gave considerable quantities of arsenic by the mouth without doing any harm. An instance of this was that of a medical man in the north of London, whose wife suffered from constant intestinal irritation ; but he never suspected arsenic until the paper of the room was removed, when the symptoms at once ceased. He then suspected there was arsenic in the paper, which he believed was afterwards confirmed by an analysis. So much arsenic was used that it was quite evident that all persons were not equally susceptible to its effects ; and those who did suffer from it in this way were not injuriously affected by it when taken medicinally. He himself was an example of this. Arsenic was a favourite remedy in ague and intermittent fever where quinine did not seem to suit, and, having once taken ague in Italy, he still occasionally suffered from malarious symptoms, and had been benefited by arsenic in medicinal doses, and had, no doubt, swallowed much more than was given off from the paper, though the latter produced ill effects in less than forty-eight hours. This greatly increased the difficulty of collecting evidence as to the number of persons suffering from arsenical poisoning. Still, quite sufficient evidence had been obtained to show that disease was caused in numbers of cases by wall papers, and there could be little doubt that there was necessity for legislation. In his own case, he had put up the paper at a considerable expense, he suffered a good deal, and lost a

great deal of time on account of the great lassitude which followed, which seemed to be one of the most marked symptoms. When he went to the man who supplied him the paper, and told him the paper contained arsenic, he said he would communicate with the manufacturer; but all the satisfaction he got was a reply that arsenic was much more widely distributed in the mineral kingdom than medical men had any idea of. All the public were in the same condition.'[1]

It is clearly the first duty of parents to be perfectly sure, if their children are suffering from any symptoms, the cause of which is not quite clearly seen, to discover if the wall-papers are in any way connected with the symptoms. I myself believe there is much unknown illness caused by wall-papers, paint, &c. In these days of mania for going into cheaply got-up houses, from what I hear and see, it appears to me a little warning as to wall-papers, &c., will not be amiss.

Mr. Carr says :—'There is every reason to believe that a serious amount of deterioration of the constitution is going on all around, though each individual case might not appear severe; this remark will apply more especially to children.'

Mr. Jabez Hogg, M.R.C.S., remarks: 'The number of cases which were now authenticated were truly marvellous, and they were vouched for by men of position, whose powers of observation were undeniable.'[2][3]

It has been thought that all papers made for nursery use are always free from arsenic. The following from 'Our Domestic Poisons in relation to Trade and Art,' by Henry Carr, M.Inst.C.E.,[4] will show that this is not so: 'The "nursery paper" now exhibited, with pictures of boys playing cricket, was the cause of the illness of four young children, relatives of the writer. Repeated illness at home, and recovery on removal from home, occurred during a length of time. One of the children died, exhibiting nearly all the symptoms above described as the results of exposure to arsenical fabrics. This occurred before the parents became

[1] *Journal of the Society of Arts*, January 23, 1880.
[2] *Ibid.*, January 28, 1880.
[3] Ridgway, Piccadilly, publishers.
[4] *Ibid.*

aware of the injurious effects arising from this cause. After communication with the writer, the paper was taken down and the surviving children recovered immediately.'

Mr. Carr writes:[1] 'The principal materials by which poisonous or injurious matters are introduced into domestic use are arsenical pigments in wall-papers.

'Amongst poisonous substances, the great offender, no doubt, is arsenic in its various combinations; for, though aniline dyes free from arsenic produce most serious eruptive disorders when imperfectly fixed or prepared, they do not affect the general health in the same insidious manner as arsenic. Aniline dyes do not produce injurious effects unless brought into contact with a susceptible skin, whereas the arsenical poison is diffused through the air either as dust or gas, so that injury may arise without actual contact with the arsenical fabric.

'Those to whom this subject is new have at first a difficulty in realising the fact that such small quantities of arsenic, combined in the colouring matter of a wall-paper or other fabric, can possibly have any injurious effect, since nothing but a chemical test will detect its presence. The evidence, however, which ought to satisfy any candid observer, will be found simple in the extreme, such as could leave no doubt on the mind of any unprejudiced person as to the verdict to be given.

'The symptoms of chronic poisoning by arsenic begin with what appears to be an ordinary cold and cough; dryness and irritation of the throat and frequent headache; extreme restlessness; great debility, accompanied by cold, clammy sweats, cramps of the legs, griping and dysentery, convulsive twitchings, and a group of nervous symptoms, varying in each case. Inflammation or irritation and smarting of the eyes and nostrils is often the most marked symptom, lasting for days, weeks, or months, sometimes accompanied by irritation of the skin or of the whole mucous tract; sore throat, running on to diphtheritic throat, ulceration and soreness of the mouth and

[1] From 'Our Domestic Poisons,' *Journal of the Society of Arts*, January 23 1880

tongue; irritative fever, which, if persistent, exhausts the patient, and death takes place by collapse. One universal feature should be mentioned, namely the inefficacy of all usual remedies, the presence of arsenic not being suspected.

'The above-mentioned symptoms are by no means absolute indications of arsenical poisoning; they may arise from other causes, but if the usual remedies fail to give relief there is reason for suspecting some hidden source of mischief. The proof of arsenical poisoning then depends on the patient's recovery on removal, relapse on return to the arsenical rooms, and final cure on discovery and removal of the arsenical fabric. There is no abstruse scientific investigation needed to obtain such evidence; the facts are plain, within the comprehension of the most ordinary common sense. Illness unaccounted for —failure of ordinary remedies—cure on removal—relapse on return—final cure on discovery and removal of the arsenical fabric.'

I am told great thirst is another sign of arsenic being breathed.

Mr. Carr adds: 'Medical men, whose attention has not been drawn to poisoning by arsenical surroundings, raise the objection that they are in the habit of giving more arsenic as a medicine than can possibly be imbibed from arsenical fabrics. True, they do put more arsenic into the stomach than can be imbibed from a wall paper, and they do it perhaps with beneficial effect in some cases; the legitimate conclusion to be drawn is not that arsenical surroundings are uninjurious, but that arsenic taken into the stomach does not act in the same manner as when breathed and received through the lungs.'

Mr. Carr relates the following from Robert Brudenell Carter, F.R.C.S.Eng., Ophthalmic Surgeon to St. George's Hospital[1]:—'I have reason to believe that two children of mine died, many years ago, from an arsenical wall-paper in the nursery; but the presence of arsenic was not discovered until after the deaths had occurred.'

[1] See *Journal of the Society of Arts*, January 23, 1880, for this and the other extracts.

I find there is a general impression that arsenic in wall-papers wears off after a time. Professor Bamberg, of Stockholm, observes that 'the injurious effects of arsenical pigments, as applied to the walls of apartments, have been observed by physicians in almost every civilised country.' He made a very important and successful experiment himself, detecting arsenic in a gaseous form in the atmosphere of a room that had been papered for twenty-five or thirty years.[1]

Professor G. Aitchison writes : 'Certain colours and certain tones are beneficial or prejudicial to health ; very dark rooms are prejudicial, and red or yellow will also have a prejudicial effect on our health if we have to remain in rooms of either colour all day and every day. A manufacturer had a women's workshop painted yellow, and found much more than the usual sickness amongst his hands ; his doctor recommended whitewash, and the normal health was restored. Growers of hyacinths have noticed a marked effect on their blowing when they are put in glasses of certain colours.'[2]

Mr. Carr writes further : 'This subject, "Our Domestic Poisons," arsenic in particular, has been considered of such importance that the Medical Society of London has thought well to appoint a special committee to investigate the subject, with a view to bringing the matter under the consideration of the Local Government Board. A paper has already been read before that society, on the medical view of the question, by Mr. Jabez Hogg, M.R.C.S.'

Size is used by paper-stainers, also by builders, in the preparation of walls for papering. One correspondent states that he has met with arsenic as an antiseptic in size used for these purposes.

The following cases are furnished by Mr. Edmund Spitta, L.R.C.P., M.R.C.S. :—'Case 1 was that of a little girl who had bronchitis. Convalescence occurred at the usual time, but was attended with extraordinary relapses of a severe nature. These relapses always came on after any circumstances which raised dust in the room. The wall-paper and the dust were

[1] *Our Domestic Poisons*, Henry Carr, M.Inst.C.E.
[2] *Decoration*, by Professor G. Aitchison A.R.A.

examined by Dr. Stenhouse, and were all found to contain arsenic. The child rapidly recovered after removal to another room.

'Case 2 was that of a gentleman, who also had bronchitis, and who, like the child, always became much worse when his children ran about the room, or when, from other causes, dust was disturbed. Paper found to be loaded with arsenic. Recovered slowly after removal to another room.'

Again, 'there was the case of Professor Reynolds, of Owens College, Manchester, who, having had his study freshly papered, suffered from these remarkable symptoms, which always subsided when he left the room for a few hours, and disappeared with a day's holiday in the country. This excited his attention. He discovered that the paper of his study was highly arsenical, and on removing it he was enabled to carry on his work with comfort, whereas, before, he suffered so much that he feared he should have to abandon it altogether.'

It is the same with lead and other poisons; some are easily affected, and others are not. 'When the late Louis Philippe was at Claremont, there was a case of lead-poisoning through the water-supply, but, though the king and princes all suffered, the total number, out of a household of about thirty-four, who were affected, was only thirteen or fourteen.'

Mr. Carr remarks of lead: 'Lead again produced very serious effects, and these were sometimes observed after sleeping one night in a room newly painted. Medical men were unable to account in any satisfactory way for its fearful effects in producing paralysis. This led to the question of how the poisoning was produced; which was a most difficult question to answer. There was, however, the unmistakable clinical fact that the poisoning did take place with many individuals, some being much more susceptible than others. Whether it was the effect of some gaseous emanation, or of dust, was not of so much consequence as the fact of its occurrence, and that medical men had hitherto seen these cases without suspecting the real cause.'

Very often, I am also told, cheap toys have a poisonous

amount of arsenic in them. A gentleman,[1] speaking of the amount of arsenic used in the manufacture of toys as incredibly large, said 'he was recently told by a manufacturer of arsenic in Devonshire that he had taken an order for four tons, merely for the manufacture of dolls' eyes. It was astonishing how much was used, and in how many different ways.'

In 'the annual report of the public analyst for the City of London, Dr. William Sedgwick Saunders, for the year 1888, . . . the analyst expresses a hope that before long the provisions of the existing Acts will be extended so as to afford facilities for examining suspected articles other than food or drugs, these only being included in the Acts now in force. There are, he says, many articles which in the interest of the public health require investigation by the analyst, but which cannot be scheduled under the heading "Food and drugs." Among these are textile fabrics, pigments, children's toys, and other things in common use which frequently contain poisonous ingredients, chiefly of mineral or metallic composition. This Dr. Saunders illustrates by the following case which was brought under his notice. The occupants of two bedrooms constantly complained of headache, nausea, and lassitude in the morning, with other indications pointing to arsenical poisoning. Attention was drawn by the physician consulted to the wall-paper, which it was thought might contain arsenic, and upon a sample being examined an exceptionally large quantity of arsenic was actually found. After the paper had been entirely removed, and with appropriate medical treatment, all the above symptoms subsided, and the patients recovered.'[2]

Sunday is often a miserable day to children—gloomy, dull, depressing. Deprived of their daily occupations, and, because it is Sunday, allowed to amuse themselves in no way, they are thus rendered wretched. Children, if active and of a cheerful disposition, often find Sunday the longest day of all the seven. Many grown people in recalling the days of their childhood can remember a long succession of dull, desponding

[1] Mr. W. Botly.

[2] *The Times*, Thursday, February 28, 1889.

Sundays, their monotony unrelieved by a single variation. But why should that one day in the week (which of all others should be the happiest) be the gloomiest and most depressing? There are many ways of making Sunday a bright day, a day of repose, of rest to both body and mind, without making it a cheerless day.

When it is taken into consideration that children are subject to exactly the same influences as grown people, and that they are equally touched by the external objects surrounding them, it will be seen that to take away on Sunday all the daily occupations and amusements of a child, its toys, which amuse and occupy, and the things of various interest which help to pass the time, and to substitute nothing of an interesting or agreeable nature, is to make the day an irksome and trying one to little people. That it is practicable to make Sunday a bright day, and that it would be equally right, never seems to occur to some people. A general air of depression, gloom, and a rigid observance of 'nothing of a cheerful nature on a Sunday,' are characteristic, with most, of the seventh day. That a child might have instructive, yet agreeable, toys and books never seems to be thought of.

That the Giver of all good intended the seventh day to be a day of gloomy dejection to the human race is not compatible with reason. Yet to many well-meaning persons Sunday is simply a day of weary, cheerless idleness, and Monday is welcomed as a relief, cheerful activity returning with the day on which they go back to the bustle of general life.

Dickens writes: 'Let those who have six days in the week for all the world's pleasures appropriate the seventh to fasting and gloom, either for their own sins or those of other people, if they like to bewail them; but let those who employ their six days in a worthier manner devote their seventh to a different purpose.'[1]

The Dean of Carlisle also says:[2] 'I firmly believe that the subsequent irreligion of so many who have been through our schools is to be traced to the injudicious amount and quality

[1] *Sunday under Three Heads*, Charles Dickens.
[2] *Report of Royal Commissioners*, 1868, vol. v. p. 124.

of the whole Sabbath Day instruction. Sunday, instead of being a day of rest and relaxation, is the heaviest and dullest day of the seven to the poor children.'

Dr. Chevasse writes of Sunday :[1] 'I have often been asked what is the best amusement of a Sunday evening for a child. There is an admirable letter on the subject in 'Public Opinion' (October 25, 1873), by "A Country Vicar," which answers the question admirably, and is well worth quoting. He says : "There is one employment for Sunday evenings which has not been suggested by the numerous replies to the 'Maiden Aunt,' and that is drawing. This we have always allowed in our family, the little ones, and even those of 'larger growth,' sitting round the table delighting themselves with the pencil, and, when I say drawing, of course I mean subjects chiefly of a sacred character. The most advanced copy from illustrations of Scripture and other sacred pictorial works. 'The Bible Picture-book,' published by the Christian Knowledge Society, and 'Pictorial Sunday Readings,' by the Rev. William Owen (author of the Life of Havelock), have several very good coloured prints for this purpose—the latter has many scenes from Scripture history ; also pictures of animals mentioned in the Bible, which the little ones are fond of copying. One cannot always read the whole evening ; the fingers, to use a vulgar phrase, 'itch' for employment. It may sound very dreadful, but I have known ladies of my acquaintance confess they could not help missing their usual needlework on Sundays ; then, if the hands must be doing something, why not employ them as above, where there is a turn for it, in drawing of a sacred character ; and the piano, too, is open, and the voice, with 'psalms and hymns and spiritual songs,' and parts of oratorios, &c., making melody in our hearts to the Lord, and let the children join in and do their best. I feel this the more strongly, and the necessity of employment of some kind for children and others on Sunday evenings, as I suffered so myself in childhood, when (forty years ago) more puritanical strictness was enforced, and have most dreary

[1] *Counsel to a Mother*, pp. 129–30.

recollections of the whole family sitting reading round a table, none daring to speak, or hardly to move.

'"I venture, then, to throw out drawing as a useful accessory, where the talent exists, and most children can amuse themselves with a pencil and a scrap of paper. Let the little ones draw what they like, and the elder ones copy. I am myself glad to vary the evening by superintending, and putting in a stroke with a pencil myself sometimes. This helps to pass the evening, though even with this the elder ones often retire to bed on Sunday nights sooner than usual, and then we let them go. But all this is a fault which will 'right itself' as time goes on; but I repeat, with others, do not make 'young hypocrites' of your children. Those of clergymen (aye, and even of bishops) see so much of services, &c. (and 'behind the scenes'), and they are not always too seriously inclined, or, if checked too much now, will break loose in after-life."

'The reason, then, why a Sunday evening is often so wretched is, a child has nothing to do; he is told, because it is Sunday, he must sit still and be good! If he sit still it is utterly impossible that he can either be good or be happy. Action, if a child be well and awake, is a very necessity of his existence, and woe betide any wiseacre, be it on a Sunday or be it on a week-day, that curbs or restrains such action unnecessarily.

'A child who is debarred from all innocent amusements on a Sunday becomes, as he grows up to manhood, either a gloomy ascetic or takes a disgust to sacred subjects, and he becomes devoid of all religion whatever. Religion is intended, by our Heavenly Father, to make people good and happy: a gloomy Sunday is not, by any means, the best school to make a child either good or happy!

'A child, then, must—be it Sunday or be it week-day—be agreeably employed, otherwise he will be most miserable; and, if most miserable, most naughty! Such a child is deeply to be pitied!'

I have myself a very keen recollection of the Sundays of my childhood: the dreary morning service in the church, now called

'Low Church'; the hymns twanged out by a so-called choir, consisting of a few men and girls, who sang in the gallery, at the end of the church, with laudable zeal, but with a disregard to correct pronunciation, painful to an educated ear; and the old clerk, too, who led our devotions, prefacing all the hymns with 'Now leet hus sing to the pra-aise and glo-ory o' Gud.' But English people are a long-suffering race, given to what they consider orthodoxy, and content to put up with many strange things, so long as they are usual.

To try and alter (no matter how horrid) that which is honoured by custom in England, and urge a different, it may be better, state of things, is to provoke the French 'Ce n'est pas l'habitude,'[1] and on that account is not to be thought of. But, because a thing is not the custom, is it, therefore, to be put aside only on that account? There must, with most things, have been a time when it was not the custom; but, became so, it may be by virtue of necessity.

The Sunday afternoon hours, beguiled on a wet day by the 'Pilgrim's Progress,' Taylor's 'Holy Living and Dying,' Baxter's 'Saints' Rest,' varied by Fox's 'Martyrs,' which latter, I remember, I thought lively reading compared to the former highly esteemed works. And then those woeful evenings, when some one read aloud *a good book*, and we all sat round with folded hands, listening. I recollect my feet always became afflicted with what is popularly called 'pins and needles,' which necessitated the moving of those unhappy members, which generally brought forth, 'Sophia, do not shuffle your feet. If you cannot attend you had better go to bed.' If it had not been for the solace of our own thoughts, what relief should we have had from the too fearful prospect occasionally placed before our mental view in our Sunday literature?

There seems, from a very early date, to have been a desire (on the part of those professing strict religious views) to keep the Sabbath with rigid and gloomy severity. We are told Christ caused great indignation amongst the strict Jews in

[1] 'It is not the custom.'

not regarding the more 'exact observance' of the Sabbath, which their religious views inculcated. 'Thou shalt do no manner of work' was so literally interpreted by the Jews that they complained of the performance of good deeds even on the Sabbath. 'There are six days in which men ought to work; in them, therefore, come and be healed, and not on the Sabbath day.'[1] Anything which involved the slightest breaking of the Mosaic law, which they considered should be literally as well as rigidly kept in the smallest details of life, they thought sinful.

Christ, however, when the Pharisees remarked on His healing on the Sabbath as breaking the law, called their attention to the fact that they themselves were unable to keep their law *strictly*, for they could not neglect their animals on the Sabbath. 'Doth not each one of you on the Sabbath loose his ox or his ass from the stall and lead him away to watering?'[2] After citing instances, in which the necessity of breaking through the strictness of the law as to the observance of the Sabbath had arisen, Christ remarked, 'The Sabbath was made for man, not man for the Sabbath.'[3] The religion of Christ urges a spiritual as well as temporal observance of the day of rest, and inculcates the more elevated nature of the Christian faith. 'Wherefore it is lawful to do well on the Sabbath.'[4]

I don't know whether it is a sign of the times—a growing disbelief in the Christian religion as it is at present expounded—which is the moving principle in rendering parents indifferent to the old-fashioned rule of children learning the Collect, Epistle, and Gospel on Sunday, but certainly the practice is on the decrease; it is, however, a pity, as by learning these young people received the impression of many good principles and elevated thoughts, and, *minus* dogma, imbibe much pure and life-directing teaching. I think the best plan is to learn the Collect and Gospel, and get a thorough general conception of the Epistle, which can be put in words.

The influence of dress on children is a subject seldom

[1] St. Luke xiii. 14.
[2] St. Luke xiii. 15.
[3] St. Mark ii. 27.
[4] St. Matt. xii. 12.

thought of. That dress does exercise a certain amount of influence on children is an undoubted fact. To keep a child perfectly clean, and nicely and tidily dressed, and to make a child take an interest in keeping itself nice, is of great benefit. If older people feel the power which dress exercises—that is, if they feel when they are properly and well habited—surely young children, so keenly alive to every impression, will feel the power of that which older people are not insensible to. Children are very sensitive. Nothing touches a child so nearly as the feeling of not being like the rest of the world. A child's world is comprised in the little circle surrounding it. Its happiness is formed by the associations and objects around it. Even in apparently so small a matter as dress, children are influenced for good or ill. Children like to feel well and suitably clad, and where their clothing is neglected it tends to lower the tone of their mind. 'Clothes gave us individuality, distinctions, social polity.' [1]

Children should early be taught self-help, self-control, and self-government ; [2] also the power they have, and will have, as they get on in life, of making others happy or unhappy, should be impressed on young people. Even a little child cannot be cross and ill-tempered, or deceitful and untruthful, without affecting others. Everyone influences for good or ill some one else, as it is written.[3] 'Even a little child is known by his doings, whether his work be pure and whether it be right.' [4] 'An uncertain temper.' What an excuse this is made for all sorts of petty meanness! Children cannot be too early taught to cultivate evenness and amiability of temper for every-day life, and not occasional agreeableness only.

As George Eliott writes : [5] 'If a man frequently passes unjust judgments, takes up false attitudes, intermits his acts of kindness with rude behaviour or cruel words, and falls into

[1] Carlyle, *Sartor Resartus*, p. 35.

[2] 'Remember that the aim of your discipline should be to produce a *self-governing* being ; not to produce a being to be *governed by others*.' *Education : Intellectual, Moral, and Physical*, by Herbert Spencer, p. 140.

[3] Prov. xx. 11. [4] See 'General Remarks,' p. 44.

[5] George Eliot, *Theophrastus Such*, p. 105.

the consequent vulgar error of supposing that he can make amends by laboured agreeableness, I cannot consider such causes any the less ugly because they are ascribed to "temper." There may be good feeling, good deeds—for a human nature may pack endless varieties and blessed inconsistencies in its windings—but it is essential to what is worthy to be called high character that it may be safely calculated on, and that its qualities shall have taken the form of principles or laws habitually if not perfectly obeyed.' Edward Clodd writes :[1] 'Self-conquest lies in obedience, obedience lies in knowledge ; and if to know that it rests with man to make or mar the lives of others be not sufficing stimulus to learning the true, that we may do the right, no other motive can avail. Whatever power the threats of punishment and the promises of reward in an after-life may have had in lawless and superstitious ages, they have now but the smallest effect on conduct ; their remoteness exhausts their power, and, moreover, the belief in them is slowly decaying. For the conduct of life brief maxims are enough, all the law and commandments are in the golden rule ; all ethics in the teaching that if man be true to himself he cannot be false to his fellows.'[2]

The power of example is very great, and one good person even will, if only indirectly, benefit and influence others.[3] The power of a good life is incalculable. The little people cannot be too soon taught this, and that faults grow, and get with time more permanently fixed, more difficult to eradicate ; and, as the best garden, with want of care and looking to, will get overgrown with weeds, disagreeable to the eye, indicative of neglect, and of what might be better, so the best nature, if left to itself and not cultivated, will develop if only little faults ; and if these little faults are not early rooted up they will soon overgrow the sweet flowers and good roots of life to their ultimate destruction.[4]

'There was once an old monk walking through a forest

[1] *The Story of Creation*, p. 224.
[2] See Shakespeare, *Hamlet*, act 1, sc. 3.
[3] See 'Education,' p. 613.
[4] See 'Cultivation of Human Nature' in Mr. Cotter Morison's *Service of Man*.

with a scholar by his side. The old man suddenly stopped and pointed to four plants that were close at hand. The first was just beginning to peep above the ground, the second had rooted itself pretty well into the earth, the third was a small shrub, while the fourth and last was a full-sized tree.

'Then the monk said to his young companion :

'"Pull up the first."

'The boy easily pulled it up with his fingers.

'"Now pull up the second."

'The youth obeyed, but not so easily.

'"And the third."

'The boy had to put forth all his strength and use both arms before he succeeded in uprooting it.

'"And now," said the master, "try your hand upon the fourth."

'But lo! the trunk of the tall tree, grasped in the arms of the youth, scarcely shook its leaves, and the little fellow found it impossible to tear its roots from the earth.

'Then the wise old monk explained to his scholar the meaning of the four trials.

'"This, my son, is just what happens with our passions. When they are very young and weak one may, by a little watchfulness over self and the help of a little self-denial, easily tear them up ; but, if we let them cast their roots deep down into our souls, then no human power can uproot them—the Almighty hand of the Creator alone can pluck them out. For this reason, my child, watch well your first impulses."'[1]

The mind to a *great extent* rules life, and life is often just what we make it by our thoughts and actions. It is much in our own hands to make our career good and prosperous, or the reverse. 'Our bodies are gardens ; to the which our wills are gardeners ; so that if we will plant nettles, or sow lettuce ; set hyssop and wood up thyme ; supply it with one gender of herbs, or distract it with many ; either to have it sterile with idleness, or manured with industry ; why, the power and incor-

[1] *Wit and Wisdom.*

rigible authority of this lies in our wills.'[1] 'Ill habits gather by unseen degrees, as brooks make rivers, rivers run to seas.'[2]

Continued sighing with children should be checked. Some young girls get into a habit of sighing, not because they are at all sorrowful, or have any cause for melancholy, but they have acquired the habit of sighing. It is not only distressing, annoying, to hear anyone continually sighing, but it is also injurious to the lungs. Shakespeare's 'sighing like furnace' aptly describes some young girls. Another habit is constantly rubbing the hands, as if washing them. 'Seemed washings his hands with invisible soap in imperceptible water.'[3] It should be impressed on children (when old enough to understand) to avoid giving unnecessary pain to others. I say to others, for it is not often that human nature will cause itself unneeded pain.

And now a few words on a subject seldom spoken of, seldom thought of: the correction of children. It is a subject very little taken into consideration, yet all children need correction at some time or other, and it is not possible to bring up children well without suitable admonition and correction. It is curious to observe how in the Bible the proper correction of children is not only mentioned, but is even insisted upon as one of the duties of parents towards their children. 'Foolishness is bound in the heart of a child; but the rod of correction shall drive it far from him.'[4] 'He that spareth his rod hateth his son; but he that loveth him chasteneth him betimes.'[5]

'Withhold not correction from the child, for if thou beatest him with the rod he shall not die. Thou shalt beat him with the rod, and shalt deliver his soul from hell.'[6]

The obedience of children to their parents is equally insisted on.

'Children, obey your parents in the Lord, for this is right.'[7] But it adds, 'Ye fathers, provoke not your children

[1] Shakespeare, *Othello*, act i. sc. 3.
[2] Ovid, *Metamorphoses*, book xv. line 155.
[3] Miss Kilmansegg Hood. [4] Prov. xxii. 15.
[5] Prov. xiii. 24. [6] Prov. xxiii. 13, 14. [7] Ephesians, vi. 1.

to wrath, but bring them up in the nurture and admonition of the Lord.' Again, 'Children, obey your parents in all things, for this is well pleasing unto the Lord.[1] But it equally adds, 'Fathers, provoke not your children *to anger*, lest they be discouraged,' clearly insisting on the duty of parents towards their children not to do anything which is likely to cause them to have a bitter feeling.

Many are always insisting on the duty their children owe them in the matter of obedience; but they don't always *equally* remember their side—not to 'provoke' their children. Correction should never be done in anger. The habit of giving a child a slap and a shake for a fault is not only injudicious, but is seldom attended with a good result. Constant correction is very prejudicial to children, both mentally and bodily. The cowed, furtive, yet preternaturally sharp look that constantly corrected children get is always painful to see. In many instances constant punishing produces deceit, slyness, and the habit of concealment. What inducement is there for a child to confess to a fault if it is whipped the more in consequence? I think everyone feels that there should be as little punishment as possible. There are cases, however, in which it is absolutely necessary, and where proper correction has been neglected it has sometimes been the cause of serious trouble in after-life. Some children are more docile than others, and hardly need even reproof, but there are others who are all the better for proper correction. 'Spare the rod and spoil the child.'

Boxing children's ears, and striking the hands hard with a cane, are most unwise punishments, and are sometimes attended with unlooked-for and even serious consequences. The ears especially, being a delicate part of the body, should not be struck. The following inquest—not an isolated case either—will show the necessity of checking the practice of boxing the ears of children.

'On Saturday the Coroner for Central Middlesex, Dr. George Danford Thomas, held an inquiry at the Crowndale Hall, Crowndale Road, Camden Town, into the circumstances

[1] Colossians, iii. 20, 21.

attending the death of Henry Gore, aged eleven years, son of a painter, residing at 114, Whitfield Street, Tottenham Court Road. Rachel Gore, the mother of the child, said that he was a delicate boy and had not been well for some months, having a discharge from one of his ears and one of his eyes, from which he was blind for some time. On Thursday the boy was taken with vomiting and frothed at the mouth, upon which she sent for a medical man, but before he arrived her son died. The deceased used to attend the Warrington Road, Notting Hill, school, when they lived at Notting Hill, and there, because he could not learn so fast as other boys, the teacher used to box his ears. Witness then went to the school and saw the schoolmaster, who told her that he would see that it was not repeated. Dr. Marsh, of 56, Fitzroy Street, Fitzroy Square, stated that it was probable that the disease from which he suffered had been caused by the boxing of the ears. A juror said he thought that the attention of the public ought to be called to the dangerous practice of boxing children's ears, for this was not the first case of the kind that had come under his notice. The Coroner said that the practice of boxing children's ears was certainly dangerous. The jury, after some consideration, returned the following special verdict: — "That the deceased died from the mortal effects of tuberculosis on the brain and abscesses of the eye and ear, and that the said death arose from natural causes. But, having heard in evidence that the teacher was in the habit of striking the deceased on the ears at school, they would strongly condemn such a system of corporal punishment, with a view of preventing the same in other cases, and they would point out that in the present case the dulness of the deceased at his school work, for which he was punished, was due to physical causes over which the deceased had no control."'[1]

A long discussion has recently taken place (January 1889) on the subject of the punishment of children. Dr. Hawksley writes:[2] 'I have seen nothing myself of girl-training, but as a

[1] *The Times*, Monday, February 23, 1885.

[2] Letter from Thos. Hawksley, M.D. Lond., in *The Times*, Monday, January 21, 1889.

physician I have no hesitation in saying that in principle the treatment of error and evil in both should be the same. As to the part of the body exposed for punishment, there can be nothing objectionable in uncovering before women and their own sex the back of a child above the waist; the shoulder-blades are good and safe bulwarks for deeper and more vital parts; the clothes make a good framework over the shoulders and neck to prevent the ends of the birch stinging the skin beyond the space required.

'I perfectly agree with Lord Meath in denouncing the practice of foregoing the punishment of girls, as I am sure it is equally needed with them as with boys.'

An article much in use in former years for the correction of children was an old slipper—generally 'dear Mamma's bed-room slipper.' I remember, many years ago, a dear little girl, on seeing her mother's old slippers, saying, with a certain amount of glee, 'Whippy, whippy, when I'm naughty—*very* naughty.' The little one seemed to have not the slightest dread, but rather regarded the old slippers with affection, not unmixed with veneration, as being emblematic of merited correction.

A punishment having a good effect is to put children to bed for a little time when naughty. Putting children alone in a dark room away, to terrify them, is unpardonable. To put them, when naughty, in their own bed alone, but within the ordinary sounds of life, will punish, but will not harm; but the former is, by the very sense of isolation and loneliness, alarming in the extreme to a young and sensitive nature, and if constantly done will injure, not only mentally, but bodily. There are not wanting instances in which death from convulsions has ensued through placing very young children in rooms alone as a punishment. 'That solitude which is associated with fear and sorrow breaks up the strength of both mind and body.'[1]

I knew some people once who used to shut their poor children up in an unused top-room (quite away from the general rooms) when naughty. With the older children it did not matter so much, but with those younger the effect was sad in

[1] Dr. Welsted. See Chambers' *Manual of Diet*, p. 230.

the extreme. The children were completely cowed, but how anyone with a spark of feeling could bear to see the bright, joyous spirit of a little child thus broken I cannot imagine. I used to think, I remember, that this 'punishment room,' as it was called, was the sole cause of so much physic (tonics) being needed by the children, who all presented a pallid, worn appearance. 'They are not strong children,' said the mother. I thought, how could she expect them to be, with so much mental distress. I know I used to think—for I was but a girl—that if I had been given a choice I should have preferred a whipping to the being shut up in the 'punishment room,' as it was called.

'Some mothers,' writes Dr. Chevasse, 'punish their children when they have done amiss by keeping them indoors; in other words, they punish their little ones by making them ill! Can anything be more illogical? Some other wiseacres of mothers punish their children by sending them supperless to bed! Can anything be more ridiculous or cruel? Others, again, punish them by causing them to learn by heart either a psalm or a chapter in the Bible, thus giving them a disgust to Holy Writ.'[1]

In being punished children should always see that they are punished fairly, justly, and for some fault—not at the will, fancy, or because of the temper of those over them. A bitter feeling has many times been raised in a child's bosom by an unjust—an unmerited punishment, and if a feeling of this kind is engendered it may not only seriously affect the disposition of a child, but it may also militate against the future life by creating in the young mind a sense of injustice, harshness, and unlooked-for wrong. What kind of bringing up can it be which results in the following advertisement?—

UNRULY GIRL.—WANTED, a high-class SCHOOL, where the rod is used. Address R. B., May's Advertising offices, 162, Piccadilly.[2]

No doubt in some cases and with some natures whipping is necessary, but that the rod should be correlative to education all just-minded, kindly people must deprecate.

[1] *Counsel to a Mother*, p. 140.
[2] *The Times*, Tuesday, December 25, 1888.

Servants should never be allowed to punish children how and when they choose. It is best for parents to correct their children themselves, always tempering 'justice with mercy, and showing the little offender that, although punished, yet affection is not absent. The chastisement of children (even for faults such as *falsehood*, *stealing*, and things likely to develop into serious evils) has lately (owing to its abuse) been held up to general condemnation ; and because in some cases children have been cruelly punished, and without heart or pity have been corrected to their great hurt, therefore the correction of children has by some been condemned altogether. That this is a mistaken philanthropy, and likely to do more harm than good, is, on reflection, evident. To correct a child with cruelty is one thing ; to correct a child without harming it, and for its good, is another.

No right-minded persons would so correct a young and tender creature—especially their own child—that it would sustain harm either bodily or mentally ; and it is to prevent the injudicious, unreasoning punishment of children by those not possessing that control of temper and that kindly feeling which one supposes parents to have, that one would urge parents to punish their children themselves. If parents lack kindly feeling towards their own children, alas ! where are they to look for it ? The very animals show love to their young. All living created things, indeed, teach us a lesson as regards solicitude for the welfare of their offspring and care of the young and tender creatures who are dependent on them.

Undoubtedly more harm is likely to be done by never correcting children for any fault whatever than by kindly correction from those whose heart beats with all tender and loving feelings towards them. 'The rod and reproof give wisdom, but a child left to himself bringeth his mother to shame.'[1] And, because there are found fathers and mothers destitute of heart, all must not be reckoned alike, and it certainly should not hastily be concluded that all punishment should be condemned because it might be cruelly administered. Equally might all medicines containing poison be forbidden to be used for fear that

[1] Prov. xxix. 15.

some through inadvertence might be poisoned thereby. Because a thing is occasionally subject to abuse, it does not necessarily follow that it would be well to do away with it altogether. Human beings, endowed with sense and reason, on the contrary, must use those gifts which heaven makes them responsible for, and must act in such a manner as their sense of right dictates ; and because it is suggested that parents should correct their children, it is in no wise meant to urge them to any act of cruelty or harshness.

'One great cause of the republican spirit which prevails at present appears to have been a false principle that it is necessary to convince a child by reason before you can expect him to obey. Now reason, being the faculty of comparing ideas already presented to the mind, cannot exist in a child, to whom few or no ideas have been presented, and no one was ever convinced by the reasoning of another. It is, therefore, impossible to convince him ; and, if he be suffered to do as he please till he be capable of reasoning, it is a great chance if his understanding be not so warped by the practice of evil that he mistake it for good, and it is most probable that he may have contracted such a habit of disobedience as not willingly to submit to the laws of his country or even those of his God.' [1] This, although written in the year 1809, is equally true at the present day.

'Johnson,' writes Boswell in his 'Life of Dr. Johnson,' 'upon all occasions expressed his approbation of enforcing instruction by means of the rod.' 'I would rather,' said he, 'have the rod to be the general terror to all, to make them learn, than tell a child, if you do thus or thus, you will be more esteemed than your brothers or sisters. The rod produces an effect which terminates in itself. A child is afraid of being whipped, and gets his task, and there's an end on't, whereas, by exciting emulation and comparisons of superiority, you lay the foundation of lasting mischief ; you make brothers and sisters hate each other.' A mother who corrects her children is not at all likely (in consequence) to be, as is too often erroneously supposed, a harsh, disagreeable, unpleasant person.

[1] Smith's *Fragments*, A.D. 1809.

The correction of children, if done in a right spirit, will not be the result of temper, but of a just determination to bring them up in the paths of virtue, uprightness, and honesty. Children, when they grow old enough to distinguish between right and wrong, will not only respect, but will evince affection for, those who have insisted on, as the little ones call it, their 'being good.' This does not mean primness and 'puritanical ways,' but real heart-goodness, truth, purity, and uprightness of conduct.[1] Can a child help doing a thing, which it knows it should not do, or not? If it can, and it is wilfully naughty, then correct it by all means; if not, it is most cruel as well as illogical.

I saw once a nice, gentle little girl, subject to attacks of screaming and hysteria. After she recovered she was scolded and severely punished, and when in the fit she was harshly and roughly treated, although the doctor in attendance said that the child could not help the screaming, and that no harshness should be used. No doubt, in many forms of hysteria apparent harshness is necessary; but in this case, and I hear there are many such now,[2] owing to the increasing nervous strain put on children from the present system of education, it was decidedly cruel.

If a child, owing to some physical cause, does what it cannot help, although it may be a great annoyance, it most certainly should not be scolded and punished for what it cannot avoid doing. The poor, afflicted child feels its miserable state quite keenly enough without the additional load of undeserved scolding and harshness. When children are afflicted in any sad or particular way—as with scrofula, deaf and dumb, idiotic, blind—I believe in many instances they would be far better placed in some institution where similar cases are received, and where they could have the regular care and attention necessary to their state. No doubt, afflicted

[1] See 'Education,' p. 599.

[2] 'The carnival has been organised in aid of the funds of the West End Hospital for Diseases of the Nervous System, Paralysis, and Epilepsy, a class of diseases which is stated to be alarmingly on the increase, particularly among young children.'—*The Times*, Friday, March 15, 1889.

children in some instances get good, kind treatment at home, but the mother must be the centre of all the tender regard for their many and sad needs, and must look after such an one herself. Left to servants, the generous, sympathetic, gentle care is totally wanting.

There is a community in suffering, and with a child affected with any distressing malady, or afflicted in any peculiar way, there is no question that it is better removed from the home, however wealthy, *where it cannot get regular attention and proper treatment.* Who that has seen a deaf and dumb child in a circle of children not so affected, and would question the advantage to that child of sending it to an institution for those similarly afflicted, where it could be properly instructed and have companionship? 'We can't play with old Deaf-and-dumb; he's so stupid,' I heard some children say scornfully, referring to their little brother. Isolated by reason of the peculiarity of the calamity, the unfortunate child is thrown entirely on its own undeveloped resources for amusement, and the utter vacuity to the poor child of the days as they pass uncheered, unsolaced, by companionship can only be realised by one who has seen such a terrible existence. Cut off from the consolation, the amusement, the thousand and one pleasures afforded by speech, unable in *intelligible language* to convey either thoughts, wishes, or ideas, how hopeless is this forlorn state!—the mind, instead of being trained in a right direction, growing each day more unapprehensive of instruction.

It is very strange, but it is nevertheless lamentably true, that those chronically ill or afflicted command but little sympathy for their unfortunate state. In many cases their condition excites a feeling of repulsion in those around, and of which they are keenly conscious. There is much done now to alleviate human suffering, but those who have compassion on the afflicted are as nothing to the number without feeling or heart for human woe. I have seen a deaf and dumb child kept at home, reduced almost to idiocy. I could but think how happy the poor child would have been, playing and mingling with its similarly afflicted brethren.

In an interesting lecture[1] on the best method of educating the deaf and dumb, so as to be able to quickly understand those who can speak, given at the Society of Arts, April 1887, by Mr. St. John Ackers, whose interest in the deaf and dumb was in the first place aroused by the sad calamity befalling his own child, after recounting the total loss of his child's hearing, and its consequent dumbness, he continues: 'Our child was three months old when a severe attack of fever took away her hearing. For a year or two we kept hoping on. I even refused to enter the child in the census as "deaf and dumb." I would not "brand" it as long as there was any doubt; such was my foolish pride—such is the foolish pride, alas! of very many.'

Mr. Ackers gives an account of his travels in various countries to find out the best system for educating his little daughter, and observes:—'It is not uncommon to meet with dumb persons who have their hearing perfect; their dumbness arises from defect of brain. But what I have never met with is dumbness from deafness, except through disuse of voice. There is no such thing as a child born dumb because deaf. The born deaf are at first exactly the same as hearing children; they cry, sneeze, cough, crow, laugh, aye, and talk too, like hearing children. This may seem very startling; but, startling though it be, it is true. The born deaf do talk, in their own baby language, just like hearing children of the same age, only we do not understand them. What mother understands all her hearing baby says at first? But, it will be said, "Even if this be so, hearing children can understand all that is said to them, and that is what deaf ones never can." Really? Can hearing children understand all that is said to them? Then why do mothers and nurses say the same thing, over and over again, a hundred times? And when the hearing child can imitate what is said to it, does it therefore know the meaning? Does it know what "papa" or "mamma" mean because it can say the words? Of course not.[2]

'The objects must be shown with the words spoken, and

[1] *Deaf, not Dumb*, by B. St. John Ackers.
[2] *Journal of the Society of Arts*, April 27, 1877.

shown over and over again, too, before the hearing child can connect the object with the spoken word ; and so—exactly so—is it with the deaf child ; you do not let it go on talking its own language ; but, just as with the hearing, you educate it to repeat certain sounds after you, and to connect those sounds (spoken words) with certain objects—only with the deaf you cannot teach through the ear and so must through the eye. It is all by imitation, as with the hearing child ; it does not "come natural," as unthinking people so often say, either to the hearing or to the deaf.

'Now, it would be well, before going any further, to get rid of the idea, so common amongst hearing people, that children "deaf and dumb" are quite different from others. For instance, it is often imagined that they must be of weak intellect. This is a great mistake. True, some have not full mental development, which is not to be wondered at when the causes of congenital and accidental deafness are remembered—often it is a fever that takes away hearing and leaves mind and body in an enfeebled condition. Such, however, is just as often the case with hearing children after suffering like maladies. The brain is uninjured in the vast majority of the deaf, and is exactly the same as that of hearing children.

'Another very common fallacy is that the child does not speak—is dumb—on account of some malformation of the vocal organs. Now, this is so rare a case, if indeed it exist at all, that it cannot be classed as one of the causes of dumbness. Indeed, there are but two causes, so far as I know, of absolute dumbness, viz., want of brain-power, and deafness. As the latter causes dumbness only on account of want of proper education, the former is the only true cause. The term "deaf and dumb" is really an unnatural and artificial one, expressing not the action of nature under favourable circumstances, but the result of neglect.'

Mr. Ackers goes on to say :—

'Briefly to recapitulate some of the conclusions to which our investigations led us, we find that the "French" system schools, to a limited extent, will always be wanted for those who cannot be educated on the "German" system, viz., the

weak in intellect, and the very few whose speech, had they been hearing persons, would have been scarcely intelligible.

'All others should be educated on the "German" system. And it should be borne in mind that it is for the poor that education on this system is so especially desirable. Important as it is to all, to the poor the gift of speech is of intense value, enabling them to make themselves understood to the world at large.

'So far as to the system. How should it be carried out? At home when possible, which should be the case wherever a mother or elder sister could devote the time and patience necessary, or under a private governess.

'Failing home education, small day-schools are to be strongly recommended, being preferable to large ones, and large ones preferable to boarding schools or institutions, the object being to render the deaf akin to hearing persons in their tastes, habits, and inclinations—their friendships and marriages—to enable them to be absorbed into general society, instead of forming them, as the "French" method does, into a body alien and apart from the speaking world.

'How is this to be accomplished?

'Five years ago, at the end of the able paper read by Sir George (then Dr.) Dasent before your Society, from this place, he said that an association had been formed for the purpose of starting a day-school on the "German" system, and that, with your sympathy, the association felt assured of success. His words have been fully realised. A school, such as he described, was started, which is the now excellent and flourishing one in Fitzroy-square. Excellent, however, as it is, a single school it remains.[1] This should not be so; but others, perhaps smaller ones, should be established throughout the country.

'That there is need of immediate action in this matter you will allow when you know that little more than half our deaf are educated at all—what a bitter practical commentary on

[1] There are two asylums for the deaf and dumb—Old Kent Road and Margate. Office: 93 Cannon Street, E.C. See a book on the subject, *Deaf-and-Dumb Land*, by Joseph Hatton.

our boasted civilisation !— while only about 100 of those under instruction are taught on the "German" system. This leaves from 1,500 to 2,000 to be gathered in, without touching existing schools and institutions.

'An association is now being formed which will, we hope, help to spread the blessings of this system throughout the length and breadth of the land. In order to accomplish this, the first necessity is to have a supply of trained teachers. A training college is therefore about to be started, where relations of the deaf can obtain training, governesses can be taught, and masters and mistresses for schools supplied, to the incalculable benefit of so many utterly neglected and terribly unfortunate of our fellow beings.'

After the lecture, amongst several who spoke, Dr. Edward Symes Thompson said 'they had as yet heard but little of the medical aspect of the question, but that was very strongly in favour of the German system, and he would mention two or three of the numerous facts which might be brought forward. His speciality was not aural surgery, but diseases of the chest, and he had had an opportunity of noticing that a large number of deaf-mutes suffered from such diseases. And this fact had an intimate connection with their being mute, but not with their being deaf, simply from their not using their vocal organs. It followed, therefore, that if they were taught to speak the danger of lung disease would be lessened. Then, again, those who did not speak had a habit generally of breathing through the mouth instead of through the nose, and thus the cold air passed directly to the lungs, instead of being warmed, moistened, and filtered from dust in the nasal passages, as Nature intended. He would not confine this to those who were born deaf, for he had known several instances of children who had learned to speak, having lost that faculty in consequence of deafness, which was a terrible thing. As a rule, if hearing was lost at the age of six, speech was lost as well. This method of instruction in articulation would also be of great advantage in the case of children with harelip and cleft palate, where the voice became harsh and unpleasant from being directed through the nasal passages. For these, and

other reasons, he desired, on behalf of the medical profession, to bear testimony to the value of the German system, and especially in behalf of having a large number of efficiently trained teachers rather than increasing the number of schools. He hoped next week to draw special attention to this subject in a course of lectures he was about to give at Gresham College, and he should lose no opportunity of pressing it on the attention of the profession.'

Miss Hull also remarked that 'she had been teaching the deaf and dumb for the last 14 years, originally on the combined system, but for the last four years she had given it up. She had no idea previously that it was possible to teach a child born deaf to speak, and therefore had only attempted to keep up the knowledge of spoken language in those who had once possessed it, but as soon as she found that it was possible to do so she commenced instructing even congenital deaf-mutes in the same way, and now used no other method, because she found that those who were accustomed to watch the fingers would not give that undivided attention to the lips which was necessary. She found her pupils improved very much in language from going home to their friends, and at the age of 11 or 12 they were able to converse freely with their brothers and sisters. They were thus, in effect, restored to society, and their affliction was almost extinguished. With reference to the persons named by Mr. Smith, she believed they had been educated at Berlin under the combined system, and, therefore, they were not fair specimens of the real German system. Her own pupils had the greatest consideration for persons who were dumb, and repudiated with horror the idea of such an appellation being applied to them. She was confident, if this system were more widely followed, immense advantage would ensue.

The following is from the 'St. James's Gazette,' July 25, 1888:—[1]

'*Banquet to the Deaf and Dumb.*

'A banquet to 200 deaf and dumb men and women took place at St. Mandé, near Paris, on Monday. The *Daily News*'

[1] *St. James's Gazette*, July 25, 1888.

correspondent says :—Several speeches were made which were eagerly followed, if not listened to, and very much applauded. Perhaps this needs an explanation. The term deaf and dumb has become a misnomer. Children born deaf are now no longer dumb, as they were necessarily of old. They are now taught by ingenious methods to understand and imitate the motions of the lips in ordinary speech. The Abbé de l'Epée is said to have originated the system whereby those born deaf and dumb are put into communion with the rest of mankind. His school was placed under the patronage of the nation by an Act of July 23, 1791, and it was to celebrate this anniversary that the members of the Friendly Society of the Deaf and Dumb met on Monday at the Salon des Familles.'

Lately I met a deaf and dumb lady who had learnt this system, and I held a long conversation with her before I was aware of her having been without speech. She understood perfectly what I said from watching the movements of the mouth, and replied in quite an ordinary manner. Again, in the case of scrofula, I believe the good to be derived from *suitable sea-air* is so unquestionable that those who cannot, by reason of want of means, or their peculiar circumstances, take a child away for a lengthened period to sea-air, such as Margate, for instance, known for its efficacy in such cases, should submit to the separation of the child, and should not, with mistaken punctiliousness, hesitate as to sending a suffering child where it may gain so much good.

The encroaching without any proper return on charitable institutions, founded for the benefit of indigent sufferers, cannot, however, be too strongly reprobated. But there are few so destitute of generous sensibility as to take help intended for the afflicted poor without making a repayment proportionate to their means. Anent scrofula, it is a common mistake to suppose any sea-air and sea-water are equally beneficial. There is, on the contrary, a great deal of difference in sea-water as well as sea-air. 'The Dead Sea, for instance, contains nine times more salt than the waters of the Atlantic. One quarter of its whole weight is saline matter, its specific

gravity is 1·211.'[1] And in different sea-waters various substances are found or are absent, and in different proportions.

Dr. Granville writes:[2] 'Two very important agents, endowed with peculiar virtues in reference to the human constitution, have of late years been much commended and employed in the practice of medicine. I allude to iodine and bromine, both of which have been detected by recent analyses in sea-water. The presence of the former, indeed, has been doubted by two high authorities: Sarphates, of Leyden, who found no such substance in the sea-water near the Dutch coast; and Professor Daubeney, of Oxford, who could not detect iodine in the residuum of sea-water taken up near Cowes. But an analytical chemist of equal weight, Mr. Schweitzer, of the German Spa at Brighton, has shown in a very recent analysis of sea-water taken near that place that iodine is present in it, although in so minute a proportion that 174 pounds of the water contain hardly one grain of that substance. With regard to the other active agent alluded to, *bromine*, its presence in sea-water is admitted on all hands.' It is said that the reason the sea at Margate is so beneficial in scrofula is the presence in it of both *iodine* and *bromine*.

Its wonderful curative power in scrofula is not to be denied. Dr. Macpherson, after speaking of Berck-sur-Mer as being beneficial in scrofula, alludes to Margate, and says:[3] 'Margate, the great English place for the treatment of scrofula; as its climate is more bracing than that of Berck, the constitutional improvement there is probably greater. Diseases of joints appear to recover in a surprising way, and cases can be operated on in that place with success which would scarcely have been ventured on in London hospitals. The treatment in the Margate hospital, according to information kindly communicated to me by Mr. Thornton, consists mainly in giving good food, plenty of good air and sea-bathing, with iron medicinally.

Dr. Chambers says of children with a tendency to scrofula:[4]

[1] *Cabinet Cyclopædia.*
[2] *The Spas of England*, p. 5. See also 'Water,' p. 395.
[3] John Macpherson, M.D., *Baths and Wells of Europe*, p. 161.
[4] *Manual of Diet in Health and Disease*, pp. 333, 334.

'Lactation ended, the child's diet should be arranged so as to contain a rather larger proportion of animal food than recommended for ordinary nurseries, and the instinct for a carnivorous nutriment should be encouraged, or at least not thwarted. Warm clothing, much sunlight, frequent exercise in the open air, and an annual breath of sea-air will powerfully aid in keeping off the dreaded disease. The "weariness to the flesh," induced by over-much study, must be sedulously prevented. It spoils the appetite and digestion, so essential to the object of our care.'

'I have seen children with a scrofulous tendency kept almost entirely on a vegetable diet, with the avowed object of purifying the blood. But it seemed to me only to induce extreme weakness without at all aiding in the amelioration of the complaint.

Dr. Chambers adds :[1] 'A faulty early nutrition would seem to have much influence in drawing it[2] out,' and thinks, 'For this reason a mother who is conscious of scrofula in her family, even should she never have been herself afflicted, should deny herself the privilege of suckling.' Sir Astley Cooper writes :[3] 'You may prevent scrofula by care, but that some children are originally predisposed to the disease there cannot be the least doubt, and in such cases the education and the habits of youth should be so directed as to ward off a complaint the effects of which are so frequently fatal.'

After mentioning the extraordinarily curative effects of 'foreign waters,' found on analysis to contain but a small proportion of substances known to be beneficial in certain diseases,[4] Dr. Burney Yeo writes of Kreuznach,[5] in the valley of the Nahe, about ten miles from Bingen, on the left bank of the Rhine : 'It enjoys a pre-eminent reputation among salt-baths for the treatment of all forms of scrofulous diseases. Whatever diseases can be traced to a scrofulous

[1] *Manual of Diet in Health and Disease*, p. 333.
[2] Scrofula.
[3] Sir Astley Cooper on 'Scrofula.'
[4] Dr. Burney Yeo, *Health Resorts*, p. 234.
[5] Messrs. Ingram and Boyle, 52 Farringdon Street, London, E.C., import Kreuznach water; also other waters said to be beneficial in scrofula.

tendency, or can in any way be identified or associated with scrofula,[1] are regarded as suitable for treatment, and likely to be ameliorated or cured at Kreuznach.'

In conclusion, give thought to all the little things of life. The large ones will generally go right of themselves. It is the small, apparently trivial, things which require looking to. Amid the varied circumstances of life there is generally some need of thoughtfulness. There are few so placed that no one needs, or will need, their care or thought, and many have little people who will be all the better if they give even only a passing thought to the many little things which may be a cause of discomfort, of pain, or of injury to them ; and more than a passing thought may well be given to a few of the little things, perhaps appearing unimportant, which, however, tend to make children grow up well.

> Think naught a trifle, though it small appear :
> Small sands make the mountains, moments make the year,
> And trifles life.[2]

And, as regards mending the faults and errors of life, Victor Hugo's grand—

> *Recommencez toujours!* ni trêve, ni remords.
> Allez, recommencez, veillez, et sans relâche
> Roulez votre rocher, refaites votre tâche [3]

should find a place in every mind. Burns writes :

> Tho' losses, and crosses,
> Be lessons right severe,
> There's wit there, ye'll get there,
> Ye'll find nae other where.

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[1] See 'Home Remedies,' p. 480 ; *Health Resorts and their Uses*, by J. Burney Yeo, p. 234.

[2] Young.

[3] *Always begin afresh !*
No intermission, no looking back.
Come, begin once more ; watch, and unceasingly
Roll your stone ; begin your task anew.

'Roulez votre rocher' refers to Sisyphus, who was condemned by Zeus to expiate his crimes by rolling a large stone up a hill, which continually rolled back.

CHAPTER II.

FEEDING.

One of the things most conducive to good health is regularity in taking food. Irregularity in feeding is often the cause of delicacy both in infants and children. Irregularity in feeding is a cause of indigestion, and is sometimes the precursor of feeble health. When animals are kept in a captive and domestic state, as at zoological gardens, for instance, it is thought necessary to their well-being to give them their food at regular hours each day, and one will see how the poor animals, accustomed to being fed each day at the same time, get restless when the hour approaches at which they are fed, and quite look for their food at the usual time. If, then, it is found necessary to feed animals with regularity if they are to be kept in a *healthy and good state*, equally it stands to reason that it must be necessary for human creatures to feed with regularity.

Man in his animal nature does not differ from other creatures of nature ; it is only in mind—in the spiritual essence—that the difference exists. Parents should personally see to their children's feeding. They are sure to be properly fed if this is done, but where the feeding of infants and children is left entirely to servants they are sometimes underfed. Children—who are old enough to—are kept in much better health when they have their two principal meals, breakfast and dinner—if not all their meals—with their parents. Children are too often very badly fed when their meals are taken in the nursery or schoolroom, and get their meals not only often coarsely served and unpalatable, but also sometimes badly cooked. Children's meals should be punctually served

at the same time each day—the hours between taking food not being too long. Children, like older people, get a faint, weary feeling when they go too long without food.

There is no doubt that the health and future strength of infants when reared by hand greatly depends on the nature of the food given as well as the manner in which it is given. The diet of older children also exercises a great influence on their health.[1] Easily digested, wholesome, nutritious food is an absolute necessity for the healthy bringing up of infants and children. In England it is greatly the custom to bring up children by hand, and there is no doubt that, as a rule, children so brought up do very well, and grow up—unless there is any inherent delicacy—both healthy and strong.[2] In some instances, however, either through neglect, want of care, or want of a little knowledge in rearing children by hand, they are sometimes subjected to a good deal of unnecessary discomfort, if not injury. Abroad it is much—I might almost say it is entirely—the custom to bring up children with wet-nurses,[3] but children can be equally well brought up by hand.

The great mistake is to suppose that children will grow up well with insufficiently nutritive food—no regard being paid to how the food suits or is given. With most the word 'nurse' implies the knowledge of how to bring up an infant or child by hand, and anyone who applies for the situation is supposed to understand perfectly how to feed an infant. This, however, is not always so, and in some instances infants lose their lives simply through its being taken for granted that it is the most simple thing in the world to feed and bring up an infant—in fact, requires neither thought, attention, nor knowledge. Monthly nurses are always supposed to know how to feed infants by hand ; they are, however, occasionally very incapable persons, and generally their knowledge is founded on a very limited personal experience, so that, if there is any want of strength in an infant, this, joined to defective knowledge, gives it but a poor chance of life, and in these days of over-strained artificial living infants often enter life with

[1] See 'Feeding,' pp. 244–249. [2] *Ibid.*, pp. 122, 123.
[3] *Ibid.*, p. 114.

little strength and power for battling with adverse treatment. If, however, a monthly nurse is a capable, experienced person, a child, even if delicate at birth, is more likely to survive than a strong child given into inexperienced or careless hands.

Too often a young mother, herself little more than a child, or a young nurse with no knowledge whatever of the best way to feed an infant, and with no one able to give a single idea on the subject, takes charge of a young baby. The child may be fairly strong, and might do very well if suitably fed, but, improperly fed, it becomes sick, cannot keep its food down, diarrhœa perhaps follows, and the doctor has to be called in. The poor little soul is soon seriously ill, and probably entirely from the way it is fed ; medicines are given, the doctor looks serious, but it is one thing to prevent an evil, another to cure it when once begun.

'The last children of a family,' said the late Professor Clark, of Boston,[1] 'fare the best. All the experiments are tried on the first children. Experience—an expensive teacher—having proved certain foods and things to be injurious, the last who arrive escape all the ills the first arrivals have to endure. The first children are like pioneers. The way ignorant people sometimes feed children is slow poison, and the way they take care of them means a coffin for a cradle. When acquired knowledge has made mothers wise, they look back with wonder sometimes on the extravagances they have perpetrated on their first children, and if the children have survived they echo the oft-repeated truism, "Human nature's tough."'

There can be no *exact* substitute for the natural milk, but, as it often happens—owing sometimes to the force of circumstances : a mother being unable to nurse her baby, or even the child being deprived of its mother—some substitute has to be found by which to rear an infant. Under these circumstances those having the charge of a young baby are occasionally greatly puzzled as to what to feed it on ; more especially if they find cow's milk, given in the ordinary way, and which is generally the first thing tried, does not agree. I have known physicians—those even who had made infants and children

[1] *The Training of Young Children.*

an especial study, and who were very clever as regards the ailments of young children—quite at a loss in the feeding of a young infant, and obliged to rely more or less on the knowledge of a nurse. A doctor will sometimes say, when a child has become very ill, as a last resource, 'Get a wet-nurse;' but when a child's stomach becomes seriously upset or injured even this will sometimes be of no avail.

I once asked a French physician, who was supposed to be very clever in the treatment of children's diseases, how I should feed a little baby between seven and eight months old, who had to be weaned suddenly without any previous preparation, and he told me I could not do better than give the child beef-tea and eggs lightly boiled.[1] In those days I was quite ignorant of everything connected with hand-rearing. This, theoretically, might be very well, but was practically the reverse. In fact, such feeding could not be persevered with without causing illness,[2] and in the first instance it was a very violent change to go suddenly from natural milk, which the child was being brought up with, to eggs and beef-tea. The taste being so different, too, although I managed to give the child the eggs with a spoon, the child would not touch the beef-tea, and if we had not found a means of satisfying its natural want of a food pleasant to the palate, as well as nourishing, death would have been the termination, no doubt.

In many instances patent foods are recommended by English doctors and meet with a fair success.[3] Artificial human milk has lately been much spoken of, as also barley water and milk, and peptonised milk—these I will revert to further on.[4] With cow's milk, unfortunately, there is always the danger of infection.[5] This risk, however, science tells us, may be reduced to *nil* by boiling.[6] Since the cattle plague has died out, there is less probability of one's supply of milk suddenly any day ceasing; but, now that the nature of bovine diseases has been

[1] *The American Journal of Pharmacy* mentions eggs as a good substitute for mother's milk, as also Bern Marteny—see *Medical Press*, February 2, 1876, p. 98. See also p. 178.

[2] See 'Feeding,' p. 152.

[3] *Ibid.*, pp. 212, 225.

[4] *Ibid.*, pp. 185, 192, 198.

[5] *Ibid.*, pp. 142, 266.

[6] *Ibid.*, p. 266.

investigated, much more doubt has been thrown on the wholesomeness of cow's milk, and, unless one is very sure that where the supply comes from the cows are in good health there is always a certain amount of risk. During the days of the cattle plague much trouble and inconvenience by sudden failure of milk supply was often caused.

I remember a case in which a little baby was being most successfully brought up with cow's milk, when one day the servant, a country girl, came to the mother with the direful intelligence, 'Please, mum, the cows 'as all got the plague, and they say baby can't have no more milk.' Unacquainted with anything else, and thus suddenly deprived of her baby's food, the poor young mother's feelings may be imagined; and this was not an isolated case. In fact, the use of Swiss milk for infants dates in a great measure from that lamentable time.

In engaging nurses I have often been much struck at the vague way in which, when questioned, they have spoken of the feeding of infants. Requiring a nurse once for an infant a month old, I asked a person who applied for the situation, and who apparently, in every respect, as to character, appearance, and age, seemed suitable for the place, what was her way of bringing up an infant by hand? what her ideas were as to feeding a young infant? She told me that she had taken entire charge of a baby three days old, owing to the serious illness of the mother, and the other nurse being required entirely for her. To feed this little creature she had taken a large slice of what is called household bread. This she had placed, first cutting off the crust, in a saucepan, adding a breakfast-cup of milk. After well boiling it was turned into a bowl, and when beaten up was given to the baby. On enquiry I found the baby had been troubled with indigestion, and that ultimately it had died. This I was not surprised at.

Bread and milk is found suitable in cold climates [1] for older children, but is not considered good (by those who have made a study of infant-feeding) for the diet of quite young infants.[2]

[1] I am referring here only to infants. For bread and milk and its suitability for older children, see p. 250.

[2] See 'Feeding,' p. 68.

Bread can be, and is sometimes, given to quite young infants, but the result is not always satisfactory. Very strong infants, kept much in the open air, and those living in the country, where the bread is made at home, will probably not suffer in health from bread being given at an early age ; but delicate infants, or those having a weak digestion, and those kept much indoors in cities or large towns, and fed with *ordinary baker's bread*, are very likely to experience discomfort, and even acute indigestion, and death may possibly arise from giving bread (baker's bread) at too early an age. I have known instances where bread and milk (beaten up) has been given to quite infants with no apparent harm resulting, and I have equally seen infants under different circumstances rendered quite ill by bread being given too soon.

'But there is,' writes Dr. Routh,[1] 'another way in which pap proves injurious. It more often, perhaps, than is recognised, is the immediate *cause* of death. It has long been known that bread and milk, if given to canaries in full quantity, swells in their stomachs, and, thus pressing against the heart, impedes its action and often causes their death. The same result sometimes occurs in the infant.'[2] The nature of the bread in giving children pap is seldom taken into consideration. The quantity of alum in town-made breads is very injurious to infants, and the sole reason, no doubt, why cottage children fed on pap do not take harm is simply because there is *no alum* in the home-made bread which is given to them.

Dr. Routh further observes :[3] 'Unfortunately the popular prejudice in favour of white bread proves often a cause of death. Majendie's experiments made with dogs have set this point at rest. A dog fed on white bread, wheat, and water did not live more than fifty days, whereas a dog kept on soldier's *brown* bread did not suffer. Now pap is given very early. I have seen it given to a child from birth. It seemed to thrive upon it at first, but in about a month's time the child, which was of enormous size, sickened, and recovered only after much difficulty.'

[1] *Infant Feeding*, pp. 366–70. [2] See 'Home Remedies,' p. 465.
[3] *Infant Feeding*, p. 366.

Dr. Routh goes on to say: 'Alum forms with phosphoric acid, as Liebig has shown, an *insoluble salt*, and so prevents the phosphoric acid from being appropriated to the economy. The blood becomes incapable of performing its duty, and hence children fed on it deteriorate and in the end die; and herein is the explanation of the frightful amount of disease observed in pap-fed babies. The phosphoric acid, so essential to them, is in great measure lost. The brain and nervous system and the bones are arrested in their development, and hence, also, one reason for the great comparative success in bringing up children by hand in the country on home-baked bread, which contains *no alum*, and which, although of darker colour, provides phosphoric acid in an assimilable state to the child.' This shows the extreme necessity for those who are going to give pap to infants seeing that the bread contains *no alum*—an impossibility when not made at home. I have found bread and milk, made from bread containing *alum*, very badly digested by quite big children, and do not at all see why they should not be equally affected, although, perhaps, in a less degree, the digestive powers being stronger.

Dr. Gover writes[1]: 'Experiments upon animals have proved that they can live upon brown bread without any other food; but, if fed upon white bread alone, the health first suffers, and death finally ensues.'

'Brownish bread,' says Dr. Brinton,[2] 'of simple wheat meal, with even an admixture of a fourth or fifth of rye, would, for equal money value, give the labouring population a food incomparably more abundant and nutritious than that which they now make use of as pure white bread; and in no way could the dyspeptic affluent set their poorer neighbours a better example than by adopting, were it at some little pains, a bread which might sometimes cure their own ailments by its mechanical quality, as well as prevent disease and deformity among the lower classes by its nutritive value.'

The following hint from Miss Yates, Hon. Sec. of the

[1] *Dietaries in their Physiological, Practical, and Economic Aspects*, R. M. Gover, M.R.C.P.

[2] Quoted in the *Lancet*.

Bread and Food Reform League, may be useful to those making their own bread. Miss Yates writes: 'As numerous complaints have been received about the variable quality of whole and wheat-meal bread, will you kindly allow me to state that bakers inform me that this can be obviated by mixing the yeast with cold water, about 66° Fahr., instead of using the tepid water generally employed. Mr. J. E. Thausing states in "The Theory and Practice of the Preparation of Malt" that experience shows that fermentation carried out at a high temperature tends to develop acetic acid, lactic acid, and butyric acid fermentations, whereas fermentation at a low temperature does not do so. As wheat-meal ferments very rapidly, the high temperature usually employed by bakers is probably the reason that wheat-meal bread, especially in hot weather, is very liable to become sour. The bread should also be baked in a cooler oven than is used for white bread, or under a tin, as a high temperature causes wheat-meal bread to have a disagreeably hard crust. Attention to these details will facilitate the manufacture of a palatable and digestible wheat-meal bread, the general adoption of which will greatly promote the health of all classes of society.'

Another nurse told me she always fed an infant on weak beef-tea mixed with an equal quantity of cow's milk. Another suggested eggs mixed with milk, and a few drops of brandy given occasionally in it to assist digestion, or, as she termed it, 'to correct the bile.' Another nurse took a tin of Swiss milk, put the contents into a bowl, filled the tin seven times with water, and mixed this quantity of water with the milk, as she thought the larger quantity of water mentioned on the label—fourteen parts of water—would make the milk too weak. The directions on the label on the tins of Swiss milk are seven to fourteen parts of water; but it does not say you are to give all the Swiss milk contained in one tin for a meal, nor does it say it is requisite to make all the milk contained in a tin into milk at once. The poor child fed with the Swiss milk did not appear, either, to have thrived, but eventually

In the 'Times' I also read once of a nurse, who had charge

of a new-born baby, having 'a bowl of milk upon the table, and while the baby was crying she poured with a spoon the milk down its throat.' 'Some of the milk,' it is further related, 'went into the child's windpipe.' Also that the nurse had fed 'the baby by taking the top off the bottle and pouring the contents down its throat.' Comment is hardly necessary. It stands to reason that, a child having by nature the capability, power, and desire of sucking, it cannot be right, and must be dangerous, to pour food indiscriminately down its throat. In any manner of feeding by hand great care is necessary, but more especial care is necessary when a child is fed with a spoon.

Sometimes infants when born are too feeble to suck from a bottle; feeding with a spoon is then necessary, but it should be done very carefully, and the child should not be crying at the time it is fed, nor should it be hurried or forced to swallow. An infant if properly fed from a spoon will take the food, if it is nice, perfectly well; but it must be given quietly and slowly, and the child should be allowed to suck the food down. Feeding from a bottle is the easiest, and is in every way a very suitable manner of giving food to a child, but even this requires attention and care.

Burdach writes:[1] 'It is remarkable that suction is the only faculty for the prehension of food which the child possesses at birth, and even this is soon lost if not practised. The jaws are not so constructed as to permit active movements, nor the gums to bear pressure. The hard palate is but little developed, although the cavity of the mouth is sufficiently wide. There is, moreover, no saliva secreted for the first two months, so that no species of preparatory change can take place in it, as, for example, in the conversion of starchy matters into sugar, through the agency of this fluid (saliva). The mouth is, therefore, merely an organ of transmission and suction. The lips are large, and the tongue and pharynx, uvula, and soft palate are well developed to secure these ends.'

Sometimes, when children are advanced with teething, the gums become so painful and inflamed that it is difficult for

[1] Burdach's *Physiology*, p. 434.

them to suck. The drawing of the teat pressing against the gums causes so much pain that they will only take the bottle when very hungry. Nurses are apt to say the child is 'off its feed,' and they think not being well is the cause of the child perhaps not feeding as usual, whereas it may be the pain caused by sucking which renders the child averse to doing so. When this is the case the attempt should be made to feed the child with a spoon as well as the bottle, as in all probability it will not get sufficient nourishment if left to itself to feed.

A very frequent mistake is not sitting still with an infant while giving it its bottle. Some continually move about, and eep moving the child or the bottle when feeding a baby. In fact, I have known people say—rather as if it were a merit than otherwise—that feeding an infant with its bottle never interfered with their doing something else at the same time if they wished. On the contrary, however, it would be far better if they gave their undivided attention (simple as it appears) to giving a baby its bottle. It would be thought contrary to common sense if a mother walked, danced, or ran about while nursing her child ; but it is not considered contrary to sense to continually interrupt a baby while taking its bottle.

I once watched a nurse—a very well-meaning person too—feeding a little infant. The child had awakened from a long sleep, very hungry ; every few seconds, just when the poor baby was getting comfortable with its bottle, out the teat was pulled from its mouth, 'so that it might,' as the nurse explained, 'bring up the wind.' And she spoke as if the child was subject to a hurricane in its stomach. Then a knot was put in the tube 'because it might draw too fast.' And the poor little soul had to suck violently, and could hardly get the milk. Why not have waited till the child did 'draw too fast' before putting the knot ? Then in the middle of taking its bottle the child's clothes were re-arranged, and in consequence its bottle was taken away, because, as the nurse said, 'You see it don't mind so much when it's having its bottle.' This appeared to me more than doubtful, as the baby cried violently the whole time, and sobbed and gasped when its bottle was

given back to it. But it was not allowed even now to have its meal in peace, for after a few moments, when it was quietly settling down to the bottle, the unhappy infant was sat bolt upright 'to again break up the wind'—part of the hurricane, no doubt—so that, what with one thing and the other, the much-tried baby was continually interrupted with its food, which it so much needed, and ended by having half its proper quantity of milk, and the addition of hiccough, which was its general condition. Now, it stands to reason that it cannot be beneficial constantly interrupting an infant while feeding.

If you watch an infant being nursed by its mother, see the quiet way in which it drinks, and then the contented, satisfied manner in which it drops off to sleep, or lies quiet and comfortable when it has had sufficient.[1] But people will not copy nature. A baby should always be fed as quietly as possible. The way many give an infant its bottle is simply ruinous to its digestion.[2] The habit also some have of continually putting the feeding-bottle down to the fire is also most injurious to an infant. If the feeding-bottle is put down with the tubing attached, the milk will taste very nasty. A baby should always be fed at once, and *always with a fresh-made* bottle of milk. Some infants are fed constantly with left milk, which has been put by the fire, and it is this which upsets the stomach.

Dr. Playfair writes :[3] 'Particular attention should be paid to preparing the food fresh for every meal, and to keeping the feeding-bottle and tubes constantly in water when not in use, so that minute particles of milk may not remain about them and become sour.[4] A neglect of this is one of the most fertile sources of the thrush from which bottle-fed infants often suffer.'

When a baby's feeding-bottle is taken (with the milk prepared) on a railway journey, it should have a cork put in, or the top of the bottle fastened on without the tube, till required. Dr. Goodhart writes :[5] 'It may be sometimes neces-

[1] See 'Feeding,' p. 121. [2] *Ibid.*, pp. 238, 239.
[3] Playfair, *Science and Practice of Midwifery*, 6th edit. vol. ii. p. 302.
[4] See 'Feeding,' p. 128. [5] *Diseases of Children*, p. 29.

sary to preserve milk for some hours for a journey, &c. The best plan for carrying out such an object is to fill soda-water bottles with boiling milk, and immediately to cork them tightly.'

Not any exact time can ever be fixed for leaving off the use of the bottle, some continuing it much longer than others. Whenever a feeding-bottle is found of service, and a child cannot get sufficient nourishment without it, its use should be continued. Some people ridicule the idea of giving a child a feeding-bottle at all after it is a year or a year-and-a-half old; but why do so, if it is found necessary, and the child is doing well? As a rule, children wean themselves too soon, owing to the irritation caused to the gums by teething. Some—long after they are giving a child more solid food—give a feeding-bottle of milk, going to bed, and it is found, in many instances, that it not only soothes the child, so that it goes off to sleep quietly, but that it also tends to give the child a quieter and better night's rest. The leaving off the feeding-bottle must be a matter settled by individual experience.

That no good result follows discontinuing the use of milk at too early an age has been amply proved. Many give up the use of the feeding-bottle, and of a liberal diet of milk, at the time it is most needed, when a child is cutting its double teeth, and when it really requires nourishment of the most sustaining, but most easy of digestion, and least over-heating nature. Dr. Ellis says:[1] 'Until a child is eighteen months, or even two years old, it should be fed by suction, not by the spoon, and milk diet is adapted for it throughout this period.' Dr. Gover also observes:[2] 'Milk may be said to be a model food, and no other food has yet been found so well adapted to the requirements of the young.'

Milk has been described by Dr. Guy[3] as 'an emulsion consisting of a certain quantity of solid elements, intimately mixed up with about eight times their weight of water.'

[1] *Disease in Childhood*, p. 140; also see 'Feeding,' p. 86.

[2] *Dietaries in their Physiological, Practical, and Economic Aspects*, R. M. Gover, M.R C.P.

[3] See paper by Dr. Guy on 'Sufficient and Insufficient Dietaries,' *Journal of the Statistical Society*, vol. xxvi. p. 241.

Dr. Bannister writes :[1] 'As milk is formed for the special purpose of being the sole nourishment during the first period of infantile life, it not only contains the principles absolutely necessary for the growth and maintenance of the body, but these principles are in such a form as to be capable of being easily assimilated by the weak digestive powers of the infant.'

It is very difficult to impress English people, especially the lower orders, with the fact that milk contains all that is necessary for life. After recounting how the Arabs live, almost entirely on milk, Dr. Geikie says :[2] 'In many other parts of the desert milk forms the sole article of diet obtainable by the Bedouin, and I have heard a well-authenticated case of an Arab in the north of Syria who for three years had not tasted either water or solid food.' This proves the perfection of milk as a nutriment.

Dr. Ellis further remarks of farinaceous foods *versus* milk in infant-feeding :[3] 'It is not to be denied that children are often made fat and plump by the addition of farinaceous matter to their food at an early period, but I am strongly disposed to question the healthiness of that condition. It must not be supposed that a mere deposit of fat is an indication of physical well-being. I believe that, in children, not less than in adults, it is not unfrequently the token of a feeble and unhealthy condition of body, and we should be averse to any system of dieting which promotes an increase of mere fat, without, at the same time, contributing those nitrogenous elements which are necessary to constitute muscle. In milk the proportions of the nutrient elements required by the body are exactly adapted to its requirements. Milk is Nature's food, and to the close of the second year of infancy it is not only a simple, easily obtained, and sufficient aliment, but it is the best that can be procured. As food, we should, as a general rule, therefore, discard bread, biscuits, oatmeal, arrowroot, flour in various forms, and urge the adoption, as far as may be possible, of the simple method of rearing their children. . . .

[1] *Our Milk, Butter, and Cheese Supply*, by Richard Bannister, F.I.C., F.C.S.

[2] *The Bible and the Holy Land*, vol. i. p. 211.

[3] *Disease in Childhood*, pp. 140, 141.

'I have no hesitation,' adds Dr. Ellis,[1] 'in assuring any parent that if her child is healthy it will thrive upon this simple system of milk-feeding. Nature and experience alike evidence its value. . . . The condition of the stomach in an infant at birth deserves attention, since it differs in important respects from that of the adult. The form of this organ is at the period in question less curved and elongated, apparently, than that recognised as peculiar to carnivorous animals. It is a form adapted to receive small portions of very nutrient food, and to part quickly with them. The muscular structure of the stomach is also very faintly developed. From these circumstances it is evident that the infant's food must be adapted to the capabilities of its digestive apparatus, and we are furnished with an easy clue to the causes of those diseases which arise from improper food. It is consequently important to remember that in this respect a cause disposing to disease is to be found in the physiological condition of the infant at birth. The difficulty, and indeed impossibility, of providing any equivalent for what is naturally provided for food to the young child is thus explained, and it is easily understood why the majority of the early diseases of otherwise healthy children have their origin in the want of adaptation of artificial food to the condition of the organs of digestion, of which the stomach is only a part.'

'The best diet for an infant during the first six months,' remarks Dr. Chambers,[2] 'is milk alone. It is true, man is a tough animal, and can stand with impunity much rough usage, and therefore a vigorous baby often seems none the worse for a certain quantity of farinaceous food ; but the first appearance of flatulence, gripes, screaming, ill-temper, or other ways infants have of complaining of dyspepsia, should make the nurse desist from these attempts to hurry on natural development. It is only when the coming teeth are on their road to the front that the parotid glands secrete sufficient saliva to digest farinaceous food. When dribbling begins, then is the time to begin with the various preparations of these substances, boun-

[1] *Disease in Childhood*, pp. 97, 98.
[2] *Manual of Diet*, p. 146.

tifully supplied by nature and art. Till then, anything but milk given to a healthy baby must be tentative, and considered in the light of a means of education to its future dietary, and must not take the place of milk.'

Dr. Routh writes :[1] 'At what period may vegetable food be given? *My reply is, not before the eighth month*, and for these reasons : man belongs to the omnivorous class ; there must, therefore, be a time when vegetable food may be safely given. There is no doubt a relation between the period of time occupied in incubation or gestation and the time when an animal is so far developed and grown as to partake of herbivorous food without danger. Thus, if a granivorous bird occupy three weeks in incubation, a mammal nine months in gestation, we should *à priori* expect the offspring of the former to be sooner capable of maintaining life independently of its parent than the latter. . . . Upon these data it would appear that the eighth month is about the earliest period that vegetable food may be borne. The teeth which appear are not of value, because they are then incapable of mastication, but simply as evidence that changes have occurred in the organs of digestion, which have progressed *pari passu*, and that the salivary and pancreatic glands, the intestines, the glands of the membranous stomach, are in full development, and capable of digesting vegetable aliment. Then, and only then, therefore, as a rule, may vegetable food be given, and consequently weaning may be tried if necessary. But even in this case the most easily digestible only should be administered as a beginning, and it is best to continue also in a great measure the animal milks in combination. Individual cases may, of course, form exceptions, and it is clear, if development is earlier in some, so we may conclude that these could bear vegetable food at an earlier date. . . . But the best test of capability of independent life in man is the *dental apparatus*. The appearance of the teeth is the index that a child is maturing rapidly, or the reverse, or whether it is or it is not in that condition when vegetable food may be safely administered. . . . . If, however, a child has teeth, which, as I have before stated, is an

[1] *Infant Feeding*, pp. 396–8.

indication that those physiological changes which are essential to the digestion of vegetable matters have taken place, then vegetable matter may be usefully combined with the food which is given to the child.'[1]

Dr. Semple writes:[2] 'It has been stated that the only true food for infants is milk, and the importance of avoiding farinaceous food as a diet has been urged. This has been said advisedly, because we so often hear of the attempts at feeding babes with corn starch,[3] and such like, with very bad results. We are taught in our works on physiology that to feed an infant exclusively on starchy food is little better than to expect it to thrive on sawdust or shavings, and the daily experiments that are made in our poor-houses and alleys prove this reasoning to be pretty nearly correct. At the same time, I must make a statement that will be an apparent contradiction, viz., that it is necessary, after a child is a few weeks old, to add one of these very substances, indigestible in itself, in small quantities, to make the food easier of digestion, just as the ostrich eats stones, and smaller birds sand, for the purpose of trituration. It is well known that the tendency of cow's milk to form large curds can be obviated by adding some substance which, thoroughly distributed throughout the milk, will prevent its coagulating in large pieces. Arrowroot,[4] barley-water, or oatmeal water,[5] and, in fact, various other substances of a like nature, will be useful for this purpose. In most cases the choice of food is an experiment: with one child barley food will agree best; with another oatmeal; with some cracked wheat or the prepared wheat. The test is if it remains sweet upon the stomach; if, on the contrary, the child frets soon after food, it is a sure indication that it fails to agree.'

Dr. Semple gives the age at which infant's milk may have farinaceous matter mixed with it rather earlier. But all medical men are agreed as to the necessity for keeping an

[1] *Infant Feeding*, p. 465.

[2] The author of *Mother's Guide*, pp. 16–18, and *The Essential Features of Diseases of Children*.

[3] See 'Home Remedies,' p. 464.

[4] See 'Feeding,' pp. 185, 220.

[5] *Ibid.* 191.

infant for some months simply on milk. Dr. Semple writes :[1] 'Until a child has reached the third or fourth month, the diet should consist of nothing but milk. Arrowroot, corn-flour,[2] prepared wheat, and all other preparations of the cereals, should be avoided as a *diet*, because, owing to the peculiarities of the digestive organs of infants, the secretions in the intestines that are used to digest such substances, and also those of the salivary glands having the same action—ferments that change them into grape-sugar—are wanting in infants of this tender age, and it is only later, during early dentition, that these secretions are formed gradually in small amounts. In very young infants who are from the first bottle-fed the food should consist simply of milk, diluted with about one-third the amount of water[3] and a small quantity of white sugar ;[4] and, should there be any evidence of indigestion, such as vomiting of curds, or if a sour smell be observed, a teaspoonful or two of *lime-water* to the bottle will correct it.[5] Of course you must satisfy yourself that the milk has not been diluted beforehand ; or, again, should its appearance show it to be over-rich in cream, it is well to add for very young babies an extra quantity of water.'

Dr. Starr writes :[6] 'Farinaceous food, as such, is never admissible before the fourth month ; earlier it is only to be employed as an addition to milk preparations for its mechanical action. . . . Thickening substances—attenuants—act purely mechanically by getting, as it were, between the particles of caseine during coagulation, preventing their running together and forming a large compact mass. Of these materials barley-water[7] is, perhaps, the best. When an "infant's food" is used to act mechanically care should be taken to select one in which

[1] *The Mother's Guide*, p. 18. [2] See 'Home Remedies,' p. 465.
[3] See 'Feeding,' p. 179 ; *Sagous*, 1888, vol. iv. pp. 259, 263.
[4] Loaf-sugar crushed is best, from half to a teaspoonful to each bottle of milk.
[5] See 'Feeding,' pp. 178–183, for dilution of cow's milk ; and pp. 157–160 for lime-water .
[6] *Dietetics of Infancy and Childhood*, by Louis Starr, M.D. Philadelphia, *Annual of the Universal Medical Sciences* ; *Sagous*, 1888, pp. 259–263.
[7] See 'Feeding,' pp. 185–189, for barley-water.

the starch has been converted into dextrine and grape sugar by the process of manufacture. The articles known as "Mellin's Food"[1] and "Horlich's Food" can be relied upon. One teaspoonful of these dissolved in a tablespoonful of hot water, and added to each portion of food, makes a very easily digested mixture.'[2]

Dr. Chevasse writes:[3] 'As soon as a child begins to cut his teeth the case is altered, and *farinaceous food with milk and with water* becomes an absolute necessity.' But Dr. Chevasse adds:[4] 'Bear in mind, and let there *be no mistake about it*, that farinaceous food, be it what it may, *is not* suitable for a child until he begin to cut his teeth.'

In giving a fresh food to an infant or young baby it should be carefully watched for twenty-four hours, in which time it will generally be seen whether it will agree or not. If there is the slightest diarrhœa, or if the child, what nurses call, 'heaves' at or after taking the bottle, it will not agree, and the food should be left off at once, and the child should be carefully looked to till its stomach is restored to its usual condition, and then a trial may be made of some other food. That feeding young infants with farinaceous food, although wet-nursed at the same time, is injurious, and does not in any way promote a healthy state, all medical authorities are agreed; that it also tends to produce convulsions and diarrhœa is acknowledged by those having made infant-feeding a study. Dr. Routh gives some interesting statistics relative to infant deaths arising from feeding.[5]

'Fed on bread-food without the bottle; some having the breast in addition to bread-food; some having other food, as sago, arrowroot, &c.:—

Dying of convulsions or of diarrhœa . .	24
Fed entirely from mother's breast . .	11
Fed from the bottle	1
Fed entirely on cow's milk and water . .	2'

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[1] 'Mellin's Food,' see 'Feeding,' p. 219.
[2] See *ibid.*, p. 222, for children with feeble bowels.
[3] *Advice to a Mother*, pp. 34, 35.
[4] *Ibid.*, p. 28.
[5] *Infant Feeding*, p. 29.

Dr. Routh adds : 'The mortality of those artificially fed is very much greater than that of those fed at the breast, but from the preceding table it is obvious more is due to the injudicious method of feeding the child than to mere absence of breast-milk.'

Dr. Playfair says :[1] 'Much of the mortality following hand-feeding may be traced to unsuitable food.'[2]

Mr. Gladstone, in speaking at the laying of the first cylinder of the new railway bridge over the river Dee, August 17, 1887, made some very important observations as regards the use of milk. 'There is,' Mr. Gladstone said,[3] 'one matter, however, which I will mention, and that relates to the article of milk. There is not an article of more vital interest to the masses of the population. I read not very long ago a careful production of a medical man who had made a sanitary inquiry into the whole of the environs of Glasgow, and his inquiry was directed to this point, the prevalence of what are called rickets among children, and the causes to which this was to be referred. I imagine when we speak of rickets it means that a child is not growing up in a state of health, vigour, and sound and good formation, and wherever this gentleman went from district to district he found that rickets prevailed or was absent in proportion to the use of milk. I am bound to say that he had also a great deal to say for the use of oatmeal, and in that respect he was, in my opinion, quite right ; but the main agent was milk, and the want of milk for the masses of the population—aye, for the adult masses of the population—but above all, and far beyond all, for the child masses of the population—is a want the importance of which it is impossible to exaggerate.'

Dr. Trousseau says :[4] 'Rickets was never so common as it is in babies weaned ere the toothing is forward enough, and brought up on pap, vegetables, or even meat.' Dr. Trousseau adds : 'Milk is the only proper nourishment for infants,

[1] *Science and Practice of Midwifery*, 6th edit. vol. ii. p. 299.
[2] See Appendix.
[3] *The Daily News*, Wednesday, August 17, 1887.
[4] *Clinique Médicale*, vol. iii. p. 484, 3rd edition.

cereals given too soon having a tendency to produce convulsions.'

Dr. Hillier also writes: [1] 'Unsuitable food is without doubt one of the common causes of rickets. The practice of feeding children under six months with all kinds of unsuitable things, especially farinaceous substances imperfectly cooked, often lays the foundation for this disease. These things are sometimes given as a supplement to breast milk, sometimes with cow's milk, and in many cases with scarcely any milk at all.'

'When milk can be obtained for infants,' Dr. Edward Smith, F.R.S., writes,[2] 'it is beyond all comparison the best food for them, and no addition of any kind should be made to it.'

Dr. Letheby's observations on the feeding of infants and children [3] are in accordance with the views of all scientific and medical men. I quote them *verbatim*, as they have so great a bearing on the subject of child-feeding, and Dr. Letheby is considered an authority. 'Up to six or seven months,' writes Dr. Letheby, 'no other food but milk should be administered, for infants have not the power of digesting farinaceous or fibrinous substances; and a child may take from two to three pints of milk thus diluted (cow's milk always requires to be diluted with about one-third of its bulk of water,[4] and to be sweetened with sugar before it is given to children) daily. After seven months, and to about twenty months, farinaceous matters may be mixed in gradually increasing quantities with the milk; but they should be well cooked, by first baking them and then thoroughly dissolving them by boiling.[5] After this age, and up to the third year, the quantity of well-cooked farinaceous matters may be still further increased, and given as pudding with a little egg. Bread and butter may also be eaten, and towards the end of the time the child will digest well-boiled potato[6] with a little gravy of meat. From the

[1] *Diseases of Children*, p. 81; Thomas Hillier, M.D., late Physician to the Hospital for Sick Children.

[2] *Practical Dietary*, p. 263.

[3] Letheby on *Food*, pp. 119, 120.

[4] See 'Feeding,' p. 180, for dilution of cow's milk.

[5] *Ibid.*, p. 213. [6] *Ibid.*, pp. 289–290.

third to the fifth year a little meat may also be given, and at the end of the ninth year it may partake of the usual food of the family; but all along it should make use of a large proportion of milk in the various forms of bread and milk, or milk puddings with eggs.[1] About the tenth year a child will require about half as much food as a woman, and at the fourteenth year it will eat quite as much as a woman ; in fact, the proportion of food required by the child is much greater per pound weight of the body than by adults, because it has to form its tissues and build up its several structures.'[2]

Dr. Letheby gives the ninth year as the age at which children may partake of the general food of the family, but I have seen children, both abroad and in England, who have partaken of the general food of the family (not made or seasoned dishes, but plain food—meat, fowl, fish, vegetables, &c.) at four and five years, and who have not only not harmed, but have grown up strong boys and girls, and men and women.

I think the great fault of English child-life, especially amongst the upper classes, where children feed in the schoolroom, is under-feeding. On the Continent children live much more with the family, and partake of the food they do. Meat is undoubtedly more a necessary for robust life in England, and in countries with a similar climate, than in warmer and more southern countries.[3] Amongst all classes in England there is a taste and fondness for meat. A vegetarian diet was at one time much extolled as good for children, but from personal observation I have not seen good results follow in children fed on a strict vegetarian diet, nor have I seen children brought up in England grow up strong, kept almost entirely on a farinaceous diet. I believe the use of meat at an early age for *English children living in England* is necessary.

The popular cry in England is, 'Baby must have something more nourishing, more fattening, more sustaining, than milk,' quite disregarding the fact that milk contains all the elements of nutriment suitable for infant life ; and so patent foods,

[1] See 'Feeding,' pp. 235–236. [2] *Ibid.*, p. 245.
[3] *Ibid.*, pp. 275–278.

several one after another, sometimes none being, on trial, found to agree, are experimented with, and no one being wise enough to counsel leaving the poor child alone with milk for its food. In many instances infants, when nursed, would do far better, and would grow up finer and stronger children, if when the mother finds she has not sufficient milk herself to satisfy and nourish her child she, instead of giving the child a patent food or some other probably unsuitable nourishment, would supply the deficiency by giving milk.

The mother's milk continues sometimes to diminish in quantity and perhaps strength, and so the patent food, begun with one meal a day, 'to satisfy baby,' is given more often, till in some instances a poor infant, the mother's milk at last ceasing, is reduced to the patent food (an unsuitable one, perhaps) alone for nourishment. In many cases the effect of patent foods, flours, and substances containing a great deal of starch, is not apparent till long after.

'Although,' observes Dr. West,[1] 'it is very desirable that for the first six months of their existence children should derive their support entirely from their mother, and that until they are a year or at least nine months old their mother's milk should form the chief part of their food, yet many circumstances may occur to render the full adoption of this plan impracticable. In some women the supply of milk, although at first abundant, yet in the course of a few weeks undergoes so considerable a diminution as to become altogether insufficient for the child's support, while in other cases, although its quantity continues undiminished, yet from some defect in its quality it does not furnish the infant with proper nutriment. . . . The children thrive well enough for the first six weeks or two months; but then, obtaining the milk in too small a quantity to meet the demands of their rapidly growing organism, they pine and fret, they lose both flesh and strength, and, unless the food given to supply their wants be judiciously selected, their stomach and bowels become disordered, and nutrition, instead of being aided, is more seriously impaired. . . . It is obvious that, the more nearly the substitute that we select approaches to the character

[1] *Diseases of Infants and Children*, pp. 335, 337, 333.

of the mother's milk, the greater will be the prospect of the attempt to rear the infant upon it proving successful. Discarding, therefore, all those preparations of arrowroot, flour, or biscuit powder in which the vulgar repose such confidence, we shall not need any laboured argument to convince us that in the milk of some other animal we shall be likely to find the infant's most appropriate food. . . .[1] But the hint which Nature gives is too often thrown away on those who have charge of the infant. . . . Unfortunately the farinaceous articles of food, which are so often selected on account of their supposed lightness as fit to form the almost exclusive diet of infants, belong to the class of substances that are assimilated with difficulty. . . . In some instances in which children have been fed on an exclusively farinaceous diet the mucous membrane, even low down in the intestines, has been found covered with a thin coating of starch, which presented the characteristic blue colour when tested with iodine. . . . Providence may have wisely determined that the infant shall for months be dependent on its mother for support, in order that her instinctive feelings may lay the firm foundation of that love which causes her to cling to her little one with a fondness that surpasses all other affection, and which gives her the patience, the gentleness, the untiring energy, that make her the child's best guardian, friend, and teacher during its early years.'[2]

'The attention of M. Guillot having been directed to the changes which the food given to children underwent, and to the excessive mortality among them, he instituted a series of investigations in a number of cases of death, with special reference to the state of the contents of the bowels. He was struck with the uniform similarity, a jelly-like substance being present in the bowels, and in some instances lining both the small and great intestines. This was subjected to the test of the tincture of iodine, which produced an intensely blue colour, thus proving it to be starch.'[3]

There is no doubt that, as a rule, children are weaned too

[1] See 'Feeding,' pp. 192–209.
[2] See also White's *Selborne*, Letter XIV., to Mr. Barrington.
[3] Dr. Stewart, *Diet of Infants*, p. 142.

soon in England. This is an opinion shared by many eminent medical men. Dr. Ellis says :[1] 'Until ten or twelve months have elapsed from the time of birth, the infant should derive its chief support from the mother's breast.' 'I have been long of opinion,' Dr. Ellis adds,[2] 'that English mothers wean their children at a period considerably within that indicated by nature. . . . I am strongly disposed to believe that, as a general rule, infants should not be weaned under twelve months, always upon the conditions that the mother's milk continues good, that pregnancy has not again taken place, and that the child evidently thrives upon this system. Many are guided by the appearance of the teeth without any other consideration, and when six or eight teeth have made their appearance they wean their children. This rule is, with a limitation, deserving of attention, though not of strict compliance. When a child has cut eight teeth it is not so much an indication of a necessity for weaning as it is a hint to intermix artificial with the natural food, and if this be done gradually, and in a rational and intelligent manner, by the omission of one or more of the periods of suckling, and the substitution of artificial food at these seasons, weaning will be a very easy matter ultimately. . . . The right method of weaning is a gentle, gradual, and watchful diminution of natural food and an equally gentle, gradual, and careful increase of its artificial substitute.'

Dr. Chambers observes :[3] 'The consequences of premature weaning are most disastrous, but insidious. The child continues to present the external aspect of health, its muscles are strong and elastic, but the bones do not grow in equal proportion. It is active and anxious to walk, but the limbs give way and become distorted. If it is ill enough to be taken to a medical man, he calls the condition 'rickets,' but there are crowds of poor creatures affected in this way, whose parents refuse to see that anything is wrong till the malady has gone too far for cure. The suspicion that rickets was due to this cause has long been prevalent in the profession ; but it is to

[1] *Disease in Childhood*, p 137. [2] *Ibid.*, pp. 137, 138.
[3] *Manual of Diet* (*in Health and Disease*), pp. 146, 147.

M. Jules Guérin that we owe the proof desired from direct experiment. This pathologist found not only that rickety children had almost invariably been prematurely weaned, but that the disease was capable of artificial and intentional induction. He took young puppies and young pigs, specimens respectively of carnivorous and herbivorous animals, and he produced a rickety softening of the bones of each by removing them early from the mother, and giving the one set meat and the other set vegetables before the natural period. Professor Trousseau has backed the deductions of M. Guérin with his valuable imprimatur. The time for weaning should be fixed, partly by the almanac, partly by the growth of the teeth. The troubles to which children are liable at this crisis are usually gastric, such as are induced by hot weather ; so that in summer it should be postponed, and in winter hurried forward. The first group of teeth, nine times out of ten, consist of the lower central front teeth, which excite no wonder in any but very young parents, by appearing any time during the sixth and seventh month. The mother may then begin to diminish the number of suckling times ; and by a month she can have reduced them to twice a day, so as to be ready, when the second group makes its way through the upper front gums, to cut off the supply altogether. The third group, the lateral incisive and first grinders, usually after the first anniversary of birth, give notice that solid food can be chewed. But I think it is prudent to let milk, though not mother's milk, form a considerable portion of the diet till the eye teeth are cut, which seldom occurs till the eighteenth or twentieth month. At this period even very strong children are liable to diarrhœa, convulsions, irritation of the brain, rashes, and febrile catarrhs. In these cases the resumption of complete milk diet is advisable, and sometimes a child's life has been saved by its re-application to the breast. Now these means are the most readily feasible when the patient is accustomed to milk ; indeed, if it be not so, the latter experiment is hardly possible.'

Dr. Playfair remarks of weaning :[1] 'As a rule, weaning

[1] *Science and Practice of Midwifery*, 6th edit. vol. ii. p. 290.

should not be attempted until dentition is fairly established, that being the sign that nature has prepared the child for an alteration of food ; and it is better that the main portion of the diet should be breast milk until at least six or seven teeth have appeared. This is a safer guide,' adds Dr. Playfair, 'than any arbitrary rule taken from the age of the child since the commencement of dentition varies much in different cases. About the sixth or seventh month it is a good plan to commence the use of some suitable artificial food once a day, so as to relieve,' says Dr. Playfair, 'the strain on the mother or nurse, and prepare the child for weaning, which should always be a very gradual process. In this way a meal of rusks,[1] of the entire wheat flour,[2] or of beef or chicken tea,[3] with bread crumb in it, may be given with advantage ; and as the period for weaning arrives a second meal may be added, and so eventually the child may be weaned without distress to itself or trouble to the nurse.'

There can be no doubt that weaning should be performed gradually, not all at once. It is very trying to a child, weaning it, as the French call it, *tout d'un coup*,[4] and is productive sometimes of much gastric disturbance, and should never be done save under extreme necessity, or by the advice of the medical man. The old-fashioned rubbing the nipples over with bitter aloes, or some other disagreeable compound, 'in order,' as old nurses used to say, 'to make baby dislike its usual meal,' was not only absurd but cruel. Why make a poor child cry, and render it miserable, when precisely the same end may be attained by agreeable means ?

Speaking of the increase of food with infants and young babies, Dr. Starr writes :[5] 'There is thus a very rapid growth during the first two months of life, while in the third, fourth, and fifth months the increase is slight. Guided by these data, the quantity of food should be rapidly augmented during the first six or eight weeks of life, and then held at the same

[1] See 'Feeding,' p. 225.
[2] *Ibid.*, p. 213.
[3] *Ibid.*, pp. 232–235.
[4] 'At one stroke.'
[5] *Dietetics of Infancy and Childhood*, Louis Starr, M.D. Philadelphia, *Annual of Universal Medical Sciences*, 1888 ; *Sayous*, vol iv. pp. 260, 261.

quantity up to the fifth or sixth month ; another considerable increase is also demanded between the sixth and the tenth months. . . . These two factors, strength and quantity, are intimately associated throughout the whole period of infancy, and in the earlier months a mere increase in the latter is not always sufficient to maintain the balance of nutrition.'

Speaking of the prevalent custom of forcing food on infants during the first week of life, Dr. Starr says : 'As a rule infants are overfed, so far as quantity is concerned ; and this opens the very interesting question of the normal capacity of the stomach at different ages. Rotch[1] has recently written an important paper upon the subject. He states that, by actual measurement, the stomach of an infant five days old holds 25 c.c., or six-and-a-quarter fluid drachms, a quantity very far short of that usually forced upon the babe during the first week. During the first four weeks infants generally require from twelve-and-a-half to sixteen fluid ounces of food ; in the second and third months about twenty-four fluid ounces,[2] and, from this time to the twelfth month, from two to two-and-a-half or even three pints. After the twelfth month the quantity depends upon whether additions be made to the diet, or milk food be used exclusively. When the daily amount reaches three pints the limit of the capacity of the stomach is usually attained ; and the greater demand for nutriment, as growth advances month by month, must be met by adding to the strength of the food rather than by increasing its bulk.' Further on,[3] I give the quantities it is computed a child wet-nursed takes of milk daily. This would, of course, suppose the child entirely wet-nursed. The too prolonged nursing of infants has lately been said not to be desirable, even in the case of strong, healthy women, well able to do so, and it has been urged that it is 'apt to produce blindness in the mother and idiocy in the child.'[4] This is, however, disputed by other authorities. I have seen numbers of children abroad nursed, some entirely, others partially, till two and three years old, without any apparent harm resulting to mother or child.

[1] *Arch. of Pediatrics.*
[2] See 'Feeding,' p. 103.
[3] *Ibid.*, p. 104.
[4] *The Lancet*, November 1887.

Dr. Geikie writes :[1] 'Among the ancient Jews children were not weaned, at least in some cases, till they were three years old, as is expressly stated by a mother in Maccabees.'[2] Dr. Geikie remarks that prolonged nursing is still the rule in the East, and says :[3] '. . . infants being seldom weaned under two years of age, and a son may have "his own milk" for even double that time, it being a common belief that the longer a child is kept at the breast the stronger he grows. This renders Christ's remark,[4] "Out of the mouth of babes and sucklings Thou hast perfected praise," more clear and intelligible. If in the East a child was weaned, as with us, before being able to speak, this verse would be incomprehensible, for a child under three years certainly could not give praise or commendation.

In some cases it would be better if young mothers did not attempt to nurse their children themselves, but brought them up by hand from the first. Delicate in health, nervous, excitable, going out constantly to parties, balls, dinners, and heated assemblies, over-taxed in strength, and unable, and in some cases unwilling, to give themselves up to the nursing of their baby,[5] they are totally unfitted for doing so, and in reality do the child more harm than good.[5] The poor baby gets its meals at all hours. The mother has to go out ; so it is fed, although it is not the proper time and the child does not really require food. That the child is sick directly after is no matter. 'Now I have fed baby,' says the unreflecting mother, 'it will be more satisfied.' Then poor baby has sometimes to wait the convenience of its giddy young parent, who comes home fatigued and overdone from some place of amusement, having perhaps partaken of wines, or something which will disagree with the child, and then feeds the poor infant, who, to her surprise, is sick directly after, or ends by having diarrhœa.

The researches of Quêtelet[6] prove 'late hours lead to

[1] *The Bible and the Holy Land*, vol. i. p. 211.
[2] 2 Macc. vii. 27.
[3] *The Bible and the Holy Land*, vol. ii. p. 275.
[4] St. Matt. xxi. 16.
[5] See 'Feeding,' pp. 98, 99.
[6] *Mortality of Man at Different Ages.*

fatigue, to excitement, and to stimulating and improper diet, which are sure means of causing unhealthy offspring.' Young mothers also are often in such a hurry to get their infants' feeding over that they encourage the avidity with which the child sucks, and this is sometimes the sole cause of infants being sick directly after being fed. If a mother cannot devote herself *quietly* to nursing her baby, it is far better for her to leave it entirely, and bring the child up by hand. Young mothers who 'go out' a great deal are subject to much excitement, eat and drink all sorts of mixtures, and made-up, highly seasoned dishes, make most unsuitable nursing mothers, and really injure their children by nursing them. Also, anyone inclined to fits of violent temper is not fit to wet-nurse. That a baby could in any way be injured by its mother or wet-nurse being subjected to violent excitement, sudden fright, or extreme annoyance or worry just previous to nursing it is to many unknown. This is a fact, however, worth the notice of mothers whose infants are wet-nursed.

Dr. Carpenter observes :[1] 'So many instances are now on record in which children that have been suckled within a few minutes after the mothers have been in a state of violent rage or terror have died suddenly in convulsive attacks that the occurrence can scarcely be set down as a mere coincidence ; and, certain as we are of the deleterious effects of her severe emotions upon the properties of the milk, it does not seem unlikely that in these cases the bland, nutritious fluid should be converted into a poison of rapid and deadly operation.'

The mental state of a woman nursing is of the utmost consequence ; a woman nursing has three things to consider : Her mind (in other words, that she is not being continually worried or over-excited) ; her state of health (which will be affected by diet—the milk also) ; that her daily life is spent under healthy conditions (suitable exercise, proper ablutions, and absence of vitiated air in the dwelling-rooms, all tending to this result). If all these things are attended to, the child will flourish ; the melancholy or irritable temper, prone to take

[1] *Manual of Physiology*, 2nd edit. p. 509.

all the little trials and rubs of life to heart, unable to feel what old-fashioned people used to call 'comfortable-minded,' is a sad possession, and worth 'trying to get rid of'; a cheerful spirit is a blessing to the owner.

Sir Astley Cooper writes :[1] 'A fretful temper lessens the quantity of milk, makes it thin and serous, and causes it to disturb the child's bowels, producing intestinal fever and much griping. Fits of anger produce a very irritating milk, followed by griping in the infant, with green stools. Anxiety of mind diminishes its quantity . . . as in the case of a mother anxious for a sick child. Her milk will under these circumstances often produce green, spotty motions, with tormina. *Terror* is more powerful.' Sir Astley Cooper adds : 'Of the many causes which produce defective lactation, none are more powerful than mental worry, sorrow, and fright, any of which may suppress or diminish the supply and cause diarrhœa, vomiting, convulsions, and death in the child.' 'Deyeux examined the milk of a woman who was liable to frequent nervous attacks. He found that simultaneously with these attacks the milk became transparent and viscid, like albumen, and did not resume its normal condition till some time afterwards. To expose a child to such variations is most injudicious.'[2] 'A sudden burst of passion, fright, or violent agitation, will often produce in the suckling child violent diarrhœa, vomiting, convulsions, and even death.'[3] A mother should never nurse her baby while under the influence of anger, grief, or extreme anxiety.

Speaking on the subject of the effect of anger on the system, Dr. Carpenter says :[4] 'Take, for instance, a cat, which on some occasions you might stroke and do almost anything with, but if you excited it and got it into a rage, and it bit anyone, mischief would be sure to arise. The fact of an animal getting into a rage produced a saliva which caused great danger.'

[1] *Lectures on the Breast.*
[2] Dr. Routh, *Infant Feeding*, p. 266. See also Burdach's *Physiologie.*
[3] Carpenter's *Physiology*, p. 980.
[4] *Journal of the Society of Arts*, April 1, 1887.

Dr. Bannister writes :[1] 'Contentment and warmth are two great factors in the successful keeping of all animals, and this applies more strongly to cows in milk, whose flow of milk is diverted or suspended by very trivial causes.'[2]

'The child is poisoned.'

'Poisoned ! by whom ?'

'By you. You have been fretting.'

'Nay, indeed, mother. How can I help fretting ?'

'Don't tell me, Margaret. A nursing mother has no business to fret. She must turn her mind away from her grief to the comfort that lies in her lap. Know you not that the child pines if the mother vexes herself ?'[3]

'Little tiffs,' which mean nothing, which are only the breezes which ruffle the smooth current of matrimonial existence, may be of no consequence in the halcyon days of the honeymoon, but are best avoided when mamma is nursing baby, for it may mean death to the cherished little one. When papa and mamma feel inclined to quarrel let them remember poor baby, and let there be a truce till baby is weaned.

A mother wet-nursing her baby should most decidedly study her diet. This applies equally to wet-nurses, who should avoid acids, strong drinks, &c. Champagne is said to be especially injurious for a nursing mother. Port-wine very frequently affects an infant's bowels when taken by the mother, and, although agreeable to the mother, is a source of pain and irritation to the child. Sherry is less liable to cause this, but undoubtedly an infant nursed by anyone who habitually drinks a great deal of alcoholic liquors is very certain to get into a feverish, unhealthy condition, and, even if the child does not appear to be affected *at first*, the consequences of indulgence in drink will be certain to show during the trying period of teething. The taking of narcotics or opium by anyone nursing is especially dangerous, the latter even having been known to be fatal to infants through the mother suckling her child immediately after having taken it. Dr. Routh mentions

[1] *Our Milk, Butter, and Cheese Supply*, by Richard Bannister, F.I.C., F.C.S.

[2] See 'Feeding,' p. 136.

[3] *The Cloister and the Hearth*, by Charles Reade.

p. 245 of 'Infant Feeding') the case of a lady who, having taken laudanum, nursed her infant soon after, and thus nearly lost it.

Dr. Barker, of New York, in speaking of diet for a woman nursing, makes no mention of wine or beer as being, as they are often supposed, of especial value in increasing the quantity or the quality of milk.[1] Dr. Barker, however, advocates 'nutritious food,' and says especially that it should 'easily digest and assimilate.'

Dr. J. G. Thorworth, in 'Deficiency of Milk,' published in 1764, observes: 'Alcohol (spirits, beer, wine) is largely used under the belief that the lacteal secretion is increased by its influence; but increase in quantity does not mean improvement in the nutritive properties of that secretion upon which the child depends for nourishment.'

'There can be no greater mistake than to imagine, because a woman is nursing, she ought, therefore, to live freely, and that porter or fermented liquor should enter into her diet. And I may lay down, as a general principle, that the mother who requires porter or beer to stimulate her for her duties had better dispense with the office. . . . The milk is rendered irritating to the child; it is no longer the bland nutritious food it should be, and the weak, delicate stomach of the nursling suffers from the introduction of a foreign substance.'[2]

The following from the 'Lancet' of November 26, 1887, is instructive as showing the effect too rich and unaccustomed a diet may have on a child. Many are in the habit of giving wet-nurses very rich food, and of themselves taking rich dishes, under the impression that it makes the milk better for the child.

[1] *The Puerperal Diseases*, Clinical Lectures delivered at Bellevue Hospital by Fordyce Barker, M.D.

[2] *London Practitioner* for February, March, April, and May, 1881. Article by Thomas M. Dolan.

Cause and Effect of Excess of Fat in Human Milk.[1]

Dr. Zalêski of Dorpat publishes a case in the 'Vrach' which bears out the well-known doctrine that a peasant wet-nurse should not be made to change her habits and her food for those customary among persons belonging to the wealthier classes of society. A baby four months old was brought to Dr. Zalêski with a history of diarrhœa and an emaciated appearance. The wet-nurse, a peasant woman, who had been accustomed to live on black bread, potatoes, and very small quantities of milk and cheese, with no alcoholic liquor, was suddenly promoted to a rich and highly nitrogenous diet, consisting of quantities of meat and eggs, with at least two bottles of beer a day. Samples of the milk were analysed. By Dr. Zalêski's advice her diet was changed so as more nearly to resemble that of her peasant home, the beer was stopped, and she was given some light manual labour to perform. At the end of a fortnight a great improvement had taken place. Her milk was again analysed. The mean results in the two cases showed that there was but little difference in most of the constituents. The lactose, however, had increased from 4·40 to 5·46 per cent., and the fat had decreased from 6·29 per cent. (which was the high figure denoting the proportion of fat in the first sample) to 3·97. Dr. Zalêski goes very fully into the literature of the subject, and gives analyses by many other observers. The conclusion to which he comes is that an excessively high percentage of fat in the milk, so far from being beneficial, is actually prejudicial to the health of the child; and that a highly nitrogenous diet tends to produce excess of fat, and, to a smaller extent, an excess in the saccharine matter in the milk.

'Food has everything to do with both quantity and quality.'[2]

Dr. Chambers writes:[3] 'The great mistake is often made of endeavouring to supply the wants of strength and appetite by an extra supply of wine or malt liquor. The nurse should

[1] *The Lancet*, November 26, 1887.
[2] *British Medical Journal*, 1887.
[3] *Manual of Diet*, p. 140.

never take more than she is accustomed to; if she does it makes her eat less and digest less, though she does not feel the debility which is the consequence of the innutrition. Beer increases the quantity of the milk just as it increases the quantity of the urine, but it also renders it thin and watery in the one case as in the other. The most proper food for a mother is cow's milk, fresh and unskimmed. It can be taken at all times, in a great variety of forms, and nobody has ever been known to take too much. If it turns sour in the stomach, lime-water mixed with it not only corrects its acescence, but also supplies a valuable aid to the growing bones of the infant.' Many young mothers say they cannot take milk, that it gives them indigestion, lies heavy on the chest, &c. In nearly every case it will be found that the addition of a teaspoonful or two of lime-water to the half-pint of milk will tend towards helping the digestion of milk. If a large quantity of milk cannot be taken, why not begin with a smaller quantity? The addition of food with milk will also help it to digest. Why not take a few plain biscuits or a little bread and butter with a teacup of milk with lime-water? If cold milk disagrees, dilute with hot water. The artificial milk might be found easier of digestion. I have known this agree when nothing else would remain on the stomach, and it is easily prepared.'[1]

Sir Astley Cooper remarks:[2] 'Eels, oysters, tapioca in soup, turnips, potatoes, lettuce, all have a tendency to increase milk. Sufficient salt[3] is necessary in the food of a nursing woman, and tends as well to increase the milk, and makes it better in quality.'

Cheese is also of value; those containing the least acid being best. Dr. Bannister gives an analysis of cheese[4] which will show those containing the most acid. A young friend of mine tells me she finds after a meal of American or Gloucester

[1] See 'Feeding,' p. 192.

[2] *Lectures on the Breast*, by Sir Astley Cooper.

[3] 'During the period of suckling, also, salt given to the mother renders the milk more abundant and more nutritious.'—Letheby, *Lectures on Food*, p. 93.

[4] *Our Milk, Butter, and Cheese Supply* by Richard Bannister, F.I.C., F.C.S.

cheese, bread, and a glass of good beer,[1] her milk is more abundant, and that it more easily satisfies her baby. She always has this at 11 o'clock. She found, after eating Gorgonzola, her baby always had hiccough, and after Stilton diarrhœa.

ANALYSIS OF COMMERCIAL CHEESE.

Description	100 Parts contain—					Salts per cent. in Cheese	Percentage Composition of Fat		Weight of Cheese
	Water	Fat	Casein or Nitrogenous Matter	Free Acid as Lactic	Ash		Insoluble Acids	Soluble Acids	
									lbs.
Cheddar . .	35·60	31·57	28·16	0·45	4·22	1·43	88·75	4·55	70
American Red	28·63	38·24	29·64	—	3·49	0·72	89·06	4·26	63
American White .	31·55	35·93	28·83	0·27	3·42	0·82	88·49	4·81	69
Gloucester .	35·75	28·35	31·10	0·31	4·49	1·28	86·89	6·68	Sin. 17 Dbl. 28
Gruyère . .	33·66	30·69	30·67	0·27	4·71	0·81	88·97	4·41	168
Dutch . . .	41·30	22·78	28·25	0·57	7·20	4·45	87·58	5·84	4
Cheshire . .	37·11	30·68	26·93	0·86	4·42	1·69	87·76	5·55	57
Stilton . . .	23·57	39·13	32·55	1·24	3·51	0·67	88·96	4·42	16
Gorgonzola .	31·85	34·34	27·88	1·35	4·58	2·11	89·18	4·40	16
Roquefort . .	32·26	34·38	27·16	1·32	4·88	3·04	88·70	4·91	4

'A careful examination of the foregoing figures will throw considerable light on the maturing of cheese. It will be observed that the five first in the table contain very little acid, the American, Gloucester, and Gruyère being particularly low. The Dutch, which evidently has not been made from whole milk, contains more, but the Cheshire, Stilton, Gorgonzola, and Roquefort contain apparently excessive quantities.'

As will be seen from the above, there is much nutriment in cheese.

Dr. Routh mentions potatoes as being useful during nursing.[2] 'The ancient faculty of Medicine in Paris appointed a commission in 1771 to trace the effects of various roots on the milk of cows. These reported the potato to be particularly useful in increasing the quality and the flow of milk, also that its administration to the mothers of thin, weakly children had led to the rapid improvement of these latter in

[1] Some find Guinness's stout better; and see 'Feeding,' p. 99 *et seq.*

[2] *Infant Feeding*, p. 303.

every respect.' Gruel increases milk; arrowroot, chicken broth, beef-tea, egg and milk beaten up, are all useful.

Dr. Playfair, in his 'Science and Practice of Medicine,' page 287, vol. ii., mentions 'stewed eels, oysters, and other kinds of shell-fish' as being of service in increasing breast milk.

A nursing mother might take gruel, arrowroot, chicken broth, beef-tea, &c.,[1] when she felt disinclined for more solid food, the great drawback to which is in many instances the having to eat alone. How many young wives go through a system of semi-starvation! And because in most cases their midday meal has to be partaken of alone, it is hurried over, and little or nothing is eaten. Young wives wait for their husbands' late dinner (ah! if they could peep in at the club at the lunch hour, they would see the dear husband is not so foolish as to starve himself); and when it comes, having fasted too long, they cannot eat much, and too often a stimulant is taken in consequence. Where there is a baby which requires feeding this system is injurious alike to mother and child.

A writer in the 'Gazette Médicale de Paris' says: 'Pas d'appétit, pas de manger, pas de manger, pas de santé, ni pour la mère ni pour l'enfant.'[2] And further adds that young mothers amongst the upper classes think they can perfectly nourish their children on very insufficient nutriment, thus causing serious illness. Young mothers say they find nursing such a 'drain' upon the system; there is no doubt it would not be so if they fed properly and took sufficient outdoor exercise.

Dr. Starr writes:[3] 'Lactation, being a physiological process, is not a drain upon the systemic strength so long as the functions of nutrition are actively performed; but under other circumstances it very frequently becomes so,' and adds:[4] 'If a

[1] See 'Feeding,' pp. 221, 232–235.

[2] 'No appetite, no eating; no eating, no health, for mother or child.'

[3] *Dietetics of Infancy and Childhood*, by Louis Starr, M.D. Philadelphia; *Annual of the Universal Medical Sciences, Sagous*, 1888, vol. iv. p. 247.

[4] *Annual of the Universal Medical Sciences, Sagous*, vol. iv. pp. 247, 248.

woman be worn out by household cares, if she wears herself out by a round of dinners, balls, or shopping, or if she exposes herself to injurious atmospheric conditions and eats improper food, she grows weak and thin, whether she be nursing or not. . . . In addition to making nursing the important duty of her life for the time being, a mother must be as free from housekeeping cares as possible. Mental and physical fatigue is to be avoided, sufficient exercise must be taken to maintain a healthy appetite and digestion, and abundant time devoted to rest and sleep. Beyond securing a plentiful supply of plain and easily digestible food, with a judicious portion of meat, vegetables, and fruit, it is unnecessary to give special attention to the diet. Should the secretion of milk be scanty, it may often be increased by the free use of animal broths, chocolate, gruel, or milk, and sometimes the moderate employment of stimulants in the form of ale and porter may be necessary.' Often want of appetite proceeds from want of fresh air and exercise. Young girls, accustomed to plenty of fresh air before marriage, sometimes become complete recluses after, to the great detriment of their health. While nursing, fresh air and exercise are most necessary : not a long walk once a week, on a Sunday, but daily outdoor exercise.

Sir Astley Cooper says :[1] 'Exercise has a remarkable effect upon a mother's milk, in increasing the amount of its nitrogenous principle, caseine.'

Dr. Chambers writes :[2] 'During the months of suckling it should be the object of the mother first to provide herself with an appetite, and, secondly, to provide herself with proper food. The appetite often fails simply from want of fresh air, especially in those who are used to enjoy it, the remedy for which state of things is sufficiently obvious. Sometimes the disrelish for food is a symptom of the exhaustion induced by the labour, and then small doses of sal-volatile, or a light bitter, such as gentian, will remove it. Sometimes it is a direct gastric anæmia, arising from going too long without food. The patient should eat directly she begins to feel

[1] *Lectures on the Breast.*
[2] *Manual of Diet in Health and Disease*, p. 140.

hungry, and not wait to feel very hungry. But at the same time she should be careful not to overload the stomach; in fact, though she eats often, she should not eat more than when in ordinary healthy exercise.'

Many eminent medical men are of opinion that too sedentary a life is the cause of illness, and sometimes death, to young married woman, especially amongst the upper classes, who, having servants, lose even that household exercise which the poorer woman gets in attending to all the various details of her household duties—sweeping, cleaning, washing up, rubbing, dusting, and the continual moving about necessitated by house-work.

'The late Mr. Roberton,[1] surgeon, of Manchester, in his practice as a specialist in female diseases, found traces of disease, which there were not with women with no servant, begin with women with one servant, get more pronounced with women who had two servants, become worse with ladies who had three servants, and worse still with those ladies who had four servants. He showed statistically that the deaths from childbirth were four times greater in the latter class than in the former class.'

Some women require a little aperient medicine occasionally while nursing. Fluid magnesia (Dinneford's) or manna[2] are quite safe to take; but more powerful medicines should not be taken without medical advice, as they may act injuriously on the child through the milk. An enema is, in many instances, of service in relieving the bowels,[3] and does not affect the child. I have seen an infant rendered quite ill through some patent pills having been taken by the mother; as the pills agreed before the child was born, no thought entered the poor mother's mind that they would affect the baby. Castor oil, as an aperient, acts beneficially in many cases with those nursing. Dr. Routh, in speaking of defective lactation, observes on the use of castor oil:[4] '. . . having frequently observed that suckling women, after taking a dose of castor oil, noticed that they secreted a larger quantity of milk—a result which I

[1] *British Medical Journal.*
[2] See 'Home Remedies,' p. 491.
[3] See 'Feeding,' p. 146.
[4] *Infant Feeding*, pp. 190, 191.

certainly cannot entirely attribute to the removal of accumulated fæcal matters, because I have not seen the same full effect from the use of other purgatives.' Dr. Tyler Smith notices the effect castor oil has in increasing milk,[1] and thinks 'it may be due to its reducing febrile excitement.' A young friend of mine told me her milk was much increased by an occasional dose of castor oil, which she took in milk.[2]

Dr. Ellis writes :[3] 'If any simple cause, such as constipation, appear to call for medicine in the mother, she cannot do better than take a moderate dose of castor oil or some unirritating vegetable purgative. Saline purgatives are not so desirable, as they are found to enter into the lacteal secretion.' Dr. Ellis adds :[4] 'Castor oil may also, with safety, be given to an infant for the same cause; occasionally the other vegetable oils are useful, such as almond and olive oil, but of these larger doses are necessary.' Continually dosing an infant with castor oil for constipation is very unadvisable, and often increases that which it is wished to remedy. A little fluid magnesia (Dinneford's) is often a sufficient aperient for an infant. An enema is also useful in relieving the bowels.[4] But as a rule an infant who is nursed is not troubled with constipation. When lassitude or weakness is felt a tonic is often of service; but this should be taken with the advice of a doctor, as the weakness may proceed from some cause which requires looking to.

Dr. Chambers thinks[5] 'the nursing-mother will act wisely also if she takes after her meals small doses of the syrup of the phosphates, or Parish's Chemical Food.' In the case of a strong, healthy woman these would not be necessary, but with one not very robust no doubt they would be beneficial. Relative to things useful in increasing milk, there is an herb much in use amongst country people for this purpose. It is generally called the 'milk weed.' I have heard it well spoken of, and, curiously enough, I find amongst many herbs, said to be useful

[1] *London Journal of Medicine*, vol. ii. 1850, p. 954.
[2] See 'Home Remedies,' pp. 468, 489.
[3] *Disease in Childhood*, p. 135.
[4] See 'Feeding,' pp. 146, 147.
[5] *Manual of Diet*, p. 333.

for increasing milk, Dr. Routh mentions the 'milk weed' favourably:[1] 'Coronilla Junica—*syn.* Polygala Vera, milk vetch. This herb in decoction increases milk. I believe this is the same plant which is known and sought for in London by many suckling mothers; indeed, it is kept for that purpose by herbalists. It is usually obtained from Gravesend, and known more popularly as the *milk weed.* I have used it largely,' adds Dr Routh, 'and I must also speak very favourably of it. Second only to castor oil, and of about the same efficacy as the fennel, it is more readily available for most persons. I have also used the leaves of this remedy as a decoction, and have found it very efficacious. I have not tried the roots or the seeds. Probably the medicinal effects of these parts of the plant would be even more marked, and in winter they would be more readily procurable than the fresh leaves. Butler, McCulloch, & Co., Covent Garden Market, South Row, opposite Southampton Street, Strand side, herbalists, can get the 'milk weed.' They also have a medical book on the use of herbs, so that they would be able to give information as to the use of this herb and how to prepare it.

Dr. Routh further mentions:[2] 'The fennel (*marathron* of the Greeks), indeed, seems to be the staple ingredient of most of the remedies employed to promote secretion of milk. Ægineta recommends the root and fruit of the fennel boiled in ptison. Ætius recommends the leaves of the dill. Ægineta also directs that the fruit of the carrot should be given in such cases.' 'My experience,' Dr. Routh further adds,[3] 'of these several plants has been confined, in a medical point of view, to the fennel. I have used rather extensively the infusion of fennel-seeds, and of all those plants which I have tried I consider it as second only to the ricinus. It is remarkable how materially it increases the flow of milk in those who take it, sensibly producing the draught in many women who have been strangers to this sensation to any extent for weeks. . . . The appearance of the children has been also particularly good under its influence.'

Those who wish further information on herbs likely to

[1] *Infant Feeding*, p. 204. [2] *Ibid.*, p. 206. [3] *Ibid.*, p. 207.

increase breast milk will find full information in Dr. Routh's 'Infant Feeding.'

Dr. Playfair says :[1] 'Unfortunately little reliance can be placed on any of the so-called galactagogues.' 'The only one,' adds Dr. Playfair, 'which in recent times has attracted attention is the leaves of the castor oil plant, which, made into poultices and applied to the breast, are said to have a beneficial effect in increasing the flow of milk.'

Dr. Goodhart writes :[2] 'As regards quantity, it has been estimated that the mother supplies to her baby a pint of milk in the twenty-four hours in the first week or two, and that this quantity gradually increases until, in the later months of lactation, about three pints is reached. Some such quantity, therefore, distributed over regular intervals, should be the daily allowance to a child from birth onwards. But infants vary much in respect of the quantity which they will digest. Some are habitually small feeders. Therefore, provided that the child grows, that its flesh is firm, and it is happy, there should be no absolute insistance upon a fixed minimum.' Dr. Routh says :[3] 'A three-months child generally thrives very well on four, or, at the most, five meals a day, the quantity taken each time amounting to a half-pint. . . . A younger child, one to two months, may need to take his meals more frequently—it may be every two hours, except when asleep,[4] but then the quantity consumed does not exceed, as a rule, as I have often assured myself, two wine-glasses,[5] or three ounces, every meal. This would raise the quantity taken in twenty-four hours to thirty-six ounces—a quart and a quarter. A child above three months may take about forty-eight ounces daily.'

Dr. W. Henry Cumming thinks the amount of milk ordinarily supplied by a healthy woman is 'one-and-a-half to two quarts daily,' and, in the case of two children nursed by one person, 'about four quarts.' Dr. Cumming states[6] 'that

[1] *Science and Practice of Midwifery*, 6th edit. vol. ii. p. 292.
[2] *Diseases of Children*, 2nd edit. p. 26.
[3] *Infant Feeding*, p. 101.
[4] See 'Feeding,' p. 237, and 'Repose,' p. 333.
[5] See 'Feeding,' p. 133.
[6] *American Quarterly Journal of Medical Science*, July, 1858, Ranking's *Retrospect*, pp. 28, 275.

an infant three months old will take from 48 to 64 fluid ounces daily in 6 or 8 half-pint doses.'

Dr. Chambers also writes :[1] 'The education of the infant must begin immediately after birth. In the first place it has to be taught to suck.[2] . . . Next it has to be taught not to be always sucking, whenever the whim takes it or the mother comes in sight. Regular definite times, the intervals between which are gradually lengthened as the child's strength and growth allow, give a rest both to the stomach of the receiver and the breasts of the giver, which conduces to the due digestion of the nourishment. As a general rule, the daily allowance of milk required by a healthy infant is, on the first day, very small indeed ; on the second day it takes about a quarter of a pint ; on the third day, two-thirds of a pint ; on the fourth or fifth day it will consume a full pint ; and this quantity augments gradually till by the sixth month you must not calculate on less than two pints being wanted. The distribution should be in an inverse ratio to the quantity. During the first two months the child should have the breast eight or nine times daily if the quantity yielded is small, and six or seven times if it is large. After that a gradual reduction may be begun, which, before weaning, should have arrived at the number of four meals daily, which is the most proper for the digestion of mixed diet.' Dr. Starr gives as the

General Rules for Feeding.[3]

Age	Intervals of Feeding	Average Amount at each Feeding	Average Amount in 24 Hours
1 week	2 hours	1 ounce	10 ounces
1–6 weeks . . .	2½ „	1½ to 2 ounces	12 to 16 ounces
6–12 weeks, and possibly to 5 or 6 months .	3 „	3 „ 4 „	18 „ 24 „
At 6 months . . .	3 „	6 ounces	36 ounces
At 10 „ . . .	3 „	8 „	40 „

[1] *Manual of Diet in Health and Disease*, p. 143.

[2] See ' Feeding,' p. 121.

[3] *Dietetics of Infancy and Childhood*, by Louis Starr, M.D. Philadelphia ; *Annual of the Universal Medical Sciences, Sagous*, 1888, vol. iv. p. 261.

Dr. Semple writes :[1] 'Directly after birth it will have to be nursed more frequently—perhaps every two hours, or even every hour and a half—also during the night, as it gets very little at a time, and it will help to excite a good flow of milk. But in a few days, when the supply becomes equal to the demand, it is well to have the infant brought to its food about 11 P.M., after the mother has taken a good bowl of gruel, or a full glass of milk, and then it should not be allowed to return till two o'clock, and again at six.'[2] [3]

Some take milk and gruel and other food after nursing their infant, with the idea of helping to replace what the child has taken. This, however, is a decided mistake. It is always best to take food, milk, or gruel a little before nursing, as this not only increases the supply of milk, but will also render greater the goodness of its quality for the child. I have seen a young mother taking a hungry baby to nurse, having herself eaten or drunk nothing for some hours before, become quite faint and exhausted through the efforts of the child to obtain not only a sufficient but a quick flow of milk. All medical authorities are agreed as to the necessity for regularity in infant-feeding. Dr. Ellis observes :[4] 'It becomes of importance to both the child and parent to observe a certain regularity in the period of suckling.'

Dr. Taaffe, F.R.C.S., in an address delivered to the British Medical Association, August 12, 1886, 'spoke of the decrease in the death-rate of 1871–80, commented on the weekly reports of the Registrar-General, and, passing on to infantile diarrhœa, remarked that improper feeding and improper nursing, even when the mothers nurse their children, are unmistakably among the principal causes of infantile mortality from diarrhœa. The statistics,' he said, 'of this account of infantile diarrhœa show that the mortality from diarrhœa has been chiefly among children under one (433), and between one and five years of age (93), leaving only 56 deaths from diarrhœa

[1] Author of 'The Essential Features of Diseases of Children,' *Mother's Guide*, p. 5.

[2] See 'Feeding,' p. 134.

[3] See Quain's *Dictionary of Medicine*, vol. ii. p. 1148. Also *Traité d'Hygiène*, Proust, Paris, 1877, p. 115.

[4] *Disease in Childhood*, p. 126.

in persons over five years of age.' Dr. Taaffe added : 'I am led to believe that the results of the inquiries tend to prove that even infants at the breast may be improperly fed by a too frequent supply ; indeed, it is the prevailing custom among monthly nurses, whenever an infant cries, at once to apply it to the breast or feed it on artificial food—a practice that cannot be too strongly condemned, for by it the child's digestive functions are being constantly employed, with consequent irritation, derangement, and diarrhœa, aided by an impoverished and debilitated condition of the mother, caused by the constant drain.'

Dr. Ellis writes :[1] 'I entertain little doubt that indiscriminate and irregular suckling is the cause of the continued vomiting of many children in early infancy. Nurses entertain the idea that it is an indication of health, but it may be more frequently regarded as one of repletion, and occasionally as a token of coming disease. Vomiting not unfrequently occurs when a mother has been away from her child for a longer period than usual, and the child has been permitted to fill itself to repletion. Violent sickness then ensues, and sometimes becomes extremely severe, the infant being shortly after quite unable to keep the smallest quantity of milk on the stomach. The same result also often ensues after improper food has been administered, and occasionally after exposure to a hot sun.[2] A little attention will generally subdue this symptom if it be unattended with others indicative of intestinal derangement. By withholding the breast for a few hours altogether, and giving only a few teaspoonfuls of cold barley-water,[3] the stomach will regain its tone, and the child may be cautiously restored to its parent, at first only permitting a small quantity to be taken. If the bowels are disordered, and violent vomiting forms a part of the attendant symptoms, professional aid is necessary.'

'Very frequently,' Dr. Ellis adds, 'even in infancy children suffer from indigestion. The eructations are extremely sour, and even offensive, and the evacuations are unhealthy in

[1] *Disease in Childhood*, p. 186. [2] See 'Sea Air,' p. 354.
[3] See 'Feeding,' p. 186, how to make.

every respect—in colour, consistence, and odour. The milk is often vomited, and has a peculiarly sour, penetrating odour; the child is feverish, the tongue furred, and it is fretful, and little soothed even by application to the breast, for, though quiet there, it almost immediately after removal cries and writhes in pain until it is sick, when it seems to be relieved. The bowels are sometimes confined, at others relaxed. If these symptoms appear in a child fed by hand, strong presumptive evidence is afforded by them that the food administered is improper, and such is often found to be the case. Acidity of the milk given will produce this result,[1] or the use of farinaceous food, which will often be found in the evacuations undigested and, in fact, unaltered.[2] It will be necessary to ascertain these points, and to apply the proper remedy. But, if administration of medicine is rendered necessary by the continuance of the symptoms, it requires such a careful and discriminative application of the remedies that no unskilled person should attempt their use. A little magnesia and rhubarb with a grain of grey powder will be generally useful in very slight cases. Change of air is also occasionally a remedy of wonderful power. Very often the symptoms of indigestion in infancy are the result of derangement of the health of the parent, and it is her duty in such cases to submit to proper treatment.'

Dr. West remarks of infant-vomiting:[3] 'It sometimes happens that young infants are suddenly seized with vomiting, which, though violent and frequently repeated, is attended with few or no indications of general intestinal disorder. The child in such cases seems still anxious for the breast, but so great is the irritability of the stomach that the milk is either thrown up unchanged immediately after it has been swallowed, or it is retained only for a very few minutes, and is then rejected in a curdled state, while each application of the child to the breast is followed by the same result. It will generally be found, when this accident takes place in the previously healthy child of a healthy mother, that it has been occasioned by some act of

[1] See 'Feeding,' p. 136. [2] See *ibid.*, p. 210.
[3] *Diseases of Infants and Children*, pp. 363, 364.

indiscretion on the part of its mother or nurse. She, perhaps, has been absent from her nursling longer than usual, and, returning tired from a long walk, or from some fatiguing occupation, has at once offered it the breast, and allowed it to suck abundantly; or the infant has been roused from sleep before its customary hour,[1] or has been over-excited or over-wearied at play, or, in hot weather, has been carried about in the sun without proper protection from its rays.[2] The infant in whom, from any of these causes, vomiting has come on must at once be taken from the breast, and for a couple of hours neither food nor medicine should be given to it. It may then be offered a teaspoonful of cold water, and, should the stomach retain this, one or two more spoonfuls may be given in the course of the next half-hour. If this be not rejected, a little isinglass [2] may be dissolved in the water, which must still be given a teaspoonful at a time, frequently repeated, or cold barley-water may be given in the same manner. In eight or ten hours, if no return of vomiting take place, the experiment may be tried of giving the child its mother's milk, or cow's milk, diluted with water, in small quantities and from a teaspoon. If the food thus given do not occasion sickness, the infant may, in from twelve to twenty-four hours, be restored to the breast, with the precaution, however, of allowing it to suck only very small quantities at a time, lest, the stomach being overloaded, the vomiting should be again produced. In many instances where the sickness has arisen from some accidental cause, such as those above referred to, the adoption of these precautions will suffice to restore the child to health. If, however, other indications of gastric or intestinal disorder have preceded the sickness or be associated with it, medicine cannot be wholly dispensed with.'

A physician told me a good plan, when a mother is a little over-fatigued or exhausted, is not to immediately nurse her child on an empty stomach, which, as Dr. West observes, may be the cause of sickness to the infant, but to take a glass of milk with hot water added, three parts milk to one water (with a dessert-spoonful of lime-water instead of plain water, if

[1] See 'Repose,' p. 333. [2] See 'Sea Air,' p. 354.

she finds the milk too heavy), and a biscuit or two to eat, and then, in about ten minutes or so, after resting perfectly quiet, to nurse her infant. If very exhausted, add a table-spoonful of brandy to the milk. An egg beaten up in milk with sherry is useful to take where there is disinclination for solid food when fatigued. If a mother is going to nurse her baby she should nurse it from the first, as the first milk has an aperient effect most necessary to the health of the infant.

'An intelligent parent will soon be convinced,' writes Dr. Ellis,[1] 'of the dangerous folly of giving a newly born infant gruel[2] or such like on being informed of the nature of this secretion,[3] and of its beautiful adaptation to the wants of her child. The first milk is remarkably different from that found at a later period. On microscopic examination it is found to consist of two portions, a thin watery fluid, and a multitude of yellow corpuscles suspended in it. These corpuscles, which are apparently made up of many small granules aggregated together, give to the first milk its peculiar character. It is called the colostrum. It abounds in fatty and saccharine matters, but contains only a small proportion of the nitrogenous element, the caseine, which afterwards gradually increases in proportion to the requirements of the infant. This fluid is admirably adapted for the infant's condition at birth; it is easily and rapidly digested, it contains no superfluous materials, and is adapted for early nutrition, with very little further change. It is also valuable for its purgative influence on the child, which is such as to render, generally speaking, all dosings with castor oil a needless infliction. Sometimes, indeed, the character of the first milk is retained too long, and examination by the microscope will reveal to the medical practitioner, who will find its aid very important in this as in other investigations into the cause of disease, the source of the consequent disturbance of the health of the infant. If such an aliment as this be nature's supply, how manifestly wrong must it be to

[1] *Disease in Childhood*, pp. 119, 120.

[2] 'No artificial purgative oil, gruel, or sugar-water should be allowed in lieu of the mother's first colostrum milk.'—Quain's *Dictionary of Medicine*, vol. ii. p. 1,147.

[3] The first milk.

give to an infant scarcely an hour old a single spoonful of the customary preparations of farinaceous matter and sugar!'

'If the mother be moderately comfortable, the baby should, when but a few hours old, be laid beside her and his lips applied to the breast.

'"The child needs no nourishment yet," says the trained nurse.

'"The mother has nothing for it," objects the old-fashioned "granny," and, lest the little one should starve through this oversight of Nature, she lays the train for the initiatory colic by pouring down milk-and-water, then sweet oil thick with sugar "to clear the bowels."

'Both women are as right as both are wrong. The child is not hungry, nor is there milk in the mother's breast. There is a secretion known as *colostrum*—"a nutritious fluid, eminently appropriate to the necessities of the babe until the 'milk comes.' It is a bland, yellowish emulsion that dilates the stomach and purges the bowels." This is of itself sufficient to keep the child alive and in good case until, having prepared the system for that which is to be the staff of infant-life for months to come, the "yellowish emulsion" gives place to *white* milk.'[1]

Dr. Chambers says:[2] 'The child should be put to the mother's breast as soon as she wakes from her first sound sleep after its birth. The waiting for three or four days is an old-fashioned relic of the days of drugging, when it was considered wrong that the young bowels should be relaxed by the colostrum of the first milk, but right that they should be griped with castor-oil. Not to use the first milk is wasteful and injurious. The best substitute for it is cow's milk, diluted and sweetened.'

I have myself heard two monthly nurses—and very fair specimens of their class, too—say, 'I never let the baby take the first milk. It's best to feed the child till the milk gets good.'[3] But how manifestly unadvisable this is; and can it

[1] Marion Harland, *Our Baby's First and Second Year*, pp. 4, 5. See Aperients, p. 456.

[2] *Manual of Diet in Health and Disease*, p. 142. See 'Feeding,' p. 180.

[3] See 'Some Minor Ailments of Children,' pp. 442, 443.

be right for an ignorant woman, who knows nothing whatever of medical science, to set herself up as a judge of what is appropriate? Why will people always be under the impression that Nature has made a mistake? People are so afraid the baby will starve, because, as a rule, the milk does not appear until nearly or quite the third day, and so it is fed every few hours with prepared food, when in reality it could quite well wait, sleeping, till the natural milk came, and would in fact be much better without all this feeding.

Dr. Ellis observes:[1] 'The interval elapsing between the birth of the infant and the appearance of the milk varies; but it is generally towards the close of the third day that it first manifests itself. Not unfrequently milk is secreted for some days before birth. The interval must, however, in the common belief, be occupied with feeding the infant. A moment's reflection will show that this is an entire violation of natural laws, and, like all such, it is fruitful in mischief to the infant. We should search in vain for an instance of the young of any mammiferous creature perishing under ordinary circumstances from lack of food, and it is irrational to suppose that the wants of the young of our own species were overlooked by Him who observes the fall of a sparrow. The supply of the milk is an arrangement expressly adapted for the infant's support. Now, to suppose this supply to be out of due time in arriving is as absurd as to deny for whom it was intended. The wisdom which fitted it for the food of the infant also adapted and arranged the period of its appearance, otherwise the arrangement would be incomplete. . . . When the mother awakes, and has been duly arranged, then the infant should be at once applied to the breast. It is of no consequence that no milk is there. The act is alike beneficial to the mother and to her child. In the former it has a remarkable effect in promoting the due and complete contractions of the uterus, and in directing to the mammary glands that stream of blood from which the infant's best food is to be secreted, and the infant becomes in this way educated in the task it afterwards so well learns how to fulfil. Unless other circumstances forbade it,

[1] *Disease in Childhood*, pp. 116, 118, 122.

such as extreme exhaustion in the parent, the infant ought to be laid in her bosom [1] in four or six hours after delivery. If this were done always, the arrival of the milk would, I am assured, be much hastened, and the necessity for giving any food to the infant might be entirely obviated.'

'It is, in fact, very certain,' adds Dr. Ellis,[2] 'that now and then infants suffer no bad consequences from having to wait for two or three days until their proper food arrives ; for such cases occasionally present themselves. . . . If it be considered desirable to give a newly-born infant a little food prior to the appearance of the milk, then let it suck from a bottle a little ass's milk or diluted cow's milk ;[3] but all the farinaceous preparations are to be rejected.'

'As soon as the supply of milk is sufficiently established,' writes Dr. Playfair,[4] 'the child must be put to the breast at short intervals, at first of about two hours, and, in about a month or six weeks, of three hours. After a month or two the infant should be trained to require the breast less often at night, so as to enable the mother to have an undisturbed sleep of six or seven hours.' Adds Dr. Playfair : 'For this purpose she should arrange the times of nursing so as to give the breast just before she goes to bed, and not again until the early morning. If the child should require food in the interval, a little milk and water from the bottle may be advantageously given.'[5]

When a child is very feeble at birth it may be requisite to give brandy—even the outward application of brandy may be necessary ; but this is a matter for the doctor's decision. Barley-water with a few drops of brandy in it—a wine-glassful with ten to twenty drops of brandy - I have had given to one of my children who was very feeble at birth. Nothing else was given till the next day. The child was too weak to suck, so it was given with a spoon.

When an infant is going to be brought up by hand, or will be given into the care of a wet-nurse, the doctor should be

[1] See 'Water,' pp. 389–392.
[2] *Disease in Childhood*, pp. 119–122.
[3] See also 'Feeding,' p. 195.
[4] *Science and Practice of Midwifery*, 6th edit. vol. ii. p. 289.
[5] See 'Feeding,' p. 121.

consulted as to the advisability of giving a dose of castor oil, as the artificial food and the wet-nurse's milk will be wanting in the constituents of the first milk so necessary to the child. It has appeared to me in several instances that infants brought up by hand and by a wet-nurse have not done so well at first where castor oil—and nothing else, apparently, answers the purpose so completely—has not been given after birth.

Dr. Semple recommends a laxative to be given if the first milk has not an aperient effect, and if it is to be given in this case it must be more necessary when the child is reared artificially. Dr. Semple writes :[1] It may be necessary to give to the new-born child a laxative, should the early milk of its mother not have (as it should) the proper effect, and for this purpose a teaspoonful of sweet oil or castor oil and glycerine, half a teaspoonful of each, is a useful remedy ; or a little brown sugar, in peppermint water, may be substituted.'

I have seen half a teaspoonful of castor oil given in hot milk[2] with a decidedly beneficial effect.

It is very curious that so little is nursing practised in England that many people have an objection to it. I heard a young mother say 'that it was all very well for common people to nurse their babies, but really she didn't think it was quite delicate for better-class people ; and such a bother, you know.' I have seen persons nurse their baby as if it were something to be ashamed of. The old masters, in their touching and beautiful pictures of the Madonna and infant Saviour, teach us a lesson, The exquisite pathos of the gentle mother nursing her tender. helpless babe appeals to the tenderest feelings of human nature. I think people's objection to nursing their children often springs from ignoble and selfish motives, and when I hear it said that 'it is not delicate' I am reminded of St. Peter's objection to eating what Heaven had provided on the ground that it was 'common and unclean'; and as St. Peter was told, 'What God hath cleansed, that call not thou common,'[3] so also poor human nature should not arrogate to itself the right of dictating what is 'delicate' in a matter affecting human life

[1] *Mother's Guide*, p. 7. [2] See 'Home Remedies,' p 468.
[3] The Acts, x. 14, 15.

and health, and which has been sanctified by the Great Teacher of good.

Dr. Ellis says: 'Instances not unfrequently occur in which the prolongation of suckling is rendered undesirable both for the child and parent. The milk of some women greatly diminishes in quantity, and that of others in quality, and ultimately, from one or other of these causes, they are compelled to desist from suckling their infants.[1] The actual period during which a mother in either of these cases can suckle her child varies; but it is of great importance that the duty should be fulfilled, even although it may have been the lesson, taught by experience, that it cannot be long persisted in. For the first few weeks, at least, most women can and ought to suckle their children, and only to desist from so doing upon competent advice.'[2]

In France the system is to bring up the children with what is there popularly termed a 'nou nou,' or wet-nurse. In Italy, Germany, also—in fact, it is the general custom abroad—as soon as a child is born, if the mother is unable or does not wish to nurse it—and amongst the higher classes in these countries the wet-nurse is the usual nurse—it is either sent into the country to be wet-nursed or is so reared at home. Strangers to Paris are always much struck with the appearance of the wet-nurses, with their costumes and caps with bright ribbon. These 'nou nou's' are usually country people who come to Paris, often from long distances, to take situations as wet-nurses; and sometimes at the Paris stations are to be seen a number of country women, with tiny babies in their arms, going home. These are the relatives and friends of the 'nou nou.' The mothers of the infants having been engaged, the relatives or friends have to take home the infants to be brought up (at the mother's native place) either by a relative, who will nurse another child as well as her own, or with goat's or ass's milk. The family engaging a 'nou nou' have to provide all the clothes for her use during the time she is with the family. If she remains twelve months, whatever clothes have been given

[1] See 'Feeding,' p. 84.

[2] *Disease in Childhood*, p. 127. See 'Feeding,' p. 84.

are considered to become her own. Feeding-bottles are but little known abroad, and it is popularly supposed that there is some risk in bringing up children by hand, so it is seldom tried by ordinary people. Wet-nurses, however, although one of the institutions of foreign countries, are not always pleasant inmates of one's home. Knowing that one is placed entirely at their mercy on account of the baby, they sometimes become exceedingly overbearing and disagreeable.

In any country great care should always be exercised, in choosing a wet-nurse, to see that the person chosen is perfectly healthy. It is becoming rather the fashion to get over to England foreign wet-nurses (generally French), but a child should not at once, on arrival, be given to such without thorough enquiry. An *English doctor should carefully examine the women, and not the breasts and milk only, before giving the child to nurse.* It is of no use letting the child be suckled for a day or two—*or even once*—and then making an examination. This is 'locking the stable door when the steed is stolen.' Neglect of this has in some cases been most disastrous for the child. The child should be kept *entirely away* (*not left in the same room even*) from the wet-nurse till she has been examined, and also till rested after the journey. To relieve the breasts the wet-nurse, just arrived, fatigued, and over-done with the long journey and the excitement of it, will, unless prevented, suckle the child immediately on arrival (and without the knowledge of anyone if it is left alone with her, and she thinks it may not be approved of just on arriving), and it will do the child much harm ;[1] and if the woman is not quite healthy still more mischief will ensue. *No wet-nurse* should ever be taken on trust. *Strict medical investigation is most necessary*, and equally with foreign as with English wet-nurses. The certificates of the former, although they may be excellent, are not sufficient guarantee that all is right, as they might be given to another person.

I heard a little time ago of a French nurse who, while coming to England (she was sent over, and was to be met at

[1] See 'Feeding,' p. 108.

Dover, but came alone from Paris), went to her home, which was on the line, and gave her certificates to another girl, the girl arranging to send her half her wages, which were very large ; this girl's own baby had died of atrophy, consequent on the nature of the mother's milk; her certificates, however, being so satisfactory, and the change of person not being known, she entered without question on her duties, with the result that the baby she was given to nurse became after a time seriously ill, when the fraud was discovered by the doctor finding the girl in a very unhealthy condition.

Dr. Routh remarks: [1] 'Diseases which are known to be hereditary from parent to child can be also conveyed to a suckling through a wet-nurse's milk.' Dr. Routh adds : 'Are mental peculiarities of a good or bad kind transmitted through the milk of a wet-nurse, as well as bodily infirmities?' This is a subject of so deep and intricate a nature that not many persons care to touch upon it. Abroad many eminent scientific men are inclined to believe that it may be so. From my own observation of children who have been nursed by a stranger, I am under the impression that peculiarities of nature equally with tendencies to hereditary complaints are communicable through human milk. The old argument that, because children are brought up by cow's milk, their nature might, if so, be equally *bovine*, has not much force to my mind, although I think the diseases of animals, which I will revert to further on,[2] as well may be transmitted through the milk to the human subject. The structure of man being different, it is not reasonable to suppose he will become a different creature by partaking of the nutriment supplied by such, although it may be possible that his temperament might be affected by the nature of the food given for a lengthened period, it being a well-known fact that human beings are affected by food and drink of an exciting or calming nature, and *not temporarily, but permanently.*[3] And, after all, who is to say that the proverbial calmness of nature of the Englishman (fed on cow's milk) and the nervous excitability of the Italian and Spaniard (fed on

[1] *Infant Feeding*, pp. 252, 258. [2] See 'Feeding,' p. 270.
[3] Burdach's *Physiologie.*

goat's milk)[1] may not proceed in some measure from their respective modes of being reared, due allowance being made for difference of nature and climatic influence?

There are so many things in metaphysical research which astonish. Everything nowadays must be reduced to the level of an A. B. C. comprehension. If it is not capable of being construed in an ordinary way, then it does not exist; but there is in life so much that cannot be deciphered that we are often compelled to accept as facts, because we are conscious that they are so, things of which the *raison d'être* cannot be clearly grasped. One might as well question the fact that the children of parents given to chronic alcoholism, as shown by Dr. Auguste Voisin,[2] are liable to 'infantile convulsions, epilepsy, idiocy, myelitis, chronic and constant craving for strong drink,' as doubt that health and life are affected by manner of rearing. In France the wet-nurses are all under Government control. Before entering their situation they have also a book of rules given them, relating to their diet and management of the infant. In England this is not so, and any ignorant girl, because she happens to be a mother, is supposed to know, in consequence, all about bringing an infant up. Wet-nursing, however, like other things, requires some little knowledge. Nature may be all-sufficient, but the knowledge which experience brings is a beneficial addition in any case.

Dr. Chambers, after giving reasons for not employing wet-nurses,[3] save in exceptional cases, says:[4] 'A trial ought to be first made, under the superintendence of a medical man, of fresh cow's milk or goat's milk, and of Swiss condensed milk.' Many will engage a widow as nurse to children brought up by hand under the mistaken impression that the mere fact of marriage will give a knowledge as to the care of them, a belief about as reasonable as to suppose that mere ownership of a horse would create a perception of its wants and its proper care. People are most illogical in the care of infant life. They will also

[1] See 'Feeding,' p. 207.

[2] *L'Alcoolisme et la Séquestration des Aliénés*, p. 3. See also Chambers's *Manual of Diet*, p. 235.

[3] The substance of his remarks I have given.

[4] *Manual of Diet in Health and Disease*, pp. 143, 144.

engage a very aged person as nurse, and on account of her years will accredit her with experience which she does not possess. Age can in no way guarantee knowledge unless enlarged experience or learning and research bring it. And then, again, one hears it said, 'You know a woman ought to know how to take care of her infant as well as the lower creation are able to take care of their young.'

Truly; and if, as with the animals, the natural conditions of infant life remained unaltered, such reasoning would be perfectly correct. The mother, by herself nursing her baby, would provide it with proper food, warmth, affectionate solicitude, and other conditions necessary for healthy existence; but, as infants are now reared in most cases, the child is given into the hands of a stranger who has no interest, beyond a pecuniary one, in it, and is brought up under a completely artificial condition of life, which system of rearing necessarily demands more care and thought—just as chickens reared artificially have to be more looked after. If you take any creature away from its natural condition of existence, more care is necessary. The trial of any system will prove its merits and defects, and will show what may require alteration. Untried things require caution and heedfulness in their first use. Too great precipitation means failure. The age of a woman would appear to affect her milk, as will be seen by the following :—[1]

ANALYSES OF DIFFERENT KINDS OF MILK.

Constituents	Woman, age 18	Woman, age 33
Specific gravity	1034·50	1033·03
Fat	3·20	2·99
Casein, albumen, &c. . . .	2·39	2·51
Sugar	6·83	6·51
Ash	·29	·30
Water	87·29	87·69
Total	100·00	100 00

[1] *British Medical Journal*, 1887; *Journal of Physiology*, 1870; *Revue Gén. des Clin. et de Thér.*, 1886.

French doctors say from 18 to 25 is the best age for a wet-nurse. *A propos* of very old nurses, I am not sure that, with all the experience they may have, they are good to try. Children want younger life with them. There is an old proverb about very old people with infants, which runs: 'The young life does the old life more good than the old life does the young good.'[1] And with old people, they are apt to be so self-opinionated. Old nurses are not to be put out of their own way, like the old man who sang in the village choir, and who for years had sung one of the anthems—which ended one of the verses with 'Blow, breezes, blow'—'Blow, blazes, blow.' A new rector came, who, hearing the strange alteration in the anthem, remarked to the old man, 'It's Blow, breezes, blow, Nicholls, not Blow, blazes, blow, as you sing it.' To which the old man replied, 'I've sung that ere Hanthem that ere way thirty year come March next, and I've allars sung it that way, and so as there warn't no complaints afore, and I don't never care for new-fangled notions.' The other way may be right, but in the old man's idea it's a 'new-fangled notion,' and therefore not to be received.

When it is wished to disperse the milk an excellent plan is to cut two pieces of lint sufficient to fairly cover the breasts; cut two holes for the nipples to come through. Pour eau de Cologne[2] on the pieces of lint, so as to saturate. Then dip well in boiling water (do not fail to dip in boiling water, as eau de Cologne put on any part, with the air afterwards excluded, will act as a powerful blister), and wring out. Place on the breasts as warm as can be borne; cover over with some light covering to avoid the nightdress getting damp. I have found this soon gets rid of milk, and without pain.[3] This, of course, is not suitable where there is inflammation or breaking of the breasts. In this case a medical man should be consulted without delay. I have seen a merely sore nipple at first, by being neglected, develop into a sore breast, almost defying medical treatment; and so delicate a part as the bosom of a woman should never in any case be tampered with.

[1] 1 Kings, i. 1, 2.

[2] See Playfair, *Science and Practice of Midwifery*, 6th edit. vol. ii. p. 291.

[3] It is one of Sir Charles Locock's receipts.

It is often a dangerous practice, using ointments and lotions (recommended by non-medical friends) to a sore breast. A woman nursing should keep her breasts *very clean*, washing them, especially the nipples, thoroughly at least once each day—not once a week. The habit prevalent amongst the lower classes of not washing the breasts during nursing, or only washing them occasionally with spirits and water, for fear of taking cold in the breast, is alike injurious to mother and child. Some mothers, also, never use soap ; but if the breasts are thoroughly rinsed in tepid water afterwards soap will not harm. Some, also, leave off their daily bath during nursing, but, unless it is found to affect in some way, undoubtedly this is an error. Dr. Semple writes :[1] 'Soreness of the nipple will often produce the same condition of the mouth of the infant, and a neglected sore mouth, of however little importance at the outset, may be, and often is, a sure cause of sour stomach and intestinal catarrh. The mother should not only see that the child's mouth is kept thoroughly cleansed, washing it, if there is the least evidence of white deposits, or small ulcers, with a solution of borax in rose-water, but she should also thoroughly wash her nipples, before nursing, with a very weak solution of bicarbonate of soda, and do the same after nursing, drying them *well* with a soft towel. If from any cause the nursing hour is passed, and the breasts have been allowed to remain well filled for some time, it is well to press out the first milk that comes, and not to give it to the child ; the newest made will be the richest and the best.'

Dr. Routh remarks :[2] 'Breasts, especially the nipples, should be kept very clean, to obviate the disadvantages of animalcular formations.' 'Among the lower orders,' adds Dr. Routh,[3] 'it is not unusual to find the nipples in the reverse of a cleanly state, particularly as the prejudice obtains among many that it is dangerous and favours inflammation or abscess in the breast of a suckling woman to wash it.' Dr. Routh continues :[3] 'Where animalculæ are found in a mother's or wet-

[1] *The Mother's Guide*, p. 32.
[2] *Infant Feeding*, pp. 221, 223, 482.
[3] *Ibid.*, pp. 222, 223.

nurse's milk . . . the breast, and the nipple especially, should be washed frequently with warm water and soap, and as often as the child has sucked so often should the ablution be repeated. It is well, even if an infant is going to be nursed entirely, to let it suck *sometimes* from a feeding-bottle. Great inconvenience is occasionally caused by an infant being unable to suck from a feeding-bottle, through being nursed altogether. The child, perhaps, rebels against being fed with a spoon, yet it will not suck from the bottle. Occasionally it happens that a mother is unable to nurse her baby through not knowing the proper way to do so.

'Many untrained mothers,' writes Dr. Starr,[1] 'make a failure of nursing because they know nothing of the manner of giving suck ; of the length of time the child should be kept at the breast ;[2] of the proper time for, and interval between, feeding,[3] and of the importance of regularity.[4] Upon these points the physician must be able, if required, to give minute instructions. When giving the breast the infant must be held partly on its side, on the right or left arm, according to the gland about to be drawn, while the mother must bend her body forward, so that the nipple may fall easily into the child's mouth, and steady the breast with the index and middle finger of the disengaged hand, placed above and below the nipple. In case the milk run too freely, a condition very apt to excite vomiting, the flow is easily regulated by gentle pressure with the supporting fingers. Each of the breasts should be drawn alternately, the contents of one being sufficient for a meal ; and a healthy child may be allowed to nurse until satisfied, when he will stop of his own accord, drop the nipple, and fall asleep with milk still flowing over his lips.' When breast milk causes sickness or diarrhœa, a doctor should *at once* be consulted ; also if the baby's motions are at all green. An infant should be taught to suck from both breasts, and it should not be allowed to get more fond of sucking from one

[1] *Dietetics of Infancy and Childhood*, by Louis Starr, M.D. Philadelphia ; *Annual of the Universal Medical Sciences*, 1888, *Sagous*, vol. iv. p. 243.

[2] See 'Feeding,' pp. 90, 91. [3] *Ibid.*, p. 104. [4] *Ibid.*, p. 106.

breast than the other. Dr. Semple says:[1] 'No habit is more easily acquired, or attended by more suffering to the mother, than the refusal of an infant to suck from one side.' 'According to Sourdat the milk of the right breast is generally much richer in butter and caseine than that of the left.'[2] This will, perhaps, account for infants often being more satisfied after taking from the right breast. There is also, sometimes, a freer supply of milk from the right breast.

Hand-Rearing of Children.

Bringing up by hand. Also the diet of older children.

It is most essential for the successful rearing of infants by hand to observe:

1. Exactitude in preparing the food given, so that it is *always the same, and always the same heat.*

2. Cleanliness as regards the vessels the food is prepared and given in.

3. Regularity in giving food, and giving it sufficiently sustaining, and in sufficient quantity.

'There can be no doubt,' writes Dr. Starr,[3] 'though the statement is a bold one, and seemingly contrary to nature, that, taking the average, infants properly brought up by hand are better developed and enjoy more perfect health than those completely breast-fed.' Infants can be brought up on a variety of things—cow's, ass's, and goat's milk having been tried with apparently equal success.[4] Some of the patent foods (which I mention elsewhere) are also of utility in the hand-rearing of children. Further on I give various methods for preparing infant's milk and foods, and the names of several foods. Opinions vary as to the best method for the successful bringing up of infants and children. I think, to come to any just conclusion, one should hear what is to be said in favour of or against each system—not pinning one's faith to one in par-

[1] *The Mother's Guide*, p. 4. [2] Letheby on *Food*, p. 118.

[3] *Dietetics of Infancy and Childhood*; *Annual of the Universal Medical Sciences, Sagous*, 1888, vol. iv., p. 254.

[4] See Dr. Brouzet, *Sur l'Education Médecinale des Enfants*, i. p. 165 Also Van Helmont's *Infantis Nutritio.*

ticular, for what may suit one child may not agree equally well with one of a different constitution.[1] The great desideratum in feeding an infant is that the food should be easy of digestion, easily assimilated, nourishing, and palatable. Whatever food an infant is being brought up upon, if it agrees, and the child gains in strength, and is going on perfectly well in every respect, it is unwise to make a change, even with the idea of giving a better or more nourishing food. The old proverb, 'Let well enough alone,' is ever best followed, for in trying to better that which is well we very often find the truth of the Italian 'Stava bene, ma, per star meglio, sto quì.'[2] Any system tried and proved to be good should never be deviated from. Chaotic efforts and contradictory theories lead to but one result—failure. There is often more in preparing and giving a food than is thought of. It is sometimes not so much the food which disagrees with a child as the way it is prepared. If people are careless in feeding an infant, and do not pay any attention to see that the food is not only nourishing, easy of digestion, but also warming, always made the same, given in the same quantity and the *same heat*, they cannot expect success. *Much illness and indigestion in infants arise from food being given too hot.* Food given to an infant should only be lukewarm, and it should always be tasted before given, as it is not sufficient trying the heat by the finger. The heat given by some medical men for infants' milk is 100° Fahr. Dr. Ellis, however, puts it somewhat lower.

'It is important that the food,' Dr. Ellis observes,[3] 'and under this term I would only permit, as a general rule, ass's and cow's milk to be included—should always be as nearly the temperature of the human milk as possible. As this is directly derived at the time of suckling from the blood circulating in the mammary glands, it cannot be lower in temperature than about 95° or 96° Fahr., and all food artificially given must approach this heat as nearly as possible. The

[1] See 'Feeding,' p. 78.
[2] 'I was well, but, wishing to be better, I am here' (in the grave).
[3] *Disease in Childhood*, p. 123.

delicate condition of the new-born child's stomach renders it necessary to adopt every precaution to avoid causes of depression or irritation, and food at an improper temperature is very influential in either way.'

Dr. West also writes :[1] 'Attention must be paid to the temperature of the food when given to the infant, which ought to be as nearly as possible the same as that of the mother's milk, namely, 90° to 95° Fahr., and in all cases in which care is needed a thermometer should be employed in order to ensure the food being always given at the same temperature.' It ought to be taken into consideration that the milk when put in the feeding-bottle, if the bottle is cold, will be cooled considerably before the child gets it. People test the milk or food when made in a cup, and when it is found to be 100° or 95° they put it in a cold bottle without considering that this will still further cool it. Very often when a baby gets its milk it is very little over 70° or 80° Fahr., being put into a cold bottle having the effect of cooling the milk considerably. In winter, especially, the feeding-bottle might with advantage have a little warm water put in first, to warm the bottle—not so hot, however, as to alter the heat of the child's food. It is very dangerous putting a feeding-bottle in hot water with the food in it, and then giving it without tasting. I have seen food made much too hot to drink by merely placing the bottle containing it in boiling water. All these little details tend towards keeping a child in health, and are of the utmost importance.

Dr. Forbes' thermometer is the best for nursery use. No nursery should be without a thermometer. Food should always be made of the same consistency—sufficient to satisfy should also always be given. Some require more than others. Great care is necessary in limiting a child's appetite. Infants are sometimes under-fed, and thus, by want of proper sustenance when growing, and when all the powers of life are rapidly developing, and when proper, adequate nutriment is necessary, a delicacy is caused that may even show itself in

[1] *Diseases of Infants and Children*, pp. 337, 338.

more advanced life.[1] The constant crying and fretfulness of many infants is caused by the food given either not being sufficiently satisfying or not enough being given. On the other hand, over-feeding is exceedingly injurious. There is no doubt that infants do best, sleep best, cry least, and grow up strongest who are thoroughly well fed at fixed intervals[2] with carefully prepared food.

The practice of giving a baby perhaps half a bottle of thin, poor food, and when finished placing something in the mouth to continue sucking, not only does not satisfy, but actually injures, and renders a child fretful, and is most pernicious in every respect. Some keep one of the teats belonging to a feeding-bottle covered over at one end, so that, as they imagine, no air may pass through, and give this to a baby to suck after it has been fed with what they consider sufficient food. A common practice is to dip a piece of linen in sugar and water, tie it, and give it to an infant to suck. It is imagined the child will be satisfied with the mere sucking movement of the mouth. The poor baby, under the delusion that by sucking it will ultimately get food, goes on sucking and exerting all its little strength ; becoming exhausted, it will probably go to sleep ; but it is not really satisfied, and the habit of giving anything of this kind to an infant is very injurious both to health and temper. I am surprised at the increasing prevalence of letting infants and even big babies suck at the teat of the feeding-bottle or something similar all day. At Westgate-on-Sea this summer (1887), during the season, in one morning I counted no less than twenty infants and young babies sucking things placed in their mouths to continue sucking. One nurse I spoke to told me, '*Baby would not digest his food if he did not go on sucking.*' Surely nurses are under the impression that babies are ruminant in nature and require to be taught to chew the cud.

The late Dr. Ballard was so much against the pernicious practice of putting things in children's mouths to continue

[1] See 'Feeding,' p. 246.

[2] *Ibid.*, pp. 88, 104, 237, for intervals between feeding.

sucking that he wrote strongly against what he called 'fruitless sucking.'[1] It is a practice much more common amongst the rich than the poor, the latter having a prejudice against 'baby sucking wind' as they term it. The late Mr. Richard Quain, F.R.S., than whom no one knew more of the human frame, observed that 'constant, resultless sucking is a cause of gastric disturbance to the stomach.'[2] In nine cases out of ten the reason infants cry and fret so is because they feel hungry. The food is either not sufficiently satisfying, or not enough is given. A well-fed, healthy baby never keeps on crying. I cannot describe my feelings on being told by an aged clergyman, who had just baptized my first baby, 'Your baby is hungry, poor little thing. Do you think it's fed enough? You know,' added the old gentleman apologetically, 'I have had a very large number of babies in my time, and have many grand- and great-grandchildren now, so I know all about them.' I hastened to assure what I considered a very mistaken old gentleman that 'I was quite sure my baby was fed very nicely,' and the nurse also remarked that 'a baby destined to be lucky in life always cried at baptism, which should be taken as a good sign.' The old gentleman appeared very doubtful of this, but did not in any way seem doubtful of 'baby not having enough food.' The nurse indignantly wished to know 'if we had any interest in starving the dear baby,' adding, 'If gold was needed, she could have it to swallow.' I found out afterwards, however, that the old clergyman was right and I was wrong.

Some physicians advocate giving children to bite, when undergoing the process of cutting their teeth, a bone (cutlet or fowl bone) with the meat carefully, but not altogether, scraped off. It is thought, by constant sucking of the bone, a kind of phosphate of lime[3] is extracted. As regards articles to bite when a child is teething indiarubber things are best. A number of reels, from which the cotton has been taken, and put

[1] *Diseases of Mothers and Infants*, 2nd edit. pp. 155–440.

[2] *British Medical Journal*, October 1858.

[3] See 'Feeding,' p. 158.

on a piece of tape loosely, afford a child great amusement to play with.

Letting an infant acquire the habit of continually sucking the thumb is encouraging what may become a great source of trouble and pain afterwards. When a child gets teeth, if it has the habit of constantly sucking the thumb it becomes soft from constant sucking, and the teeth, being sharp, cut, and make the thumb sore and painful. The poor child, unconscious that the teeth will harm, from habit continues to suck—violently if it is going to sleep—and, if it has many teeth, in a little time the thumb becomes tender and inflamed, and, if the thumb gets cut with the teeth, very sore. A thumb sore from sucking is sometimes very troublesome and difficult to cure, and children when they have the habit are quite miserable when they have to be prevented sucking the thumb. Even if, becoming hardened, as some children's thumbs do, instead of being soft from constant sucking, the thumb does not get painful when children cut their teeth, yet constant sucking is apt to raise a hard swelling on the bend or joint of the thumb, what 'old nurses' used to call 'a thumb corn,' spoiling the shape of the thumb, and difficult to get rid of. Sucking the thumb is a habit easily prevented at first, but very difficult if allowed to continue for any length of time. An infant putting its fingers in its mouth is quite a different matter. When children are about their teeth they put their fingers and hands in their mouths, and it seems to promote a free flow of saliva, which greatly relieves and eases the little hot gums.

If the food given to an infant is nice, given regularly, and in sufficient quantity, it will require only what is given, and will not want to go on sucking for the mere sake of sucking. An infant will not take more than it feels it requires, and it should be allowed to drink till it is satisfied.[1] Very often it is sheer laziness with people. They will not give themselves the trouble to make a fresh bottle of milk or food, though they quite well know the child will not be satisfied with a small

[1] See 'Feeding,' p. 238.

quantity of left milk.[1] 'Baby's comforter,' as it is called, is put in the child's mouth to go on sucking. 'Oh, baby's had as much as is good for her ; if she wants more she oughtn't to.' It is only young human creatures which are limited, and it is when they are brought up by hand, which is often the cause of infants being insufficiently nourished. In nature animals are not limited ; they suck and eat till they feel they have had enough. Is it reasonable to suppose that it is only the offspring of man—supposed to be highest, too, in intelligence—which is deficient in the power of knowing when it has had enough food ?

The very greatest care should always be paid to keeping feeding-bottles, and not only the bottles, but the tubes as well—also glasses, cups, or jugs in which infant's food is prepared—perfectly clean. Where there is likely to be any doubt about the feeding-bottles being kept scrupulously clean a mother should look to them herself. Dr. Chevasse writes: 'Perfect cleanliness, if there is to be perfect health, must, in infant's food, be invariably observed, and the only way to ensure perfect cleanliness is for the mother herself to look daily, nay hourly, into the matter. The feeding-bottles—I say bottles, for there ought to be at least two—must be kept beautifully clean, as the delicate stomach of a babe rebels against the slightest impurity or staleness of food.'[2] Dr. Bannister says: 'Dirt cannot be allowed to exist in a dairy, on account of the loss it causes, and the only vessels where carelessness and indifference continue to linger seem to be the infant's feeding-bottles, which in many cases are neither clean nor sweet. The havoc worked in this way can be read in the faces of those children who have to use these dirty bottles, and emaciated, unhealthy bodies bear testimony to the infant mortality arising from this poisonous source.'[3] Milk should not be allowed to remain in feeding-bottles; they should be washed out, *tube and all, thoroughly, after each time* an infant is fed.

[1] See 'Feeding,' p. 73 (Dr. Playfair on left milk).

[2] *Counsel to a Mother*, p. 25.

[3] *Our Milk, Butter, and Cheese Supply.* By Richard Bannister, F.I.C., F.C.S.

If feeding-bottles are not kept clean it is sure to cause illness. To keep feeding-bottles quite clean they should be washed once a day at least, but in hot weather morning and evening—the last thing after the day—with Condy's Fluid and water. There cannot be too much cleanliness; there may be too little. One teaspoonful of the fluid to two quarts of water is sufficient.[1] Warm water is best to use, as it cleans more thoroughly, and gets the grease, which adheres to the bottle and tube from the milk, off better. If the bottle is the Alexandra, a tumbler is useful to pour the Condy and water through the tubing. Afterwards rinse well with plenty of cold water; if you have a tap, hold under, and let the water run through. *Then put the bottles, tubes, &c., in a bowl of cold water till required.* Some use soda, but it is not so cleansing, and if the tubing is not thoroughly rinsed after its use it is dangerous to health. Soda being constantly mixed with a child's food will have a most prejudicial effect. Potash and borax are sometimes used for cleaning infants' feeding-bottles, but have not the disinfecting quality of Condy's Fluid. The following respecting Condy's Fluid is worth noting:—

Rinsing out feeding-bottles. — 'If a weak solution of Condy's Fluid were used much suffering would be avoided, and the life of many a child saved. I may add I am not acquainted with *any other disinfectant* which can be applied to the same purposes.'—Fredk. T. Prince, M.R.C.S., L.S.A., Feb. 16, 1876.

'My infant's feeding-bottles are always left to steep in diluted Condy, so that they are always sweet and pure, and all trouble from sourness is avoided.'—Letter from a lady in 'The Queen.'

'No well-regulated nursery is without it.'—'Lancet.'

'The water for rinsing should have in it about ten drops of Condy's Fluid.'—Mrs. Fenwick Miller, Ladies' Medical College, Member of School Board for London; Author of 'The Sicknesses that Spread.'

'We were pleased to see that the feeding-bottles are not

[1] The water should be mauve in colour.

used twice without a wash with Condy's Fluid.'—Report on the Sophia Nursery.—'The Lancet.'

When Condy's Fluid is used no other substance is needed for the cleansing of infants' feeding-bottles. '*Condy's Fluid.*—The efficacy of this substance depends upon the facility with which it parts with its oxygen, and the amount and purity of the gas which is obtained from it. Many organic substances are oxidised by it, more especially those arising from putrescent changes.'[1]

Condy's Fluid may now be made by anyone, and costs very little. The following letter I received from Mr. Thomson respecting the making of Condy's Fluid at home :—

'King's College, London, W.C. : April 30, 1889.

'Dear Madam,—I regret that, being at present in the country, some delay may have taken place in answering your letter of the 27th.

'The strongest Condy's Fluid is made by dissolving 1 part of potassium permanganate in 16 parts of water. This solution may be diluted at will, but as a disinfectant should not be weaker than 1 part of permanganate to 80 to 100 parts water.

'You must regard Condy's Fluid as a mild disinfectant, and chiefly of use in washing out dishes and pails used in the sick-room. It is also good to keep one or two soup dishes with weak solution open in the sick-room. If strong disinfection is required it is best to use chloride of lime or carbolic acid, of which I think I gave the quantities in my lectures.

'In employing very weak Condy (a solution just showing a distinct pink colour) for testing very bad water, acidify the Condy with dilute sulphuric acid before adding it drop by drop to the suspected water. If the colour is destroyed, the water should be examined by analysis.—Yours very truly,

JOHN M. THOMSON'

[1] John M. Thomson, Demonstrator of Chemistry, King's College, London, third Cantor Lecture delivered at the Society of Arts, May 16, 1887.

'There are two qualities of Condy's Fluid, the crimson and the green. Both have somewhat the same properties ; but the crimson and higher-priced article is stronger, purer, and better calculated for general domestic use than the green, which is specially prepared for drains, &c.' [1]

The crimson Condy's fluid is decidedly the best to use for infants' feeding-bottles. Where an infant's bottle with the long tube is used the whole of the tube should be taken to pieces when cleaning with Condy's fluid, so that it can be all thoroughly washed and brushed out. Sometimes with feeding-bottles the glass part is kept quite bright and clean, but the tubing is more or less neglected, and it is much more the tube and teat which require thorough cleaning. Some find a difficulty about taking the ordinary feeding-bottle, in use in England, to pieces, and putting together again, but it is easily done, and each portion can be readily put together by using a needle and cotton to pull the tube through the glass portion. Many medical men recommend the old-fashioned feeding-bottles, as there is no tubing ; these can be purchased at most chemists', or they will get them. Of these bottles those with an opening at the side as well as the top are best. Bottles with the long tube are the easiest to feed from, however, both for the child and the person giving the bottle, and when kept quite clean there is no danger whatever from their use. Brushes should always be used in cleaning feeding-bottles ; these can be bought at any chemist's. Very often, if sufficient care is not used in cleaning and thoroughly rinsing afterwards, the brush hairs will get into the tube of the feeding-bottle in cleaning, and will sometimes remain till a child begins to suck with some amount of force, when they will get into the mouth and even down the throat, causing great discomfort.

To clean the inside of the teat of the feeding-bottle a piece of lint fastened on a little piece of wood and dipped in diluted Condy's fluid is useful. It is nearly always in the teat of a feeding-bottle that the hairs of a brush used in cleaning will collect. A baby's bottle should always be tried after cleaning

[1] *The Lancet.*

before being given to the child to suck from. There has lately [1] been a new kind of feeding-bottle invented, called the 'Thermo Safeguard Feeding-Bottle,' [2] sold by Pocock, Keevil & Co., 72 Wandsworth Road, Vauxhall, London, S.W. This bottle has a thermometer inside, and is well spoken of. Dr. Paramore [3]

writes of it: 'I trust, in the interests of the little ones, that both doctors and mothers will universally use them.' Where there is a doubt about an ordinary thermometer being used for testing infant's milk this bottle might be found useful. One of the pictures on the accompanying box should not serve as a guide, however, for feeding the infant—although too commonly the way in which infants are fed—lying on their back in the cot or perambulator.[4]

Dr. Playfair writes of this practice: [5] 'The nurse should be strictly cautioned against the common practice of placing the bottle beside the infant in its cradle and allowing it to suck to repletion, a practice which leads to over-distension of the stomach and consequent dyspepsia. The child should be raised in the arms at the proper time, have its food administered, and then be replaced in the cradle to sleep.'

[1] 1887.
[2] Price 1*s*., 1*s*. 6*d*., and 2*s*. 6*d*. The latter is of better quality.
[3] Author of *Hints on Health*. [4] See 'Feeding,' pp. 237, 238.
[5] *Science and Practice of Midwifery*, 6th edit. vol. ii. p. 303.

'Tiernan's Patent Maw's Fountain Feeding-Bottle'[1] is a good kind also. I have brought up all my children during the last thirteen years with the ordinary 'Maw's Alexandra Feeding-Bottle,' which I have found both convenient and inexpensive. Maw's leech-bite teats (those with the holes all round the top) are excellent. When a child will not drink from a particular bottle it should not be forced to do so. The bottle should be thoroughly examined, when it will probably be found that there is some reason why the child refuses to drink from it. The tubes, also the teats, of feeding-bottles should be replaced by new ones every three weeks, or at least once a month. The teat of a feeding-bottle, if kept in use too long a time, is apt by the action of the mouth to become sticky and disagreeable, and sometimes a child will refuse its bottle from this cause.

Many are in doubt about how much an infant's feeding-bottle should hold. Dr. Semple says :[2] '. . . a nursing-bottle holding about eight ounces, the half of which is a large meal for a child of from four to six weeks old ; the black rubber nipple is to be preferred, and there should be several in the house, so that they can be kept thoroughly soaked and clean. . . . Four ounces, or one-half of an ordinary nursing-bottle,[3] is sufficient for one meal, and the nurse or mother should always taste the food, to see that it is in good condition, and also that the nipple is not stopped up, before giving it to the child.'

I have found an infant of from one to two months will take about half a teacupful at a time. But a teacupful has been given, so that it could take as much as it liked. The average quantity up to eight months I have found to be a little over half a teacupful or three-quarters of one. The quantities named in the directions of the Anglo-Swiss Milk Company answer perfectly. But a mother need not distress

[1] Can be purchased at Cooper's, 66 Oxford Street, London, W.

[2] Dr. Semple, *The Mother's Guide*, p. 15.

[3] The 'Safeguard Feeding Bottle,' writes Dr. Berry, F.R.C.S., late Clinical Professor of Midwifery and Diseases of Children at Queen's College, Birmingham, 'tells the exact amount of food given at each feeding.' See 'Feeding,' p. 103 ; also *ibid.*, p. 88.

herself if her infant only takes a little at a time *at first.* Some infants take much less than others. The great criterion is : does the baby sleep well, grow strong, and is it comfortable and free from indigestion, diarrhœa, and sickness? For keeping water warm for infants' milk or food an excellent contrivance is 'Samuel Clarke's Patent Pyramid Food Warmer,'[1] and with which there is no danger of anything igniting.[2] In the summer, when fires are not used, a small kettle with spirit-lamp is extremely useful. The Atmospheric Churn Company, 19 New Bond Street, London, W., sell a greatly improved spirit-lamp,[3] a really most clever contrivance, as a saucepan can be used or an iron heated with it quite well.

Any spirit-lamp should be used most carefully, not on the old principle that 'familiarity breeds contempt' of danger, and so want of due caution. Methylated spirit is most inflammable, and should *never be lighted with a child in the arms*, nor should anyone with an infant in arms move paraffin or other lamps. Too much care cannot be observed in using any inflammable oil or spirit. A common practice with young nurses is taking a kettle off the fire while holding a baby on the arm. It is most unwise, and several lamentable accidents have occurred through its being done. The child has, perhaps, given a sudden spring ; in her effort to save the child from falling, and anxious at the same time not to drop the kettle, the nurse has, in her perturbation, ended by scalding the child. In some cases the scald has been apparently so slight as not to give rise to alarm. Convulsions and death, however, have been the result. With methylated spirits accidents have arisen through inflammable materials, such as thin curtains, infants' white dresses, &c., being too near when blowing the light out, and thus they have caught fire.

[1] Ask for Clarke's newly designed 'Pyramid' Nursery Lamp Food Warmer, with new registered panakin. Any chemist will get it. Or write to S. Clarke, Cricklewood, London, or 31 Ely Place, Holborn Circus, E.C.

[2] *Only the night lights made for the lamp* should be used, as 'all night lights made of paraffin, if burnt in a lamp, become very hot; the material is liable to take fire, and very dangerous.'

[3] Some nurses prefer a spirit lamp they sold some years ago, which they still keep, as the wick is less complicated.

Cow's milk is most often used for infant-feeding, and in general, where carefully given and perfectly pure, is found very suitable. Occasionally in the winter time, however, cows are fed on food which so affects the milk that it will disagree with the delicate, sensitive stomach of a baby. I have seen infants quite ill with diarrhœa, and even violent retching caused to young infants, by some food the cow had eaten, so affecting the milk that it quite disagreed. I had once one of my own children, who was being brought up on cow's milk, very ill with diarrhœa, which continued in spite of all remedies. For a time we were puzzled as to the cause, and the doctor in attendance was quite unable to account for the diarrhœa continuing, until at last the source of the trouble was discovered in the food which the cow was having which supplied the child's milk. 'The changing from milk of grass-fed cows to that of hay or stall-fed cows is often attended with serious results to infants. This important matter is not generally understood by mothers and nurses, nor by many physicians. The difference between the various ways of feeding cows, and the difference which must suddenly take place in the character of the milk upon this change of food for cows, cannot be less radical.'[1] Dr. Routh writes :[2] 'A great deal depends upon the manner in which cows are fed. . . . Cow's milk, except the animal has been fed exclusively upon grass, is almost always acid in stall-fed cows ; human milk is always alkaline ; hence another reason why cow's milk disagrees with many children.'

Cows especially fed for nursery milk give a totally different quality of milk to the ordinary milk in general use—the colour being different even, more white, and the milk appears of a thinner quality. In London it is decidedly better to give infants and young babies what is called 'nursery milk.' Most of the large dairies keep cows especially for milk for infant use, and the cost is not much more. It should be seen, however, that the cows are not altogether kept in stalls ; if so, the ordinary milk coming up from the country will be better to give, and if it is too heavy for the child to digest, prepare

[1] *British Medical Journal.* [2] *Infant Feeding*, pp. 304, 318.

it according to Professor Frankland's receipt for 'Artificial Human Milk.' [1]

Dr. Bannister writes : [2] 'The appearance of milk is so well known that no general description is needed, but when closely examined it is found by chemical tests to be slightly alkaline, or neutral when first drawn from the animal, but by keeping it develops acid, which development is either accelerated or retarded by certain circumstances.'[3]

Dr. West writes : [4] 'Human milk is alkaline, and even if kept for a considerable time it shows but little tendency to become sour ; the milk of animals in perfect health likewise invariably presents an alkaline reaction, and that of cows when at grass forms no exception to this rule. Comparatively slight causes, however, exert a marked influence upon the milk of the cow in this respect, and if the animal be shut up and stall-fed its milk almost constantly acquires a strongly acid property,[5] a fact which of itself is sufficient to account for the symptoms of gastric and intestinal disorder so often produced by it in the case of children brought up in large towns. Unfortunately,' adds Dr. West, 'there seem to be good reasons for believing that the milk of stall-fed cows often undergoes a deterioration much more serious than the merely becoming acescent, and that changes not unfrequently take place in it such as must render it wholly unfit for an infant's food, and calculated only to promote disease. The possibility of their occurrence shows the necessity, when an infant who is brought up by hand fails in health, for making a careful inquiry into the source of the milk with which it is fed, and for examining the fluid, both chemically and under the microscope, before proceeding to prescribe remedies for ailments which may be caused entirely by the unwholesome nature of its food.'

[1] See 'Feeding,' p. 193.

[2] *Our Milk, Butter, and Cheese Supply.* Richard Bannister, F.I.C., F.C.S.

[3] The boiling of milk tends to preserve it sweet.

[4] *Diseases of Infancy and Childhood*, p. 338.

[5] It is a pity this is so frequently lost sight of in bringing up infants with milk from stall-fed cows, as it is a common cause of diarrhœa.

Many physicians and scientific men recommend the daily testing of milk for infant use with litmus paper,[1] [2] in order to ensure its being free from acidity. Dr. West further observes:[3] 'Whenever, therefore, the attempt is made to rear an infant by hand, under circumstances which render it impossible to obtain the milk of cows which are at pasture, it is desirable that the milk should be daily tested, and that any acidity should be neutralised by the addition of lime-water or of prepared chalk, in quantity just sufficient to impart to it a slightly alkaline reaction. If the bowels be disposed to be constipated, carbonate of magnesia[4] may be substituted for the chalk.'

Dr. Semple writes :[5] 'If it seems advisable to bring up the child by the bottle, each bottleful should be tested with blue litmus paper (to be obtained at any druggist's). The blue paper should retain its colour, and should not turn red. Upon this fact depends the success of hand-feeding children.'

Dr. Routh also writes :[6] 'To ensure the proper examination of the milk, I think, in every nursery where children are brought up by hand, there should be *test paper* kept, very slightly reddened, and some slightly made blue. If the former is turned blue when dipped in the milk, the milk is *alkaline* and very little lime-water is needed. But if not affected, or if it be more intensely reddened than the blue, litmus paper should be dipped into the milk, and this last will of necessity become reddened. In these cases there is an excess of acid present; lime-water, therefore, should be added in larger quantities to neutralise this. The moment the litmus that was reddened has recovered its natural blue colour, enough lime-water has been added. 'Quand on élève les enfants au biberon avec le lait des vaches c'est nécessaire d'avoir "Litmus Paper." C'est trouvé chez les pharmacies anglaises. Avec celui-ci on peut

[1] 'Some years since an instrument, termed a lactoscope, was invented by M. Donné of Paris for determining the richness of milk.'—Hassall, *Adulterations in Food and Medicine*, p. 227.

[2] Can be purchased at all chemists'. Cost : three-pence a packet.

[3] *Diseases of Infants and Children*, pp. 338.

[4] See 'Feeding,' pp. 145–151.

[5] *Mother's Guide*, p. 17.

[6] *Infant Feeding*, pp. 450, 451.

dire si le lait est assez bon pour l'enfant ou non.' ('Recherches sur les Systèmes d'élever les Enfants au Biberon.' 1888. Paris.[1]) In practice I have found the *blue litmus* paper sufficient to keep. Of the value of keeping *test paper* where a baby is brought up by hand there is no doubt, and if it were more often tried much illness would be avoided. To prove that it is an accurate test, take two half tea-cups of milk; put into one a little vinegar—two or three drops is sufficient—and dip a piece of litmus paper in the milk with the vinegar in and in that without, and you will see, when the paper is put in the milk which has vinegar in it, if the paper is blue it will turn red, and in that without vinegar it will retain its blue colour. Of course you must have first seen that the milk without vinegar is free from acidity. Add lime-water to the milk which has the vinegar in it till the paper returns to its blue colour, when you will have added sufficient to neutralise the acid. As a matter of fact, one drop of vinegar is enough in half a cup of milk to turn blue litmus paper a pink colour.

Milk given to infants from a cow immediately after calving will often cause diarrhœa, and is in most cases productive of bowel and stomach disturbance. Milk from cows suffering from any complaint, *however slight it may appear*, should especially not be used. 'Milk is sometimes unwholesome from the outset, owing to the unhealthy condition of the cow.'[2] The investigations recently made prove the extreme necessity for care in the use of cow's milk.[3] In giving cow's milk to infants it should *always* be seen that it is free from sourness. Milk, even if only, as nurses term, 'just on the turn,' will cause diarrhœa in infants. The stomachs of some infants are so weak that they have much difficulty in digesting ordinary cow's milk; even the 'artificial humanised milk,' if not prepared with milk from especially fed cows, will disagree. When this is so no attempt should be made to persevere with ordinary cow's milk; a trial (if the 'artificial milk' has been tried and

[1] 'When infants are brought up by hand with cow's milk it is necessary to have "Litmus Paper." It is to be had at the English chemists'. With this one can tell if the milk is good enough for the child or not.'

[2] Professor A. H. Church, *Food*, p. 139. [3] See 'Feeding,' pp. 269, 270.

does not agree) should be made of Swiss milk, which may be found to be more easily digested. I have known several instances in which infants who could not take cow's milk have done very well on Swiss milk, and after a time they were able to be put on cow's milk. If prepared properly, and a good kind, it is a most excellent milk ; the only drawback is the large amount of cane sugar in it, which, during teething, will sometimes cause excessive acidity.[1] All children, however, are not affected by it, and at the age when this occurs children are generally in a condition that it is possible to change to cow's milk or other food.

Dr. Semple observes : 'If a mother cannot bring up her child on cow's milk or condensed milk, she must depend upon the advice of her physician in the choice of what to resort to next ; she should not undertake further responsibility.' Dr. Semple adds : 'In this country, and also abroad, the use of condensed milk has gradually received the sanction of those who have been interested in the feeding of babes. Owing to the difficulty of obtaining sweet milk for those who remain in town in summer, condensed milk is very valuable.' [2]

Dr. Playfair writes : [3] 'Of late years it has been customary to obviate the difficulties of obtaining good fresh milk by using some of the tinned milks now so easily to be had. These are already sweetened, and sometimes answer well if not given in too weak a dilution.' [4]

Dr. Chevasse says :[5] 'Condensed milk is an admirable substitute in case the genuine and healthy fresh milk cannot be obtained, that is to say, on shipboard, and in case there be disease among the cows in a neighbourhood ; then the condensed milk is invaluable. The Swiss and English condensed milks are both excellent articles of food, and are of firstrate quality. I have known some fine children reared on condensed milk.'

The dearness of most of the patent foods puts them out

[1] See 'Feeding,' p. 157.
[2] *The Mother's Guide*, pp. 19 and 18.
[3] *Science and Practice of Midwifery*, 6th edit. vol. ii. p. 300.
[4] See pp. 149, 154.
[5] *Counsel to a Mother*, pp. 83, 84.

of the reach of persons of limited means, and in these days of bovine disease many are loth to try cow's milk; therefore Swiss milk is often resorted to in the bringing up of infants. In warm countries Swiss milk is of advantage in the hand-rearing of infants. In many instances the mortality and illness from diarrhœa in infants is often due to cow's milk; this being so, the giving of Swiss milk has an advantage in that it is *always* the same—any defect in it being readily detected on opening the tin [1]—is not affected by hot weather, and by the process it undergoes the foods eaten by the cows do not act injuriously. In summer the number of deaths from infantile diarrhœa is—as a rule—largely increased. The early spring has also many deaths from this cause, as may be seen by reading the Registrar-General's reports. The common theory of the cause of adult diarrhœa—'eating uncooked fruit in an unripe condition'—cannot be applied to infants, but the solution of a much discussed enigma may be perhaps found in what the cows eat, their state of health, the condition in which they are kept,[2] and the manner in which the milk is sent to London or the customer's house. At a small farm supplying a favourite seaside place with milk (and crowded during the season) I have seen a number of cows kept in a small field, the grass of which, owing to extreme drought, was almost entirely withered away. These animals were fed on various things thrown down in the field for them. *As to water, they had a small, nearly dried-up pond, strongly impregnated with manure* (the percolation from the farm 'general heap' going into it), *to drink from*; and this is not the only instance in which I have seen cows kept without having any water fit for them to drink.

In several large farms (in fact, it is often the case) I have seen the only water the cows and horses have had has been more or less contaminated with matter from manure heaps close by, and even contaminated by sewage. As I heard an old cow-man say of the cows under his charge, which had a very indifferent and doubtful supply of water: 'It don't 'urt the like o' them critters.' This, however, is more than

[1] See 'Feeding,' p. 168.

[2] See 'Feeding,' p. 136.

open to question, and that milk from cows so kept is likely to be injurious has been clearly demonstrated. 'Many a quiet rural village, approached by green lanes, shrouded by tall trees from the full force of the wind and sun, contains within its own bosom the elements of disease and death. We have seen many such which on a cursory inspection would be thought to be the residence of Hygeia herself; but on looking a little deeper we discover the stinking pond—the receptacle of all the filth from man and animals—running over into a ditch which perhaps passes close under the windows of the cottages. Into this pond or stream the drainage from the farmyards, dead animals, and decaying vegetable matter are carried by every rain.'[1] The necessity for pure water for cows is demonstrated by the following: 'Issued by the Trustees of the Cork Butter Market. Ten Points to be considered in Butter-making. Recommended for adoption by Thomas Carroll, M.R.I.A., Superintendent Agricultural Department, National Education, Ireland, Inspector of Agricultural Schools; and T. A. Forrest, Head Inspector and Chief Superintendent, Cork Butter Market.—1. Keep cow-houses clean. Be sure that cows have pure water to drink, and have the udders perfectly clean by sponging with tepid water before milking.'

The way, also, the milk is brought to London[2] and other large cities and towns—infantile diarrhœa being more fatal in London and large towns—may be at the root of the evil. The following from the 'Lancet,' April 29, 1876, still further adduces the necessity for great care as to milk. 'Milk brought from the country in cans by the night trains is carried by the retailers to their own premises, where it often remains for five or six hours. These premises are often little dirty shops or kitchens close to the rooms in which the families live. There is no security whatever that epidemic disease may not be raging in the place, that vessels contaminated in the worst possible way may not be used to contain the milk, or, except in the places where the Adulteration Act is rigidly enforced, that

[1] William Strange, M.D., *Seven Sources of Health*, p. 53.

[2] See *Observations on London Milk*, Rugg, 2nd edit., Bailey & Moon, Regent Street.

the milk may not be adulterated with foul water. . . . But the last few years have brought a flood of new light to bear on the peculiarities of milk. We now know, at the cost of many serious epidemics, how peculiarly sensitive to noxious influences is the fluid which forms so important a part of the national food supply. If clothing will spread the infection of fever, so, when once infected, will milk, and that in a far more insidious and extensive manner, for with milk it is impossible to say how widely or how far the disease may be carried. If water will carry the germs of cholera and enteric fever, so will milk, and with milk there is the added danger—not indeed demonstrated, but suspected by many—that the highly complex organic constituents so closely analogous to those of the body, which are present in it, may serve as a pabulum for the development and indefinite multiplication of disease-germs. Recent experience seems to show that milk-spread epidemics are particularly virulent, and the observation tallies, though, of course, it cannot be said to establish the last-named theory. The ease with which milk receives and carries infection is illustrated by the absolute and well-known necessity for purity of air and perfect cleanliness in dairy operations.'

I was ironically told once that 'no doubt it was all right to be careful and to bother about cow's milk twenty years ago, but now, in these days of sanitary inspection, everything is so much better looked after that it is unnecessary.' And quite lately I have heard the same said by several. The best comment I can make is the following :—'A serious outbreak of typhoid fever is reported from Cheshunt, Herts. The out break has been traced to an infected milk supply. Two or three deaths have already resulted, and about thirty persons are suffering from the disease in Prospect Road. The Local Board of Health are taking stringent measures to isolate the disease.'[1]

No doubt, when typhoid or any other disease is developed, 'stringent measures' are resorted to, but an old adage I learnt in my youth, 'Prevention is better than cure,' recurs to my mind as being not too old-fashioned and 'out of date' to be

[1] *The Daily News*, Friday, September 16, 1887

thought of in these progressive times. Dr. Routh, in speaking of the Anglo-Swiss Company's milk and the Norwegian preserved milk, says :[1] 'The extent to which both these milks are now employed is an evidence of their usefulness and appreciation by the public. It should also be remarked,' adds Dr. Routh, 'that during the typhoid fever epidemic which destroyed so many of the infants who had partaken of the diseased dairy milk all escaped who fed upon these preserved milks. This,' continues Dr. Routh, 'is no small advantage they possess, add to which, the preserved milks prove invaluable to children who are fed artificially, and are compelled to travel by land or by water. The quality of the milk is not continually changed, which is so commonly a cause of diarrhœa or other abdominal troubles to infants, and it is always fresh and ready for use.' With all infants Swiss milk is easily retained on the stomach, and seldom disagrees if properly given. In fact, if it does not suit an infant it may be taken for granted that the milk is not being properly given.

Swiss milk must, like other things, be given with care. Two mistakes are generally made in giving infants wiss milk. Too much of the milk is given, or it is not sufficie tly diluted with water.[2] The Anglo-Swiss Milk Company remark : 'Experience shows, however, that the mode of employing condensed milk for infants, as practised by different people, varies almost beyond belief ; every conceivable manner of using it cannot be right.' Experience can, of course, alone afford a good guide as to the best manner of giving any nutriment to infants. I have, however, found very little variation in infants as regards the quantities of Swiss milk which will agree, and I think anyone having charge of an infant can soon tell whether the child will bear the milk given stronger or not. People are apt to imagine that it is exceedingly easy to bring up an infant on condensed milk, and that it requires no experience, no care—in fact, may be given anyhow and in any quantity without harming. This is a great error. I have found the Anglo-Swiss condensed milk prepared at Cham, Switzerland (trade-mark a milkmaid) a very excellent milk, and have been successful in

[1] *Infant Feeding*, p. 329

See 'Feeding,' p. 154.

its use. It is best to get the milk direct from the Anglo-Swiss Milk Company's depôt, 10, Mark Lane, E.C., London. The largeness of the quantity—they will only sell a case containing four dozen tins—is sometimes thought to be a drawback, but, as the milk is fresher and keeps perfectly well in a cool place, I do not see the objection to having a case, especially as the price is less at the depôt than elsewhere. At the depôt a case of Swiss milk of the best quality is 1*l.* 1*s.*, and even at the Army and Navy Stores in Victoria Street a case is 1*l.* 4*s.*, so that there is a saving by getting the milk direct from the company. They keep cheaper milks, but I think it is a mistaken and cruel economy giving an infant an inferior milk.

I am told, when the Anglo-Swiss Milk Company's milk is found too relaxing to the bowels, Nestlé's Swiss Milk (not Nestlé's Food) may be found to answer better in this respect. Most chemists now keep this milk, which is favourably spoken of. I have heard of several children lately who have done admirably well with it. It may not be generally known that the state of an infant's bowels will indicate whether Swiss milk is being given in too great quantity or sufficiently strong.

'Continued constipation is usually an indication that the child will bear a little stronger food.

'Diarrhœa may occur from many different causes: as a general rule it is well to treat it as you would treat indigestion, namely, by giving whatever food may be in use, not richer, as often advised, but in the accustomed strength, *or even weaker*, and always reduced in volume.' [1] [2]

If the child's bowels are relaxed—if no other cause can be ascertained for their being so—the Swiss milk, before preparing, should decidedly be reduced in quantity. Sometimes it is sufficient to reduce for a time only. I have proved it possible completely to regulate a child's bowels while giving condensed milk: giving the milk a little stronger, perhaps half a teaspoonful, when I wanted the bowels more opened, and reducing the milk in the same quantity when I thought the bowels too

[1] *Anglo-Swiss Milk Company*, pp. 6, 7.
[2] See 'Feeding,' p. 189.

relaxed. If the child's bowels are very relaxed, and a large quantity of the condensed milk is being given, it might perhaps be reduced even a teaspoonful till the child is older. *But there must be no doubt that the milk is being given in too great quantity, and that the diarrhœa does not arise from some other cause.* Where there is much or continued diarrhœa, *no delay* should be made in sending for a doctor.[1] I have heard that, equally with cow's milk, if the bowels are confined, it is 'an indication that the child will bear a little stronger food,' but this I have not myself proved.

Dr. Playfair writes:[2] 'In the first few weeks of bottle-feeding, constipation is very common, and may be effectually remedied by placing as much phosphate of soda as will lie on a threepenny-piece in the bottle two or three times in the twenty-four hours.'

Dr. Semple writes:[3] 'An experienced nurse can regulate a child's bowels by its food, and by thus maintaining control of the balance dispense with the injurious effects of laxatives, injections, or astringents, which are both physically and morally irritating.' Dr. Semple adds (*ibid.* p. 55): 'An accumulation at times takes place low down in the bowels, owing to an anatomical arrangement peculiar to infants, and this can be relieved by an injection of tepid Castile soapsuds, with the addition of a small quantity of sweet or castor oil. Sometimes an injection of simply a tablespoonful of sweet-oil will be sufficient, or a small suppository of cocoa butter may be substituted.[4] It is not only an unwise but a bad practice for mothers continually to dose their infants for this condition: the constant use of purgatives, even when castor oil is used, will not only increase the derangement and debilitate the

[1] See 'Feeding,' pp. 224, 225.

[2] *Science and Practice of Midwifery*, 6th edit. vol. ii. p. 303.

[3] *The Mother's Guide*, p. 17.

[4] 'There is an objection to enemas of simple water, that in some cases they are apt to wash off the natural protecting mucus of the bowel, and, therefore, it is perhaps better as a general rule, and where the remedy is often or habitually used, to employ a demulcent, such as gruel or barley water.'—*Dictionary of Domestic Medicine and Surgery*, 22nd edit., Dr. Thomson and Dr. Steele, p. 244.

child, but will be invariably followed by a constipation more obstinate than ever.'

Good, ordinary, yellow curd soap answers the same purpose as Castile soap, and many medical men recommend it in preference.[1] Medicated soaps should on no account be used internally.[2] Dr. Ellis writes :[3] 'An injection of a few tablespoonfuls of gruel with a little castor oil in it is also useful. The same result may also be obtained by a small suppository of yellow soap.'

Dr. Chevasse remarks :[4] '. . Now, an enema will not at all interfere with his digestion, cannot possibly do the least harm, can be given without the slightest pain, and does not lock up the bowls afterwards as aperients by the mouth usually do.' Dr. Chevasse adds, in 'Advice to a Mother,' page 105 : 'For a babe, from birth until he be two years old, one, two, or three tablespoonfuls . . . will be sufficient, and a 2 oz. enema bottle will be the proper size for the purpose of administering it.' All chemists sell enemas for infant use. *When an ordinary enema* is used the best plan is to put the gruel, or whatever is going to be given, ready prepared in an empty jam-pot. Place the jam-pot in a basin close to the child. When a small quantity of fluid is put in a large basin it is difficult to get it through the enema without air getting in and thus causing discomfort to the child. I have found an ordinary enema with child's pipe attached of more service to *children over twelve months* than the enema-bottle. With a young child it is necessary to have some one to hold the child while giving an enema, as it should be very carefully administered. In giving, place the child flat on a bed on its left side (and allow it to draw up its legs a little if it wishes). Oil the pipe, and gently insert into the bowel, and then inject slowly and evenly.[5] Place a blanket or macin-

[1] See 'Water,' p. 385.
[2] See 'Home Remedies,' p. 481.
[3] Dr. Ellis, *Disease in Childhood*, p. 182.
[4] Dr. Chevasse, *Counsel to a Mother*, p. 32.
[5] 'When an enema is administered . . . the patient may . . . be laid . . . on the left side near the edge of the bed, with the knees drawn up The bone or vulcanite pipe which is introduced into the bowel should be well oiled or greased, and its introduction should be effected with perfect gentleness, not straight up, but in a direction

tosh and towel beforehand under the child, and if the child is used to being placed in a chair, or held out, do so a few minutes after the injection. As a rule children do not mind an enema, and there is but little trouble after the first few times in giving it.

Referring to constipation in young children, Dr. Goodhart writes :[1] 'When a few months have passed over, or, if the child be brought up by hand, better than all medicines by the mouth, is the plan of attempting to modify the diet, or of exciting the lower bowel to expel its contents by an enema or a suppository of soap. A teaspoonful of fine oatmeal may be added to the morning meal, or barley-water may be mixed with each meal.[2] Friction should also be applied to the abdomen morning and evening, either by the hand alone, or combined with an oily embrocation.' Dr. Goodhart adds : 'For an enema all that is necessary is to take two or three ounces of warm water and lather into it a little yellow or curd soap, and inject it by means of a caoutchouc-bottle syringe. A drachm or two of castor-oil may be added to the soap and water if necessary. An enema,' Dr. Goodhart further adds, 'may be administered every morning, or even twice a day if necessary, and I know no objection to its daily use as long as may be requisite. It is never to be given unnecessarily, but if the bowels do not act spontaneously the action should be ensured by an enema, and this may be done without any fear of inducing such a habit as would require its permanent use.' The following, which was given to me by a medical man for a child fourteen months old, I have found very efficacious where necessary to give castor-oil :—A dessertspoonful of castor-oil mixed with the yolk of an egg, and add to it half a pint of hot water, for an injection.[3] But the *very best injection*, when such is necessary, a physician tells me, is one teaspoonful of glycerine

slightly inclined towards the backbone, care being taken that no abrasion or scratching of the parts be occasioned.'—*Dictionary of Domestic Medicine and Surgery*, 22nd edit., Dr. Thomson and Dr. Steele p. 244.

[1] *Diseases of Children*, 2nd edit. p. 43.

[2] See 'Feeding,' p. 186.

[3] This injection is for a child fourteen months and upwards.

and one of olive oil, given with child's enema-bottle. Those sold by Bailey,[1] of Oxford Street, are best.[2]

Injections should not be given too hot. Many have an idea that giving an injection very warm increases its efficacy, but this is not so. An injection should never be more than comfortably warm, or it will injure. Where there is a tendency to constipation, *all diet* of a confining nature should be avoided in infant-feeding; also all articles of food which will form into a hard or compact mass in the bowels should not be given. Flour, arrowroot,[3] *all starch foods*,[4] have this tendency. I saw a baby a little time ago who had this habit of body. From his birth he had never had a natural movement of the bowels, without a suppository or injection. Yet his mother would insist upon feeding this child at six months with sponge-cake[5] (crumbled in milk) with a spoon. She imagined, because swallowed in fine pieces, it would digest easily. A common mistake, for food of this sort, *when given at too early an age*, forms in undigested masses in the bowels, making it more difficult for the child to pass. Hill's biscuit-powder[6] and Allen & Hanbury's food[7] have not this effect, and are of decided benefit in cases of this sort; or jellies with milk. Where the child is in feeble health the artificial or peptonised milks are often of service.[8] When I remarked on giving sponge-cake (a whole one) to so young a child, the answer was, 'You see it's time he got on with his feeding; he's such a large frame to keep up.' 'Yes,' I thought, 'and, like Leech's racehorse, he's "high in bone and low in flesh."' Large frame does not prove larger stomach than the average, or larger capacity for food.[9] But it is a general idea that a 'large-framed' child requires a greater quantity of solid food, and at an earlier period of life, which often leads to illness—sometimes serious.

[1] See Appendix.

[2] 'When the enema does not exceed half a pint, as in the case of children . . . the vulcanised india-rubber bag is quite the most convenient mechanical agent from its simplicity, and the ease with which anyone may use it.'—*Dictionary of Domestic Medicine and Surgery*, 22nd edit., Dr. Thomson and Dr. Steele, p. 244.

[3] See 'Feeding,' p. 221.

[4] *Ibid.*, pp. 210–216.

[5] *Ibid.*, pp. 85, 210.

[6] *Ibid.*, p. 220.

[7] *Ibid.*, p. 219.

[8] *Ibid.*, pp. 192–204.

[9] *Ibid.*, p. 89, for the quantities it is computed a baby can take.

Where an infant is brought up from the first on cow's or Swiss milk but little difficulty is likely to be experienced in weaning, but in weaning a child with Swiss milk watchfulness and care are necessary, and undoubtedly, when the child is six or seven months old, the milk should be combined with farinaceous or other nourishment.[1] Weaning a child at seven or eight months on Swiss milk alone is weaning on insufficient nutriment. It seems to me very surprising that people nursing their children, and those also giving cow's or goat's milk, should, at the age of six to eight months, commence to give some other food in combination, yet should neglect to do so when giving Swiss milk. Condensed milk is usually described by medical men 'as a milk not equal to cow's milk in strength' for children over six to eight months, so that, if in the one case additional nutriment is needed, most certainly it is in the other. In fact, many doctors say *Swiss milk is best given only for the first few months of life*, changing to cow's, or other food combined with cow's milk, later on.[2]

I have brought up two children on Swiss milk. One I reared entirely on it,[3] and the other, a delicate, feeble little baby when born, I brought up till fourteen months on it, then changing to 'artificial milk.'[4] The delicate little child I have referred to (see frontispiece), I found, I was obliged to give other very nourishing food as well as the Swiss milk at eight months. On consulting a doctor who has had long experience with children we were advised to give a teaspoonful of fresh cream in each bottle of the Swiss milk, prepared as usual,[5] and add to this twice a day a dessertspoonful of veal or chicken-broth.

[1] See 'Feeding,' p. 149.

[2] Dr. Starr says of condensed milk: 'As a food it does not contain enough nutrient material to supply the wants of a growing baby,' and adds: 'It is never safe to bring up a child solely on this food. For a temporary change of diet, and as a substitute during travelling, or under circumstances in which sound cow's milk cannot be obtained, it may be resorted to with advantage.'—*Dietetics of Infancy and Childhood*, by Louis Starr, Philadelphia; *Annual of the Universal Medical Sciences*, *Sagous*, 1888, iv. p. 258.

[3] She has grown up quite *robust and strong*.

[4] See 'Feeding,' p. 192.

[5] *Ibid.*, p. 154.

We gave three days chicken jelly (broth), and the rest veal jelly (broth).[1] Take a good dessertspoonful of the jelly, put in a cup, and warm over hot water, and then add to the bottle of milk, prepared as usual, and with the cream in it. Although it sounds rather a mixture, still, when prepared, the child not only did not dislike the taste, but took her bottle with evident liking. After eleven months we gave a tablespoonful of the jellies instead of the dessertspoonful, and two teaspoonfuls of cream. It was also advised to give, when practicable, gravy taken from the centre of roast sirloin of beef and roast leg of mutton, so that whenever there was a joint we gave this in place of the jelly. By care you can obtain, by placing the spoon under the joint when cutting, about a wineglass of gravy, without interfering with the joint, as this, if not caught, runs into the dish, and if the cook sends up plenty of gravy in the dish it is not needed. Gravy, taken thus out of the centre of beef and mutton, contains the very essence of the meat.

Dr. Gover remarks of meat in diet :[2] 'The prominence now given to the various meats may, no doubt, be traced partly to the doctrines laid down years ago by Liebig, who, as I have already stated, taught that the nitrogenous constituents of food alone supplied the materials of growth and repair, and gave to animal food the first and most important place in the construction of dietaries.'

If, after standing, there is much grease on the gravy, skim off with a spoon or strain through muslin. For an infant gravy is best given mixed with milk. It costs 2*s.* 4*d.* a week for the cream ; one fowl, 2*s.* 6*d.* to 3*s.* ; and 1*s.* 3*d.* for the veal a week. The child took, as well, four tins of Swiss milk.

'If the child be pale and flabby, some more purely animal food may often be given,' says Dr. Playfair,[3] 'twice a day, and great benefit may be derived from a single meal of beef, chicken, or veal tea, with a little bread-crumb in it, especially after the sixth or seventh month. Milk, however, should still

[1] See 'Feeding,' p. 233.
[2] *Dietaries in their Physiological, Practical, and Economic Aspects*, p. 7.
[3] *Science and Practice of Midwifery*, 6th edit. vol. ii. p. 303.

form the main article of diet, and should continue to do so for many months.'

Dr. Hillier says, in rickets,[1] 'when the child is eight or nine months old, the gravy of meat and beef-tea should be given as well as plenty of milk.'

When cream is given to an infant great care should be taken to see that the can the cream is put in is perfectly clean. If cream is going to be used for a time, it is well to buy, or get the milkman to keep, two little cans for the cream. Cream for infant use *should not be kept* in an ordinary can, but should as soon as possible be turned into a jar, which should be washed out each day with Condy's fluid and water,[2] and be well rinsed before putting in fresh cream. I have seen at Laking's china depôt, 22 Connaught Street, Hyde Park, London, some *china* milk cans, which would answer admirably for cream, being so easily kept clean. They were not excessive in price either.

'Milk,' writes Dr. Chambers,[3] 'is rendered unwholesome in the customer's own house by the vessels in which it is received not having been properly scoured out with soda. On stale milk, even in minute quantities, there very quickly germinates a blue mould, such as is seen often on cream cheese, and called *Oïdium lactis*. The mixture of this, adhering to the corners of the can, on the addition of fresh milk, causes it to turn sour and to give rise to colic and diarrhœa, and possibly also to thrush, in children, for the crust which forms in the mouth is a not dissimilar form of mould.' After the child began the meat jellies, we gave each week a little fluid magnesia (Dinneford's), one to two teaspoonfuls in the morning, or going to bed, in a little milk. Magnesia corrects acidity, and is at all times useful in relieving the bowels.

Dr. Routh writes: 'In cases where the bowels are constipated the acidity is best corrected by magnesia,[4] as much as will cover a fourpenny-piece, or more, as the case may be, and

[1] *Diseases of Children*, p. 100.
[2] See 'Feeding,' p. 129.
[3] *Manual of Diet in Health and Disease*, p. 57.
[4] See 'Feeding,' p. 145.

in this way a purgative salt is produced which relieves them.'[1] I have, however, found Dinneford's fluid magnesia answer best, and have given in some instances two teaspoonfuls. But this must necessarily be judged by whoever has charge of a child.[2] A child can be brought up until thirteen months on this system of diet. But after this age, or even at twelve months, farinaceous food in small quantity may be combined with advantage, and may be even found necessary before. It may be useful to some to know how many bottles the child took at twelve months. She had what we called her breakfast bottle, lunch, dinner, tea, and supper, and one bottle early in the morning, about six o'clock.

Dr. Goodhart mentions[3] that 'after nine months' a child should have five meals a day. 'At this time,' writes Dr. Goodhart, 'of life, it should have five meals during the day.' The hours Dr. Goodhart names for feeding are 'eight, eleven, two, five, and eleven p.m.' Dr. Goodhart adds: 'There is no objection to a night meal of a teacupful of milk about 3 a.m., if it be wakeful.' But if farinaceous food is given the quantity of food the child will take will be less, or taken with a longer interval, as farinaceous food takes a longer time digesting than meat jellies or cream.[4] I think any attempt to feed a young baby too exclusively on meat jellies or broths will fail. No one should attempt to put a child entirely on jellies or beef-tea. 'A dog will live and fatten for six weeks on milk alone; while he will starve and die in a shorter period on strong beef-tea alone!'[5]

I have found meat jellies very strengthening in the case of a weakly infant, but not tending to produce fat, and I think with an ordinarily healthy child a better result can be obtained, and at less expense, with 'artificial'[6] or nursery milk, and the combination, for one or two meals during the day (at a suitable age),[7] of Hill's biscuit powder, Barker's round rusk, Robb's biscuits, or oatmeal,[8] any of which are excellent, the

[1] *Infant Feeding*, p. 356. [2] See 'Feeding,' p. 145.
[3] *Diseases of Children*, 2nd edit. p. 29.
[4] See 'Feeding,' p. 170. [5] *Advice to a Mother*, p. 105.
[6] See 'Feeding,' p. 192. [7] *Ibid.*, pp. 79-80. [8] *Ibid.*, pp. 219-227, 190.

former (Hill's biscuit powder) being especially nutritive. The round rusk is lighter than Robb's biscuits. In cases of extreme weakness and debility, jellies, combined with milk and cream, seem of great value.

Dr. Chambers, in remarking on the feeding of children over twelve months, says :[1] 'I would select as most generally applicable broth or beef-tea, at first pure, and then thickened with a little tapioca or arrowroot. Chicken soup, made with a little cream and sugar, serves as a change. Baked flour, biscuit powder, and tops-and-bottoms should all have their turn ; in fact, change is necessary, or the child is apt to get too fond of its soup, and to neglect the really essential nutriment of milk—in fact, to wean itself prematurely.'[2]

Dr. Bannister writes :[3] 'It was at one time thought that nitrogenous compounds ought to be able to sustain life ; animals were therefore fed solely on a nitrogenous diet, with the result that they all died. Food free from fat has been tried with a like result, and, without enumerating details, it has been verified by many experimenters, working in different ways, that milk is perfect in its composition for the purpose it is intended to serve, and that no artificial production can be properly substituted for it. The flesh-forming and heat-giving powers of milk are perfect.'

It having been mentioned to me by several physicians, and also by the British medical papers, that my measurements of Swiss milk in my previous volume were 'not sufficiently accurately expressed,' I now subjoin the directions given by the Anglo-Swiss Condensed Milk Company, Cham, Switzerland, both for preparing the milk and as to the quantities to be used of the milk, as I find their quantities are similar to those I gave in my first edition. These directions are not generally known of. I have found the quantities as mentioned by the Company agree ; but, of course, people must use their own judgment as to keeping exactly to the quantities indicated, some children being able to bear a

[1] *Manual of Diet*, p. 146. [2] See 'Feeding,' pp. 88, 74.
[3] *Our Milk, Butter, and Cheese Supply*, by Richard Bannister, F.I.C., F.C.S.

larger quantity of Swiss milk than others can ;[1] also some being able to bear an increase of the milk at an earlier age than others.

Directions of the Anglo-Swiss Milk Company for preparing Condensed Milk for Infants.

It should be understood that it would not be practicable for us to give exact directions for employing either the condensed milk or the milk food, for the reason that the amount of nourishment suitable for one child may be too little or too great for another.

Physicians and nurses must determine the strength or quantity of food to be given in each individual case ; experience enables us, however, to give approximate directions to be followed for infants of average health and strength.

During the first weeks of infant life the following directions may be observed :—

For the *first two days* give nothing but sweetened water : for the next five days ½-teaspoonful of condensed milk with 8 teaspoonfuls of water, every two hours, day and night.

For the *second week*, ¾-teaspoonful of condensed milk with 12 teaspoonfuls of water, every two hours, day and night.

Third week : 1 teaspoonful of condensed milk with 16 teaspoonfuls of water, every two hours, day and night.

Fourth week : 1¼ teaspoonfuls of condensed milk with 18 teaspoonfuls of water, every two hours, day and night.

Second month : 1½ teaspoonfuls of condensed milk with 21 teaspoonfuls of water, every two hours by day, and two to three hours at night.

Third month : 2 teaspoonfuls of condensed milk to 24 teaspoonfuls of water, every two hours by day, and about once in three hours at night.

The spoon used for measuring condensed milk should not be dipped into the tin, but should be filled by pouring from another spoon.[2]

If the use of condensed milk exclusively be continued

[1] See ' Feeding,' p. 144.

[2] *Ibid.*, p. 155.

beyond the third month, begin the fourth month with 2 to 2½ teaspoonfuls of condensed milk to 24 teaspoonfuls of water, and gradually, during the fourth month, increase the amount of condensed milk to 3 teaspoonfuls, with 24 to 26 teaspoonfuls of water, or with an amount of water equal to the volume the child will take at one time, and at this age feeding at longer intervals may gradually take place.

By the fifth month experience will usually show how to proceed, but condensed milk for any child of any age should never be used richer than 1 part of milk to 7 parts of water.[1]

The milk should always be prepared immediately before using, and all possible care should be taken to keep feeding-bottles clean and sweet. *They should be cleansed with hot water immediately after having been used each time.*

The water used should be previously boiled and cooled.[2] In preparing the diluted milk do not boil it, but merely warm it to blood heat, about 100° Fahr.[3]

I have found, even up to twelve months, a child unable to take more than 2 full teaspoonfuls of condensed milk; but others can perfectly take the larger quantities named. Laking[4] sells a proper Swiss milk spoon, which is correct as to measure, with which is sold also a piece of china for scraping off the milk into the vessel used for the preparation of the milk. The price is 1*s.* 6*d.*

It is well to keep a jug or cup (as a measure) into which the quantity of condensed milk and water have been *accurately* measured. Some boil Swiss milk in a saucepan (after mixing with cold water) so as to warm; but those acquainted with its manufacture say this is not the easiest or best mode of preparation, and that, as in its manufacture all germs are destroyed in the milk, boiling as a precautionary measure is unnecessary. The wording of the Anglo-Swiss Company's directions—'The water used should be previously boiled and cooled'—has occasioned much discussion, some holding that

[1] See 'Feeding,' pp. 162–164. [2] *Ibid.*, p. 155.
[3] *Ibid.*, pp. 123, 124.
[4] China Depôt, 22 Connaught Street, Hyde Park, W.

it is intended that the milk should be made with cold water, and afterwards heated, others that it should be made with lukewarm water only. I myself have always made the milk for infant use with *hot water*, allowing it to cool, or adding a little cold boiled water to make it the proper heat. There being apparently so much doubt on the subject of its proper preparation, I wrote to the Company and received the following reply :—

Madam,—In reply to your favour, our recommendation that the water should be previously boiled was only intended as a precautionary measure to avoid any risk from doubtful water. It is immaterial whether the milk be mixed with the water hot or cold. Nurses usually mix it with hot water to save trouble ; this practice does not, in our opinion, at all interfere with the preparation.

We remain, Madam,

Yours faithfully,

Chas. T. Sparks,

Manager, Anglo-Swiss Condensed Milk Company, London.

I think the best plan at night is to place the milk for the night's use [1] in separate vessels, so that there is merely the hot water to add. It is always best to save the moments when there is a baby probably crying loudly all the time—especially during the night, when one is anxious not to awaken those sleeping near. Condensed milk should be *thoroughly mixed* with the water. It is well (unless advised otherwise by a doctor) to add lime-water to *each bottle* of milk given : one teaspoonful for a new-born infant, and for the first few weeks till the milk is increased ; then two teaspoonfuls.[1] [2] Lime-water tends to neutralise the sweetness of Swiss milk, and is said to render it as well as cow's milk more digestible.

The following extract from a paper read at a meeting of the Hawick Pharmaceutical and Chemical Association,

[1] See 'Feeding,' pp. 79, 137, 181, 182.

[2] The quantity of water used to milk will be decreased according to the lime-water used, lime-water taking the place of the same amount of ordinary water in the preparation of milk.

December 2, 1884, by Thomas Maben, will show that lime-water is a useful adjunct to Swiss milk :—'Objection is frequently taken to the use of sweetened condensed milk, and from various standpoints. For example, we are told that the excess of cane-sugar decomposes and forms lactic acid, which gives rise to irritation and diarrhœa ; but this may readily be obviated by a more or less liberal allowance of lime-water, this being particularly necessary during teething time, when the natural tendency is for acid secretions to be formed.' [1]

I believe one of the reasons of my being successful with Swiss milk in infant-feeding has been the addition of lime-water to each bottle of the milk given. Dr. Routh mentions : [2] 'Wherever children are brought up by hand large quantities of lime-water are required ;' and adds : [3] 'In practice it will be found that two to four teaspoonfuls of lime-water to the half-pint will suffice, and even be more than sufficient, but this excess, for the purpose of the growth of the child's bones and teeth, is desirable.' Dr. Routh further remarks of phosphate of lime : [4] 'This salt, especially when combined with carbonate of lime, is most useful in the process of alimentation. It is on their combined agency that the solidity of the skeleton depends. Moreover, it is a peculiar property of phosphate of lime to make carbonic acid more soluble in the blood . . . a property never to be lost sight of when it is wished to strengthen a growing child. Its administration, whether in a separate form or in aliment, to a growing animal, is thus peculiarly indicated. Deformity of every kind in the skeleton may depend on an insufficient quantity of this salt in the blood.' Dr. Routh further adds : [5] 'The great use of lime salts in providing material for the muscular and bony structures is a strong reason for giving them in combination with the alimentary matters supplied.'

Dr. Semple says of the use of lime-water in infant-feed-

[1] A Paper read at a meeting of the Hawick Pharmaceutical and Chemical Association, December 2, 1884, by Thomas Maben, pharmaceutical chemist.

[2] *Infant Feeding*, p. 432.

[3] *Ibid.*, p. 451.

[4] *Infant Feeding*, pp. 282, 283, 432. [5] *Ibid.*

ing :[1] 'As cow's milk coagulates in large, and therefore indigestible, curds, thus differing from mother's milk, it is customary to delay this process by adding lime-water or a little bicarbonate of soda or potash to the bottle. A teaspoonful of the former is enough for one feeding, or a couple of grains of either of the latter.'

Dr. Ellis writes :[2] 'It is often advisable to add a little magnesia[3] or lime-water to the milk of the cow in correction of its acescent tendencies.'

Dr. Playfair writes :[4] 'One great drawback in bottle-feeding is the tendency of the milk to become acid, and hence to produce diarrhœa. This may be obviated, to a great extent, by adding a tablespoonful of lime-water to each bottle instead of an equal quantity of water.'

Dr. Hillier says, in the treatment of rickets,[5] 'the addition of lime-water instead of pure water to the milk of London cows will be desirable to prevent acidity.'

It will be seen from the annexed table how far cow's milk differs from human, and from that one can infer that lime-water is necessary to add to cow's milk for infants :—

Cow's Milk. Mean of Two Experiments. (*Hardlen.*)		Human Milk.	
Phosphate of lime	2·87		0·706
Phosphate of magnesia	·53	Carbonate of lime	0·069
Phosphate of peroxide of iron	·07		
Chloride of potassium	1·63	Other salts	0·053
Chloride of sodium	·29		0·098
Soda	·43	Sulphate of soda	0·074
Total salts in 1,000 parts of milk	[6]5·82	In 1,000 salts	1·000

Dr. Gover remarks[7] of lime being necessary for the bone

[1] *Mother's Guide*, p. 18.
[2] *Disease in Childhood*, p. 122. [3] See 'Feeding,' p. 151.
[4] *The Science and Practice of Midwifery*, 6th edit. vol. ii p. 300.
[5] *Diseases of Children*, p. 100. [6] Simon's *Chemistry*, ii. 63.
[7] R. M. Gover, F.R.C.P., *Dietaries in their Physiological, Practical, and Economic Aspects*, pp. 580, 581.

structure of man : 'Bone acquires its solidity chiefly from lime in union with phosphoric acid. Analysis of dried bone shows that it contains from 66 to 70 per cent. of mineral matter, of which about 57 parts are composed of phosphate of lime, eight parts of carbonate of lime, one of fluoride of calcium, and one of phosphate of magnesia.' Dr. Gover further adds: 'Lime, in the form of phosphate, is present in every tissue; and, as Dr. Pavy remarks, "its incorporation with the nitrogenous constituent principles is so intimate that much difficulty is experienced in effecting a complete separation without involving the destruction of the compound." The relation of the organic and mineral principles to each other is so close as to render it possible that the union between them is that of actual chemical combination It is important to remark that the various salts or mineral nutrients are not mutually replaceable; their distribution is not indiscrimate, but is determinate and fixed. Just as vegetables select from the soil in which they are growing the particular aliment which in each case is essential to their growth and development, whether it be lime, or potash, or silica, so do the individual tissues or fluids of the animal organism select and appropriate those salts which enable them to discharge their specific offices, the due performance of which is necessary to ensure normal development and vigorous life.'

'Bones contain over 10 per cent. of chalk or carbonate of lime, and more than 50 per cent. of another insoluble salt called phosphate of lime. NOTE.—In human bone the respective percentages are carbonate of lime 11·30, phosphate of lime 53·04.'[1] In water there is lime. 'Water should likewise contain certain mineral matters dissolved in it; of these the chief is carbonate of lime.'[2] Where there is no lime in water it is said to be unwholesome for drinking purposes. 'Lime salts . . . generally occur in a moderate and inoffensive amount in the drinking-water supplied by springs and rivers.'[3] Lime-water should be kept in a well-stoppered bottle, as, if it

[1] Thomas Twining, *Science made Easy*, Lecture ix.
[2] Professor A. H. Church, *Food*, p. 11
[3] Thomas Twining, *Familiar Lessons in Food and Nutrition*, p. 110.

is not, Dr. Routh says,[1] 'it is apt to be decomposed by absorption of the carbonic acid of the air, and becomes converted into chalk, and thus gives rise to constipation of the bowels.' Some mothers will not give their infants lime-water, being under the impression that it has always a constipating effect. I cannot, however, either in practice or on enquiry, find the slightest ground for this supposition, and can only imagine that it has its origin in one of those strange mistakes which spring up now and again, no one knows how or wherefore.

If lime-water, as Dr. Routh says, is kept *always well stoppered*, it will not affect the bowels. In 'Materia Medica,' Drs. Royle and Hedland, p. 126, under the heading of Lime-water, I find: 'The carbonate or chalk is also an admirable antacid. It is much used in diarrhœa, acting as a desiccant or absorbent, and neutralising acid matters in the intestines.' It is thus by neutralising acid matters that lime-water is of so much service during teething in the hand-rearing of children.

Dr. Starr writes:[2] 'When lime-water is constantly employed it becomes quite an item of expense if procured from the drug-shop; this outlay is unnecessary, for it can be made quite as well in the nursery.' The following appears to me the most simple and exact as to directions for making: 'Lime-water Liquor Calcis of the British Pharmacopœia is made by adding 2 ozs. of freshly slaked lime to a gallon of distilled or boiled water in a stoppered bottle, and shaking well for two or three minutes. After twelve hours the excess of lime will have subsided, and the clear solution can be poured off and kept in well-stoppered or corked bottles.'

The freshly slaked lime can be obtained at any chemist's.

'The Lancet,' August 29, 1868, says: 'Until recently, sailors and travellers on board ship have had to put up with some very unsatisfactory compounds which have been made to do duty for that much-abused but most valuable of all liquid articles of food, milk. Of late years, however, the method of

[1] *Infant Feeding*, p. 433.

[2] *Dietetics of Infancy and Childhood; Annual of the Universal Medical Sciences, Sagous*, 1888, iv. p. 262.

preserving milk in very tolerable condition has been discovered. This consists in part of depriving the milk, at a low temperature, of the greater part of its water, which forms by far the greatest portion, and in adding white sugar in powder. A sample of the preserved milk prepared by the Anglo-Swiss Condensed Milk Company furnished, on analysis, the following results :—

	Per cent.
Water	24·32
Sugar of milk	14·62
Cane sugar	37·18
Fat	9·87
Albuminous matter, including caseine	10·98
Mineral matter	2·62
	99·59

Containing 1·69 gr. of nitrogen.

Moreover we found that as regards preservation and taste the condition of this preserved milk was satisfactory.[1]

'Somewhat recently the milk from the rich pastures of Switzerland, Bavaria, Ireland, and England have been preserved by adding to it about a third of its weight of sugar, and then concentrating it *in vacuo* until it acquires the consistence of thin honey. In this state it is run into tins, which are immediately soldered down and thus hermetically sealed . . . so that the concentration of the milk has been to about one-third of its original bulk, and therefore, if it be diluted with twice its bulk of water, it will make a good milk of ordinary strength. Of the sugar in the milk 14 to 18 parts consist of lactose or milk-sugar, and the rest is cane-sugar, hence the sweetness of the milk.'[2] Of the preservative effects of sugar, various experiments have shown its value, the most recent being those made with meat. 'A very interesting investigation has just been made under the direction of the French Minister of Agriculture. The results demonstrate that sugar is an excellent agent for preserving meat, and possesses some advantages over salt. It is pointed out that the latter absorbs a portion of the nutritive substances and of the flavour of meat. When an analysis is made of a solution of

[1] *The Lancet*, August 29, 1868. [2] Letheby on *Food*, pp. 191, 192.

the salt dissolved by water contained in meat, albuminoid bodies, extractive substances, potassa, and phosphoric acid are found. Salt deprives meat of these substances so much the more readily in proportion as it enters the tissues more deeply or acts for a longer time. The result is that the meat, when taken from the saline solution, has lost nutritive elements of genuine importance. Powdered sugar, on the contrary, being less soluble, produces less liquid. It forms around the meat a solid crust, which removes very little water from it, and does not alter its taste. Thus preserved, it is sufficient that the meat is immersed in water before using it. The report declares that, although this treatment costs a little more than preservation by salt, account must be taken of the final result and of the loss prevented, which offsets the difference in cost between the two preservatives.'[1]

Dr. Davis writes:[2] 'There is no difficulty in finding the percentage of solids in diluted condensed milk, but there is considerable difficulty in knowing to what extent condensed milk ought to be diluted. The Anglo-Swiss label recommends that for infants the milk should be diluted with from 7 to 14 parts of water; the Aventicum says 7 to 10, the Scandinavian 10 to 15, and so on, the idea being that the milk should be used weaker at first and gradually increased in strength.'

The following from Mr. Willard, of Cornwall University, New York, is worth noting: 'According to Dr. Davies there is no evidence to show that a woman's milk is stronger at six months than it is at one month after parturition, and consequently he prefers to use milk of a uniform strength all through. After some tentative experiments we decided to dilute the sweetened condensed milk in the proportion of one to eleven of water, and that strength has been adhered to from first to last with excellent results. I have noted the quantity of milk used each day, the average being as nearly as possible eight tins in thirteen days for each child, and from this we calculate the solid nourishment taken every twenty-four hours. As a general rule nurses give the milk very much

[1] *The Times*, Monday, February 13, 1888.
[2] *British Medical Journal*.

stronger than 1 to 11. I know of no instance in the circle of my personal acquaintance where so weak a milk is given, but I do know of several where children of six months were allowed as much as a tin a day. At this rate we need hardly wonder if medical men have sometimes had cause to find fault with its use.'

ANALYSES OF CONDENSED MILK.[1]

Description	Percentage of				
	Water	Fat	Cane and Milk Sugar	Casein	Ash
Swiss . . .	26·70	9·76	51·02	10·20	2·32
English . . .	27·07	8·30	50·79	11·84	2·00
Pure Swiss Milk .	62·20	10·21	14·89	10·29	2·41
Condensed . .	61·40	11·37	13·37	11·48	2·38
Pure Condensed .	62·79	10·26	15·86	9·00	2·09
Alpine Milk . .	62·35	11·15	13·14	11·29	2·07

I have always used the sweetened Swiss milk (milk-maid brand), and have never given Swiss milk of a uniform strength all through.[2]

Opinions differ as to human milk varying at different periods, as the following[3] will show :

COMPOSITION OF HUMAN MILK.

Table calculated from one given by Becquerel and Rodier.

	Specific gravity	Water	Solid constituents	Sugar	Casein with extractive matter	Butter	Incinerated salts
1st Quarter .	1032·50	877·33	122·67	42·30	33·39	34·94	1·73
2nd „ .	1031·81	893·14	106·86	43·71	37·95	23·89	1·37
3rd „ .	1033·07	890·83	109·17	43·67	40 89	23·40	1·21
4th „ .	1031·24	892·98	107·03	45·79	36·89	23·03	1·29
12 to 18 mhs.	1032·05	891·34	108·66	43·92	36·98	26·44	1·32
18 „ 24 „ .	1030·81	876·55	123·45	41·33	37·32	43·47	1·33

The Secretary of the Society of Public Analysts, Otto

[1] *The Lancet*, 1878.

[2] See pages 154 and 155.

[3] *Moniteur des Sciences*; *Journal de Méd. et de Chimie Pratique*, 1870; *Annales d'Hygiène*, Becquerel et Vernois.

Hehner, 11 Billiter Square, writes, Oct. 19, 1887: 'Whilst distinctly injurious effects have in a few isolated cases been traced to the consumption of tinned meats—be it from the presence of corrosive soldering fluid within the canister, or due to a diseased condition of the animal from which the meat is derived—no aspersion has ever been cast upon condensed milk, no impurity has ever been found in it, and, with the exception of skimming, no charge of adulteration has ever been substantiated against it. On the contrary, whilst typhoid and scarlet fevers have been traced to the use of ordinary unboiled cow's milk, all authorities are agreed that condensed milk affords every possible guarantee against such danger, because in the process of condensation it is subjected to the only really effective mode of disinfection—namely, a high temperature. To talk, in view of these facts, of the poisonous nature of condensed milk is absurd.

'But there can be no doubt that the proper use of condensed milk is but ill-understood by the majority of those who use it for the feeding of infants. A tin of condensed milk is supposed to be as inexhaustible of milk as the cruse of the widow was of oil. A tin of milk is popularly credited with containing a sufficiency of food for a young child for the space of one week. The fact is, that a tin of condensed milk contains an amount of fresh milk equal to about three pints, and about six ounces of white sugar. To obtain from one tin of condensed milk a fluid of the nourishing value of fresh milk, at most two and a half pints of water should be added, or for infants' feeding double that quantity of water. Instead of this a spoonful of the condensed milk is commonly used to half-a-pint of water, the result being that children fed with this dilute solution are put upon a starvation diet.'[1]

The nutritive value of Swiss milk has more recently been brought to the notice of the public by the following in 'The Times,' Thursday, June 14, 1888, relative to the diet of the late Emperor of Germany in his last illness: '. . . . and it was unanimously agreed by the doctors that their patient's

[1] Otto Hehner, Hon. Secretary, Society of Public Analysts, 11 Billiter Square, October 19.

food would now have to be conveyed to him in an artificial manner. This food to a great extent consists of condensed milk, cream, with whiskey, and other liquid nourishment of a similarly strengthening kind, which is given several times a day.'

The subjoined from the 'Report on Preserved Vegetables, Fruit, and Milk,' by J. J. Manley, M.A., International Health Exhibition, 1884, is of value as attesting to the feasibility of bringing up children well on condensed milk. The account it gives of Swiss milk is also interesting, and the note of warning as to inferior Swiss milk not unneeded. It is essential to use the *best condensed milk* for infants' food.

'It was with Mr. Borden's process, and perhaps with some improvements on it, that several American gentlemen established a milk-preserving manufactory at Cham, in the canton of Zug, in 1866. The product of this manufactory has ever since been well known in the English market, and to the English public, as the "Anglo-Swiss milk," and has most deservedly established for itself a worldwide reputation, finding its way, as it does, to the very remotest countries, as well as being largely consumed among ourselves.

'The method of condensing and preserving the milk is substantially the same at all manufactories; and when all the conditions of successful manufacture are duly observed the result is always satisfactory, and the products of the Anglo-Swiss Company and other recognised manufacturers can always be depended on. In the manufacture of condensed milk the greater proportion of the original 80 to 85 per cent. of water is evaporated, but the casein, butter, or fat, and other solid and nutritive substances of the milk, remain intact, in their original form. The colourless and almost tasteless stream which runs continuously from the condensing pans during the process of condensation is evidence that nothing but water is taken from the original milk. Thus we have an article which is in reality pure milk—not an article made *from* milk. It is hardly necessary to observe that it is next to impossible to adulterate condensed milk by adding any substance to it, except sugar, for the purpose of increasing bulk. The intro-

duction of any foreign substance, for the purposes of adulteration, would at once defeat the one great object, namely, the preservation of the milk. The fact that a tin of the preserved milk may sometimes be found unsound is not to be attributed to any attempt to tamper with it in its manufacture, but to some undetected unsoundness in perhaps a very small portion of the milk delivered to the farmers ; to a failure in some part of the condensing operation, which is a very delicate one ; or to a flaw in the material of the tin itself. To object to the "tinned," or condensed, milk because it may be sometimes found bad, is not more reasonable than to object to ordinary milk because it is sometimes delivered sour. Baron Liebig, in his recorded analysis of the Swiss preserved milk, says :— "It consists of nothing but cow's milk and the best refined sugar, and possesses all the properties and qualities of a perfectly pure milk." Dr. Hassall, who made a very careful investigation into the matter, and watched the whole process of milk condensation at Aylesbury, from the receiving of the milk from the farmers till it was soldered up in small tins, said that "the milk used was the whole milk, of the best and richest description ;" and, referring to examinations made by him of condensed milk at different times, says :—"We have always found it to be both genuine and in a perfect state of preservation." It is in the power of anyone to test its genuineness without being a chemist. If sufficient water is added to the condensed milk to bring it back to its original state, *i.e.*, to re-establish the original proportion between the water and other constituents, cream will rise from it in the ordinary way ; only it must be stood in open, flat vessels, and not in high-class columns, called graduated test-tubes, because the sugar to some extent prevents the cream readily rising. Again, if the condensed milk, mixed with the proper proportion of water, be raised to a temperature of 70°, it will churn into butter like ordinary milk. These two simple tests will show that the condensed milk is real milk, and not an article made *from* milk.

'The value of this milk for infants and children, especially during the prevalence of infantile diarrhœa, which in the opinion of the majority of medical men is to be attributed to

the badness of the milk supplied to the poor in large centres of population, is greater than some suppose. Many medical men, and mothers who have had the courage to try the condensed milk for infants when the natural sources have failed, can bear testimony to the fact that infants will thrive well on the condensed milk for many months, without any other addition to their food.

'"The proof of the pudding is in the eating," and in addition to the many instances which have come under my observation of the successful use of "tinned" milk as food for "hand-fed infants" I am in a position to state that one of my own children, now a healthy boy of fourteen, had nothing pass his lips from the age of five weeks to seven months but "tinned" milk and water. Dr. Cuibourt, of the French Academy of Medicine, says that cow's milk, with the addition of one-fifth of its weight of water, and a little sugar, is as nearly as possible the same as woman's milk, and has, moreover, the advantage of being a well-known substance, easy to be administered. It follows, therefore, that condensed milk, when diluted with seven to nine parts of water, scarcely differs from mother's milk. It might be further added that condensed milk is even superior to cow's milk, from its uniformity. Being made from the combined milk of a large number of cows, practically it never varies in its quality and uniformity; hence it has an additional value as a food for infants, for, as is well known to physicians, the change from one cow's milk to another, even though both are excellent, disarranges the digestion of infants and young children.

'But, of course, the above remarks apply only to the recognised "brands." Some recent cases of prosecution under the Food and Drugs Adulteration Act, in reference to the sale of condensed milk, show that some irregularities, to use a very mild term, exist in this business. Separated milk, *i.e.*, milk from which the cream has been taken by the now well-known "centrifugal-force" method, is certainly condensed and put up in tins, but when this is sold as condensed separated milk, and does not purport to be more than this, there is nothing to complain of. The brands of the recognised manufacturers of

"pure condensed milk," *i.e.*, whole milk, can be depended on.'

It would appear that the thickness of Swiss milk in the tin is a sign of the milk having been kept. This I have proved by opening a tin of condensed milk which I had kept three years. The milk was a thick mass, like very thick paste, on opening the tin, but after well stirring, as indicated by the Company, it became much smoother and nearly of an ordinary thinness, and on hot water being added made a perfectly sweet milk, although the taste was slightly different to the newer milk. If I may so describe it, the milk had a 'cowey' taste, and it was also a little more yellow in colour before adding the water. If condensed milk on opening the tin has any distinct smell, such as a sour or fishy smell, the milk is not fit for use. The following letter was written to me by the Anglo-Swiss Milk Company respecting their Swiss milk :—

MADAM,—Replying to your favour of even date, we beg to say that all our stock of Swiss milk consists of milk newly condensed, and is therefore more or less thin. The tendency of condensed milk is to become thicker with age, as you would discover if you were to put aside one of the tins complained of, and open it in three or four months' time. It would then appear thicker and richer, but in either case the quantity would be the same. We enclose slips regarding thick and thin milk.

Yours faithfully,

P. Pr. Anglo-Swiss Cond. Milk Co., London,

A. DE MEISS.

'*Regarding Thick and Thin Condensed Milk.*

'Consumers purchasing condensed milk from time to time should not expect to always obtain it of uniform consistency.

'Condensed milk gradually thickens with age. This is a matter entirely beyond the control of the manufacturer.

'Whether condensed milk be newly made and appears thin,

or has become thick with age, its quality in either case is precisely the same, provided the milk is sound.

'Milk of considerable age and quite thick may, for one reason, be preferred. Such milk, if still sweet, has withstood a test of its keeping quality; thus proof is established that it has been condensed properly, or that the quality of the milk has suffered no injury in the process of conserving it.

'In case such milk does not dissolve as readily as desired, stir it well before removing it from the tin, and you will be surprised to see how quickly it becomes thinner, and how easily it may then be dissolved. To dissolve the thickest condensed milk without the least inconvenience, first dilute it with a small quantity of water, taking about half as much water as you do milk; stir well together, then gradually add as much water as desired.—*Anglo-Swiss Condensed Milk Co., Cham, Switzerland; Paris and New York; and* 10 *Mark Lane, London.*'

When condensed milk is thought not to be sufficiently nourishing, the addition of cream is of benefit.[1] Dr. Semple writes:[2]

'If the babe be fed upon condensed milk, a teaspoonful or more of cream may be added to the bottle.'

Dr. Semple further remarks that 'this quantity may be increased to a tablespoonful instead of increasing the Swiss milk.'[3] I have, however, found this quantity too heavy when given in every bottle. Adding cream to condensed milk appears to prevent its relaxing the bowels, a teaspoonful to each bottle being sufficient for this purpose.

Dr. Routh, in 'Infant Feeding,' pages 327, 328, mentions cream as being of much service diluted with water in some instances in infant feeding. Dr. Routh says: 'In many cases it is observed that there is a great quantity of acid produced in the stomach of the child, and the same effect results when it takes saccharine matters. It is in such instances that the

[1] See 'Feeding,' p. 149.
[2] *Mother's Guide*, p. 55; see also 'Feeding,' p. 149.
[3] See *Mother's Guide*, p. 18.

mixture of one part of cream to three of water proves often very beneficial. I have known,' he goes on to say, 'of a child reduced almost to a state of complete atrophy gradually recovering its good looks and strength on this change of diet. Cream in composition contains pretty nearly the same ingredients as milk, except that the casein is diminished and the fatty matters considerably increased. In this manner the absence of sugar is compensated for by the excess of fatty matters : and thus the fluid produced is sufficiently rich both as a nutritive and as a calorifiant aliment. The addition of water diminishes the density and makes the mixture more digestible. If to every half-pint of this mixture half an ounce of lime-water be added, the tendency to the formation of acid is removed,[1] the solubility of the casein and the emulsion of the fatty matters are insured, and both these last become more assimilable.'

It is, of course, essential to see that the cream is pure—not the usual 'London cream,' as prepared cream would neutralise all the good likely to result from giving cream alone. Some recommend the use of Devonshire cream, but its use, if given, must be watched, as after a time, if not at first, it has a decided tendency to relax the bowels. With ordinary cream it appears to be the reverse. Dr. Chambers says of Devonshire cream :[2] 'Devonshire cream has been used as a substitute,[3] but I cannot say it has proved in my hands an efficient one. If taken in sufficiently large quantities to be of service, it is apt to exercise a purgative action.' In fact, the opinions of medical men seem to vary as to the utility of cream, and especially as to the benefit to be derived from using 'cream diluted with water' alone in feeding robust infants. Without doubt a diet which would be suitable during a certain feeble condition of health might prove the reverse of such with perfectly healthy children.

Dr. Edward Smith, F.R.S., in his 'Practical Dietary,' pages 121 and 122 (a book evidently considered in the light of a

[1] See 'Feeding,' p. 182.
[2] *Manual of Diet in Health and Disease*, p. 338.
[3] For cod-liver oil.

standard work, as it is to be found fastened to the cases, containing various food substances, in one of the sections of the South Kensington Museum), says : 'Again, some infants are fed on cream and water, in the belief that they are thus offering a food richer than milk, but in so doing they fall into a grievous error, and the child rapidly pines away. The explanation is that the cream is composed entirely of fat, except the small quantity of milk which accompanies cream when skimmed off the milk, and fat by itself is totally inadequate to sustain life.' Dr. Smith continues : 'But much more to be reprehended is the plan of feeding an infant with sop, consisting of bread [1] or biscuit with water and sugar, and with only a very small quantity, if any, of milk added, for, as the foods other than milk and sugar are not digested, and as the quantity of milk is insufficient alone to support the infant, it follows that starvation, or some approach thereto, must occur. It has been already shown that milk contains casein or cheese in large quantity, with sugar, and numerous important salts, besides the fat, and all these are necessary to nutrition and growth.'

Dr. Goodhart writes : [2] 'One other food still requires mention, that which goes by the name of "strippings." [3] All infants digest cream with facility ; the curd, on the other hand, is an obstacle with all. "Strippings," obtained by re-milking the cow after its usual supply is withdrawn, is rich in cream and poor in curd, and consequently has much to commend it as an infant's food.'

With regard to strippings, I received the following from the Aylesbury Dairy Company :—

[1] See 'Feeding,' pp. 68, 80.

[2] *Diseases of Children*, p. 27.

[3] Assimilable proportions of this are :—

Strippings	f℥j.
Water	f℥ij.

And if the small amount of caseine in such a mixture be still undigested :—

Strippings	f℥jss.
Barley-water	f℥jss.

—*Dietetics of Infancy and Childhood*, by Louis Starr, M.D. Philadelphia ; *Annual of the Universal Medical Sciences, Sagous*, 1888, vol. iv. p. 267.

London, W., May 27, 1889.

MADAM,—We beg to acknowledge the receipt of your letter of the 24th inst., and, in reply, to inform you it has long been a well-known fact that the first portions of milk drawn from the cow contain much less fat (cream) than the last portions, which are known as the 'strippings.' In every other respect, however, the composition is identical, and by the addition of cream to milk a mixture will be obtained which has all the properties of 'strippings,' and is of the same composition. This we can, and do, supply when demanded.

We beg to remain, Madam,

Your obedient Servants,

The Aylesbury Dairy Company, Limited.

Per J. A. H.

Cow's milk is diluted with water in various proportions,[1] some giving it stronger than others. Dr. Ellis says: 'At first it must be diluted with an equal part of water, and a little sugar may be added.'[2]

Dr. Ellis is of opinion that gelatin is a useful addition to cow's milk for delicate infants. 'Gelatin,' writes Dr. Ellis,[3] 'forms a very large portion of the tissues of all young animals. Its ordinary source from the foot of the calf is an illustration of its abundance in the young. In order that the due supply of this material may be kept up in the system of an infant, some of the albuminous matter which it receives in the milk must be decomposed to repair the waste of the gelatinous tissues. If, therefore, gelatin is given to a child it goes directly to the supply of the gelatiniferous tissues, and there is, therefore, the less need for any appropriation of the albumen of the milk; and, as this implies a double loss, first of vital force in the decomposition, and next of nutrient material which might have gone to feed other structures, it is plain that the addition of gelatin to a child's food when its digestive powers are feeble, or the child weakly and delicate, is a positive gain.'

[1] See 'Feeding,' pp. 178–183.

[2] *Disease in Childhood*, p. 121. [3] *Ibid.*, p. 142.

Dr. Ellis adds :[1] 'The best way of giving gelatin to an infant is by adding it in small proportions to the warm and sweetened milk and water of the ordinary meal. It is most conveniently kept in the form of a jelly,[2] made either from isinglass, prepared gelatin, or the calf's-foot, one or two teaspoonfuls of which may be easily melted and added to the meal. Healthy children do not require any addition, but it is well to know that such an addition as this is harmless.' Dr. Ellis further remarks : 'I am disposed to consider the use of gelatin as not only wholly unobjectionable in the case of delicate or weakly children of this age,[3] but as absolutely serviceable in a remarkable manner. Gelatin, which includes jellies made of isinglass, calf's-foot, or the dried gelatin of the shops, does not require digestion at all ; it passes unaltered into the blood, as food in a liquid state, and requires no expenditure of digestive power in its preparation, and no exercise of vital activity for its absorption. It is, therefore, plainly a most bland and unirritating food.'

Calf's-foot jelly, I am told, will take the place in milk—condensed or cow's milk—of cream and meat jellies, and with equal advantage. This would be quite within the reach of people with limited means, as calves' feet are quite inexpensive. I have found a tablespoonful of calf's-foot jelly equally well digested as chicken or veal jelly by a child ten months old ; but no doubt the smaller quantity mentioned by Dr. Ellis would be more suitable for younger infants. An old physician told me that when gelatin (isinglass) is put in the milk, delicate, feeble infants soon show a marked improvement, and that it answers the same purpose as cream. I cannot, I am sorry to say, from personal observation attest to its value, as I have not made trial of it for a long enough time, and it was given with the addition of cream. When it is deemed advisable, however, to give some other nourishment to the food of a feeble infant, and cream, which is so good an addition to milk, is not obtainable, or there is a doubt about it, gelatin—its being highly recommended by so many medical authorities

[1] *Disease in Childhood*, p. 143. [2] See 'Feeding,' p. 234.
[3] Infants.

of eminence is a safeguard as to use—might be made a trial of.

After recording the researches of several scientific men to see if gelatin could be used entirely as a nutriment, and the failure of their efforts, Dr. Edward Smith, F.R.S., says:[1] 'My own experiments have proved that gelatin, like albumen, is transformed within the system and leaves the body as urea, and hence it must have played its part in nutrition; but whether its nutritive value is quite equal to that of albumen is another question. I believe gelatin to be a valuable food, and every one knows that, with the addition of wine and other substances, it is a very agreeable one.' 'Gelatin,' Dr. Edward Smith continues,[2] 'is found in its most pure form in isinglass and in dried gelatin; the former derived from the sturgeon, and the latter from various parts of animals.' Bischoff and Voit are of opinion that gelatin presents to some extent a substitute for other plastic matter; and Dr. Letheby, in his important lectures on food at the Society of Arts, says: 'Possibly it may serve in the direct nutrition of gelatinous tissue.'[3] Dr. Carpenter says of gelatin that it can take the place of part of the nitrogenous substances which are being oxidised in the blood. That hygienist rightly dwells on the importance which this gives it as a food for invalids, obviating the waste of tissue in respect of which their inability to digest ordinary meals leaves them no other mode of prevention. '. . . But I may at once remark, in respect of using jellies as food, that the enormous difference between the quantity apparently taken in and the real amount of aliment must not be overlooked in computing nutritive results.'[4]

Isinglass is said to be better for infant use by some authorities on infant dietetics than what is called gelatin. 'Gelatin never agrees with the delicate stomach of an invalid, like isinglass; and therefore it is often important to discover the difference.'[5] In the case of a delicate or invalid baby

[1] *Practical Dietary*, p. 88. [2] *Ibid.*, pp. 87, 88.
[3] See *Letheby on Food*, p. 173.
[4] Thomas Twining, *Food and Nutrition*, p. 29.
[5] Letheby on *Food*, pp. 173, 236.

this should be noted ; with an ordinarily strong baby I believe gelatin agrees perfectly. It is said the preparation recommended by Dr. Meigs, of Philadelphia, will be found of great utility in giving gelatin. Dr. Meigs's receipt is as follows — 'Take two inches square of gelatin, soaking it well in cold water, and then allow it to boil from a pint to half that quantity ; add this while boiling to an equal quantity of milk and a tablespoonful of cream ; slightly sweeten, and put away for the day's use.'[1] Another receipt is : 'Put a piece of plate gelatin, an inch square, into half a tumblerful of cold water, and let it stand for three hours ; then turn the whole into a teacup, place this in a saucepan half-full of water, and boil until the gelatin is dissolved. When cold this forms a jelly ; from one to two teaspoonfuls[2] may be added to each bottle of milk-food.'[3]

In his lectures on the scientific basis of cookery (Society of Arts, 1884) Mr. Mattieu Williams, F.C.S., says of gelatin : 'I have already referred to the Bone-soup Commission of the French Academy. Its object was to determine whether or the vast quantities of gelatin contained in bones, and which is commonly wasted, might be used in making soup in hospitals and other public institutions. The academicians arrived at a negative conclusion on the main question of the nutritive value of gelatin. They found that dogs, fed upon it exclusively, at first appeared satisfied with it, then ate it with difficulty, and finally rejected it, and died of starvation when supplied with no other food. Some of the academicians experimented on themselves, but did not carry their researches so far as with the dogs. They reached the loathing stage, and then retired from the investigation, and dined as usual.

'A multitude of such experiments led to the conclusion that gelatin is not nutritious—a conclusion curiously at variance with ordinary experience. Liebig stated it very broadly and positively. Further investigation has, however, refuted

[1] *British Medical Journal.* [2] See 'Feeding,' p. 173.

[3] *Dietetics of Infancy and Childhood*, by Louis Starr, M.D. Philadelphia ; *Annual of the Universal Sciences, Sagous*, 1888, vol. iv. p. 263.

this conclusion, and the experiments of the academicians are explained by understanding that gelatin alone does not contain certain materials that are absolutely necessary for building up the body, and that starvation may ensue from the want of these. It is worthy of note that this latter conclusion of science is but a confirmation of the intuitions of our natural instinct—our sense of taste. The gelatin obtained from bones is nearly tasteless—pure gelatin quite so ; the addition of a little table salt improves it, but not satisfactorily. If, however, we add to insipid gelatin the juices of fruit, as when jellies are made for evening parties, or to tasteless broth the saline juices of flesh—of which I shall speak presently—then we obtain a mixture that men, or dogs, or other animals, eat with satisfaction. It has also been found that the addition of a very small quantity of meat juices is all that is required to render gelatin nutritious.' [1]

'The best isinglass is brought from Russia ; some of an inferior kind is brought from North and South America and the East Indies ; the several varieties may be had from the wholesale dealers in isinglass in London. In choosing isinglass for domestic use, select that which is whitest, has no unpleasant odour, and which dissolves most readily in water. The inferior kinds are used for fining beer and similar purposes. Isinglass is much adulterated ; to test its purity, take a few threads of the substance, drop some into boiling water, some into cold water, and some into vinegar. In the boiling water the isinglass will dissolve, in cold water it will become white and "cloudy," and in vinegar it will swell and become jelly-like. If the isinglass is adulterated with gelatin, that is to say, the common sort of gelatin (for isinglass is classed amongst gelatins, of all which varieties it is the very purest and best), in boiling water the gelatin will not so completely dissolve as the isinglass, in cold water it becomes clear and jelly-like, and in vinegar it will harden.' [2]

I have seen ivory turnings (made into jelly) given in milk

[1] 'Cantor Lectures of the Society of Arts, 1884,' *The Scientific Basis of Cookery*, by W. Matti u Williams, F.C.S

[2] Mrs. Beeton's *Household Management*, p. 731.

to a delicate child, with an apparently beneficial result—a dessertspoonful into half-a-pint of milk. But I have never read or heard, although I have tried to find some example of the kind, of such having been used for weakly infants. The nourishment to be obtained from ivory jelly and milk must, however, be considerable, for I had a relative very ill once who lived for six months with ivory jelly and milk only as nutriment. In cookery for the sick Dr. Chambers directs to 'boil half-a-pound of hartshorn shavings (not raspings, which are adulterated with bone-dust), or an equal weight of ivory turnings, in three pints of water, down to a pint ; strain, and add three ounces of white sugar candy and an ounce of lemon juice.[1] Heat again to the boiling point.' 'The gelatine derived from these sources,' Dr. Chambers adds,[2] 'claims no advantage over that obtained as directed in cookery-books from calves' feet. But it is more soluble and digestible than if made from the ordinary 'gelatin' of the shops, which is manufactured from old bones, probably after maceration in acid.'

I give a friend's receipt for making ivory jelly, who used it with a delicate child for some time, with a good result. Jelly made of ivory turnings should be a pale yellow colour and perfectly tasteless.

Ivory Dust Jelly.

One pint of dust to two quarts of water, and boil twenty-four hours, or longer if greater strength be required.

Ivory turnings or dust can be obtained from any of the manufactories at Sheffield using ivory in their trade.

Joseph Rodgers, 6, Norfolk Street, Sheffield, supplies ivory dust, charging 4*d.* per pound for it. Dr. Chambers mentions that isinglass is in the Pharmacopœia. Gridley's pure Russian isinglass (trade-mark a sturgeon) is considered the best, and can be had direct from their manufactory (Gridley & Co., Isinglass Steam Works, Bishopsgate Avenue, Camomile Street, London, E.C.).

[1] This would be left out for an infant.
[2] *Manual of Diet*, pp. 273, 274.

To prepare isinglass jelly, Dr. Chambers directs:[1] 'Boil an ounce of isinglass in a quart of water down to a pint. Strain hot through a flannel bag.' It is necessary to remove as well the scum which rises to the top of isinglass in boiling. Francatelli says:[2] 'First wash the isinglass in cold water, to free it from the dust that is apt to gather about it; then put it into a stew-pan, and to every two ounces add half a pint of spring-water and about one ounce of sugar; stir this on the stove-fire till it boils, then throw in the juice of half a lemon,[3] and set the stew-pan by the side of the stove to continue gently boiling for about ten minutes, in order to dissolve the shreds of isinglass, and that it may thereby throw up all the scum, which should be removed as it rises to the surface; the isinglass may then be strained through a napkin into a basin and used for the required purpose.' 'Isinglass,' Francatelli adds,[4] 'may also be clarified by adding a very small quantity[5] of whipped white of egg after it has been dissolved in water as directed above, and then allowed to cool previously to mixing in the white of egg; it must then be allowed to boil gently by the side of the stove-fire, and when perfectly cleared of all the scum should be strained through a napkin.' White of egg used in so small a quantity would be harmless for even quite an infant.[6] I have had the isinglass done this way for infant use, and was told by a physician it was the best way, as there was no doubt about all the scum being cleared away. Abroad eggs are very much used in infant-feeding. I have seen the yolk of an egg even, lightly boiled, given daily to a child eight months old, which was being wet-nursed. The child appeared to like and digest it perfectly. It was given in the ordinary way with a spoon.

The degrees of dilution of cow's milk as given by authorities on infant-feeding are very similar. Dr. Chambers, in his

[1] *Manual of Diet*, p. 273.

[2] Francatelli, *Modern Cook*, p. 459.

[3] Lemon would, of course, be out of the question for infants' use, but white of egg is harmless and may be used instead, and has the same effect.

[4] Francatelli, *Modern Cook*, p. 460.

[5] The white of one egg.

[6] See 'Feeding,' p. 66.

'Manual of Diet,' p. 144. writes: 'Cow's milk should at first be mixed with half its bulk of soft, pure, tepid water, in each pint of which has been suspended a drachm [1] of "sugar of milk" [2] (which is procurable at any chemist's, being used for grinding up powders), and two grains of phosphate of lime, finely powdered. If the milk has been partially skimmed, as is often the case in cities, then a good tablespoonful of cream should be added to each pint to make the mixture equal to human. If it has not been skimmed, a couple of teaspoonfuls of cream is sufficient.' Dr. Chambers adds: 'In the above recipe household measurements are used, as the nearest possible approximation to the following formula:—

	Parts.
Whole cow's milk	600
Cream	13
Sugar of milk	15
Phosphate of lime	$1\frac{1}{2}$
Water	$339\frac{1}{2}$
	1,000'[3]

Dr. Starr says:[4] 'The object to be accomplished in the preparation of cow's milk is to make it resemble human milk as much as possible in chemical composition and physical properties. To do this it is necessary to reduce the proportion of caseine,[5] to increase the proportion of fat and sugar, and to overcome the tendency of the caseine to coagulate into large, firm masses upon entering the stomach. Dilution with water is all that need be done to reduce the amount of caseine to the proper level, but, as this diminishes the already insufficient fat and sugar, it is essential to add these materials to the mixture of milk and water. Fat is best added in the form of cream,[6] and of the sugars either pure white loaf sugar[7] or sugar of

[1] Drachm = one teaspoonful.

[2] See 'Feeding,' pp. 182, 183.

[3] *Diet. Encycl. des Sciences Méd.*, Art. *Lait*, 1868.

[4] *Dietetics of Infancy and Childhood*, by Louis Starr, M.D. Philadelphia; *Annual of the Universal Medical Sciences, Sagous*, 1888, vol. iv. p. 262.

[5] This is successfully accomplished in artificial human milk. See 'Feeding,' p. 79.

[6] See 'Feeding,' p. 189.

[7] *Ibid.*, p. 182.

milk may be used, though the latter is greatly preferable, as it is little apt to ferment, and contains some of the salts of milk, which are of nutritive value.[1] The risk of firm clotting may be anticipated by the addition of an alkali, or a small quantity of some thickening substance, as barley-water, gelatin,[2] or one of the digestible prepared foods.[3] Lime-water is the alkali usually selected.[4] It acts by partially neutralising the acid of the gastric juice, so that the caseine is coagulated gradually and in small masses, or passes, in great part unchanged, into the intestine, to be there digested by the alkaline secretions.'

After mentioning several ways of preparing milk for infant use, Dr. Starr says :[5] 'Another good food is that recommended by Dr. A. V. Meigs. It consists of a combination of two parts of cream, containing from fourteen to sixteen per cent. of fat, one part average milk, two parts lime-water, and three parts sugar water, the latter consisting of seventeen and three fourths drachms of milk-sugar to one pint of water. This makes an alkaline mixture with the percentage of its ingredients closely corresponding to human milk.' Dr. Starr gives the age of 'six weeks' as the age at which a milk of this description may be borne. Dr. West says :[6] 'The degree of dilution must vary according to the infant's age ; at first the milk may be mixed with an equal quantity of water, but as the child grows older the proportion of water may be reduced to one-third.'

Speaking of the dilution of cow's milk, Dr. Playfair writes :[7] 'A common mistake is over-dilution, and it is far from rare for nurses to administer one-third cow's milk to two-thirds water. The result of this excessive dilution is that the child becomes pale and puny, and has none of the firm and plump appearance of a well-fed infant. . . . The necessary

[1] See 'Feeding,' p. 182.
[2] *Ibid.*, p. 79.
[3] *Ibid.*, p. 80.
[4] *Ibid.*, p. 157.
[5] *Dietetics of Infancy and Childhood*, by Louis Starr, M.D. Philadelphia ; *Annual of the Universal Medical Sciences, Sagous*, 1888, vol. iv. p. 267.
[6] *Diseases of Infants and Children*, p. 337.
[7] *Science and Practice of Midwifery*, 6th edit. vol. ii. p. 300.

dilution will be best obtained by adding to pure, fresh cow's milk one-third hot water, so as to warm the mixture to about 96°, the whole being slightly sweetened with sugar of milk or ordinary crystallised sugar.[1] After the first two or three months the amount of water may be lessened, and pure milk, warmed and sweetened, given instead.' Dr. Cuibourt of the French Academy of Medicine says that 'Cow's milk, with the addition of one-fifth of its weight of water and a little sugar, is as nearly as possible the same as woman's milk, and has, moreover, the advantage of being a well-known substance, easy to be administered.'[2] I give the following extract from a letter from a physician very successful with infant-feeding. I have myself found these proportions agree—the child thriving and doing well—*when giving cow's milk to new-born and young infants of the age mentioned*: 'With regard to new-born infants, I never allow the proportion of milk to be greater than one to three of water for the first month, and, as you know, I often use barley water[3] instead of water. At the end of the month, if symptoms seem to demand it, I allow one of milk to two of water, or thin barley water.'

Dr. Starr gives the following where milk is required for a new-born infant, pending the arrival of the mother's milk :[4] 'A little sound cow's milk, diluted with double its quantity of water and sweetened with sugar of milk,[5] may be given every fourth hour, the babe being put to the breast in the meanwhile. So soon as the flow begins, however, artificial feeding is to be discontinued.'

Dr. Chevasse gives two receipts for cow's milk,[6] the only variation being the addition of salt; first what he calls 'The Lime-water and Milk Food Formula' :—

[1] See 'Feeding,' p. 182.

[2] *Encycl. des Sciences Médicales.*

[3] See 'Feeding,' p. 186.

[4] *Dietetics of Infancy and Childhood*, by Louis Starr, M.D. Philadelphia; *Annual of the Universal Medical Sciences, Sagous*, 1888, vol. iv. p. 243.

[5] 'Sweeten with half a teaspoonful of milk-sugar.' *Dietetics of Infancy and Childhood*, p. 269.

[6] *Counsel to a Mother*, pp. 24, 30.

Take of Fresh milk—the milk of *one cow*—eight tablespoonfuls;
Lime-water, one tablespoonful;
Hot water, seven tablespoonfuls;
Loaf-sugar, two moderate-sized lumps;
Table-salt, a small pinch.
Mix.

And then 'The Cream and Milk Food':—

Take of Cream, from the milk of the *one cow*, one large teaspoonful;
Fresh milk—the milk of *one cow*—eight tablespoonfuls;
Hot water, seven tablespoonfuls;
Pure raw (Demerara) sugar, one teaspoonful;
Table-salt, a small pinch.
Mix.

The Demerara sugar is advised because of its having, as a rule, an aperient effect. Dr. Routh, in his 'Infant Feeding,' p. 510, gives 'for infants without teeth, and under three months':—

Take of Milk and water, of each, four ounces;[1]
Sugar of milk, one drachm;
Lime-water, two teaspoonfuls.
Mix.

'Under six months':—

Take of Milk, six ounces;
Sugar of milk, one-and-a-half drachm;
Water, two ounces;
Lime-water, one tablespoonful.
Mix.

'Under nine months':—

Take of Pure milk, half-a-pint;
Sugar of milk, two drachms;
Lime-water, one tablespoonful.
Mix. Temperature 90°.

Dr. Routh adds:[2] 'If an infant be under four months of age, tolerably strong, and regular in his bowels, and has to be bottle-fed, a mixture of first quality milk with water in equal proportions will suffice; after four months one part of water to two of milk, if given at a temperature of 90°, agrees well.'[3] Dr. Routh remarks of 'sugar of milk'[4] that it 'will often check diarrhœa, as I have before stated, and I cannot too strongly recommend its employment in preference to ordinary sugar in these cases; and, more than this,' continues Dr.

[1] It is advisable to have a measure, or to get a chemist to do so.
[2] *Infant Feeding*, p. 354.
[3] See 'Feeding,' pp. 123, 124.
[4] *Ibid.*, pp. 449, 450.

Routh, 'sugar of milk, as it is usually sold, contains all the salts of milk in solution, and when substituted for the ordinary white sugar it often not only stops excessive purging, but keeps the bowels regular.' As regards the value of 'sugar of milk,' medical opinion seems to be divided, for Dr. Edward Smith, F.R.S., writes :[1] 'But, as the nutritive properties of sugar of milk and ordinary sugar are the same, and as the object of sweetening the milk is more readily effected by the use of ordinary loaf sugar, the latter is, perhaps, preferable.' I have not myself made a sufficiently extended trial of 'sugar of milk' to give an opinion.

The new product made from coal-tar is said to be without the defects of other sugar ('the harm done by sugar . . . . is partly its easy conversion into lactic acid'[2]), and thus incapable of causing the same acidity as other sugar, although an equally good sweetener. Probably this new sugar, called 'saccharin,' might answer for sweetening infants' milk where there is much acidity present. I think, however, in *any case* the advice of a doctor should be sought before trying. I have heard of its having been used for sweetening children's as well as adults' medicines, but it is too recent a discovery to have had any very extended trial in infant-feeding, although it may prove of service for sweetening infants' milk in cases where there is a great tendency to acid in the child. Saccharin can be purchased at the Army and Navy Stores, and any chemist can get it. Professor Leyden, of Berlin, says : 'Fahlberg's saccharin agrees both with invalids and healthy individuals, so that no anxiety as to its effect upon health need attend its use, and that saccharin may be consumed over prolonged periods.'[3]

The following notes on saccharin, a reputed substitute for sugar, by Edward D. Gravill, F.C.S., are taken from the 'Pharmaceutical Journal,' Friday, October 28, 1887 :—

'Saccharin now occurs as a very pale yellow, nearly white, amorphous powder, free from grittiness, but giving a distinct sensation of roughness when rubbed between the fingers. It

[1] *Practical Dietary*, p. 124. [2] *Manual of Diet*, p. 292.
[3] *The Lancet*.

is not entirely free from odour, but this is very slight, and not at all objectionable, reminding one of a very slight flavour of essential oil of almonds. Its taste is intensely sweet and persistent, which in the raw state is followed by a slight harshness upon the tongue and palate.

'The quantity of saccharin required to communicate an agreeable degree of sweetness, like sugar, differs with the material to be sweetened, but from half to one-and-a-half grains, according to taste, will be found sufficient for an ordinary breakfast-cupful of tea or coffee infusion.'

'Soluble saccharin,' sold by Allen & Hanbury, Plough Court, Lombard Street, London, E.C., is, I hear, the best for domestic use. '*Pure* saccharin is insoluble in cold water, and should not be sold by chemists for domestic use.'[1]

Allen and Hanbury also sell a preparation of saccharin ready prepared for sweetening tea, coffee, cocoa, &c., which would answer the purpose of sweetening infants' milk no doubt equally well. It is called 'Tabellæ Saccharin.' There is also another preparation of saccharin called 'Pastilles Saccharin,' prepared by Meggerson, Miles Lane, Common Street. The latter is a thin, flat, white lozenge, not unlike peppermint in appearance. The former, 'Tabellæ Saccharin,' are, if I may so term them, a Lilliputian lozenge, also white, and, being so extremely small, are certainly very portable. These preparations, I am told, are so made that the acid of saccharin is neutralised. 'Saccharin possesses very decided acid properties.'[2]

Saccharin has not lately been so favourably spoken of as a *general sweetener of food*, and it is found not to agree with some when given in large quantities. A friend of mine was unable to continue its use in puddings, tea, and coffee with her husband, on account of its affecting—after a time—his stomach, causing nausea, and an extreme taste and sensation, on the palate, of continued sweetness. Another, however, takes it regularly in tea, coffee, and puddings, and finds no ill

[1] Extract from a private letter from an Assoc. R.S.M., F.I.C., F.C.S.

[2] *Journal of the Society of Arts*, October 28, 1887.

effects. The following is from the 'Morning Post,' Tuesday, August 28, 1888: '*The Effects of Saccharine.*—In a paper read recently before the Paris Academy of Medicine some particulars were given of the results of experiments made with saccharin upon patients in various hospitals. Dr. Stadelmann, of Heidelberg, took observations in eleven cases where eighty grains of saccharin were given daily for two or three weeks. Nine of the patients experienced no bad effects; but, in the case of the other two, nausea, loss of appetite, and pains in the stomach resulted. In three out of four cases of diabetic patients the digestion was injuriously affected after eight or ten days. A committee was recently appointed by the Paris Board of Health in order to inquire into the dietetic properties of saccharin, and the committee have expressed the opinion that saccharin should be debarred from use in articles of general consumption, as being prejudicial to public health. —INDUSTRIES.'

The next extract is from the 'Illustrated London News,' April 21, 1888:—

'The French Academy of Medicine at a recent sitting heard some interesting communications concerning coal-tar sugar or saccharin, which has of late become an important article of commerce. The sum and substance of the communications was that saccharin is not an aliment as sugar is; that its use is likely to have disastrous consequences from the point of view of public health; and that from the point of view of hygiene, national finances, and national industry it is desirable that the attention of the Government should be directed to this new product, its manufacture, and its importation into France.'

Some consider the addition of barley-water to cow's milk, instead of plain water, makes it more digestible.[1] I have heard a great deal said in its favour alike by medical men, mothers, and nurses, and what children I have seen brought up with it have appeared very well and strong. But on this also medical opinions vary somewhat, some holding that the addition of barley-water makes the milk more digestible, and

[1] See 'Feeding,' p. 79.

therefore more nourishing; others, again, thinking milk with water (with the addition of lime-water) more nearly approaches the natural milk, and is therefore better. Most, if not all, agree, however, as to the need of lime-water [1] and sugar with milk for infant use. I have heard that marked benefit is derived from diluting Swiss milk with weak barley-water. Dr. Semple writes: [2] 'The condensed milk may be diluted with weak barley-water.' I have not, however, used barley-water with Swiss milk, so cannot speak from personal trial of it. Dr. Chambers gives the following receipt for making barley-water:—[3]

Barley-water (Dr. Chambers's Receipt).

Wash two ounces of pearl barley with cold water. Then boil it for five minutes in some fresh water, and throw both waters away. Then pour on two quarts of boiling water, and boil it down to a quart.

I have been told by one of the first medical authorities that the scum being left with barley-water is probably the cause of barley-water sometimes disagreeing with young infants. This is obviated by throwing 'both waters away,' as suggested by Dr. Chambers, and is especially necessary with what is called 'pearl barley.' [4] 'What is called Scotch, French, or pearl barley is merely common barley, which, after being kiln-dried, is deprived of its tunics or bran by a mill: the grains are rounded by trituration, and are thus cut down smaller; they are finally well whitened in their own meal. It is said that the bran contains a resin of a purgative and even acrimonious nature; to remove this acrimony is the object of taking off the bran. By long keeping, the decorticated barley becomes mealy on the surface, and the meal is generally musty and sour; hence it is to be washed away when the grain is to be used medicinally or as an article of food.' [5] Abroad barley-water is often made by merely pouring boiling water on it, allowing it to stand for two hours, and

[1] See 'Feeding,' p. 157.

[2] *Mother's Guide*, p. 18.

[3] *Manual of Diet*, p. 259.

[4] Throwing these two waters away is said by competent authorities to reduce the amount of starch contained in barley-water. See 'Feeding,' p. 188.

[5] *Cabinet Cyclopædia*, p. 52.

then straining. The quantity generally used is two tablespoonfuls of barley to half a pint of boiling water. Some doctors in England now recommend its being done this way ; others, however, still hold that barley-water for infant use should be boiled and the first water be thrown away. Many prefer to use Robinson's patent barley, as it is so prepared that it is not necessary to throw the water away in cooking, and it also requires less time to do.

Dr. Chevasse writes :[1] 'The best artificial food, in my opinion, is one composed of cow's milk and Robinson's patent barley.' Dr. Chevasse adds : 'I begin with one-fourth of milk to three-fourths of barley, decreasing the proportion of barley and increasing the milk as the infant grows, and so continue until its stomach can digest all milk.[2] This food is well known to many old nurses. Children apparently dying from starvation, soon after taking it, quickly pick up flesh, their bodies fill out, they sleep, they lose all pain about the bowels, and motions—previously offensive, green, and irri tating—become sweet and healthy.'

Barley-water is generally supposed to have a laxative effect, although I have heard of instances in which it has had a contrary effect. Dr. Goodhart says : 'Barley-water has also the advantage of acting as a gentle laxative—a very valuable property, inasmuch as many children fed upon cow's milk and water, or cow's milk and lime-water, are much troubled with constipation, the motions being very large, lumpy, and hard. Barley-water acts most beneficially in many such cases, but its use is to be watched, as infants are very sensitive to the administration of starch in any form, and I have repeatedly known an eczematous eruption to appear upon the buttocks after only one or two meals of milk treated in this way.'[3] The giving of patent barley *without milk* as a food to infants is to be strongly con-

[1] *Advice to a Mother*, p. 26.

[2] The late Dr. A. T. Thomson recommends equal parts of barley-water and milk, sweetened with a little refined sugar, as a good food for infants brought up by hand. It may act upon the bowels.—*Dictionary of Domestic Medicine and Surgery*, 22nd edit., Dr. Thomson and Dr. Steele, p. 51.

[3] *Diseases of Children*, p. 24, 2nd ed., 1886.

demned.[1] It is sometimes tried by those ignorant of infant-feeding. 'A favourite substitute also for human milk is barley, or, more properly, what is known as *patent* barley. Here, again, we have a flour comparatively poor in nitrogenous material. But, besides this, it contains *dextrine*, a substance which even in the adult is difficult of digestion, and *a fortiori* must be so in an infant. Its starch corpuscles are less soluble in the gastric juice, the food made with it is slightly acrid and somewhat laxative. When barley-paste is washed the milky fluid deposits not only the starch, but also a protein matter, supposed to be insoluble casein.'[2]

'Barley and rye,' writes Dr. Chambers,[3] 'do not appear to possess any distinctive virtues which can give them an interest in the eyes of a medical man. Though useful when other cereals are not to be got, they are inferior to them in solubility and nutritive power.' 'Barley is less nutritious than wheat or even oats.'[4] Elsewhere it is mentioned: 'Pearl-barley was once a Dutch import: it is now manufactured in Britain;' and it is added:[5] 'A decoction of shelled barley in water was the original *ptisana*, which was so distinguished an article of ancient medicine.' Plutarch and Livy say that the Roman generals used to punish the soldiers who behaved with cowardice in the field by giving them barley instead of wheat. Barley is a bad bread corn. 'Grossier comme pain d'orge' is a French proverb. Barley-water forty years ago, and again twenty years ago, came greatly into use for infant-feeding, but I remember, as a good food, its being much questioned, some even finding that, used for a continuance with infants under six or seven months, it produced the 'eczematous eruption' mentioned by Dr. Goodhart.

A Dr. Higgins, an American doctor at that time, wrote a pamphlet against its use *as a food* for infants, and said: 'In any case barley-water should only be used as a diluting medium.' Dr. Higgins said: 'Mothers want their babies fat,

[1] It should only be used as a diluent. See 'Feeding,' p. 79.
[2] Hassall on *Food*. See also Routh's *Infant Feeding*, p. 365.
[3] *Manual of Diet*, p. 64.
[4] *Cabinet Cyclopædia*, pp. 52, 54.
[5] *Ibid.*

and think if they are only fat they are in good condition ; but fat does not always mean good health, and the want of solubility and nutritive power in barley is against its wholesomeness as *a food* for infants. We don't think a dropsical person a beautiful sight. Why should an over-fat baby, destitute of muscle, and only stout and flabby, be one ? Some babies, like some grown persons, can take slow poison without any very deleterious effect being immediately apparent, but there are others who are very soon affected.' Dr. Higgins, in the case of thin, puny children, recommended, even for quite young infants, the use of cream with milk [1] and cod-liver oil. He advised, however, the latter being given under the direction of a medical man. Dr. Higgins also mentioned suet as of benefit in infant-feeding. Dr. Bannister writes : [2] 'From suet is obtained a virgin fat without odour or smell of fat, and like best fatty bodies.'

Dr. Chambers observes of suet : [3] 'I heartily wish that some of the efficient substitutes for fish oil were more agreeable to the palate, for it must be confessed that the taste and smell are a serious impediment to its employment. Suet is apparently the best ; in milk suet is to some persons not repugnant.'

Want of a properly nourished appearance in a child indicates some mischief which should be inquired into by a medical man, and very often giving fattening foods, &c., without proper advice only increases the evil, by not getting at the real cause, which, being cured, would soon produce a satisfactory result. Dr. Stewart writes : 'A common symptom in children of a diet deficient in nutriment is diarrhœa. It assumes, when severe, the dysenteric type, streaks of blood appearing in the light green mucous evacuations.' [4]

In the case of continued diarrhœa,[5] or blood appearing in the motions, medical aid should be summoned *without delay*, as it most clearly indicates a condition attended with grave symptoms.

[1] See 'Feeding,' pp. 149, 169, 171.

[2] *Our Milk, Butter, and Cheese Supply*, by Richard Bannister, F.I.C., F.C.S.

[3] *Manual of Diet*, p. 338.

[4] *On Diet of Infants.*

[5] See 'Feeding,' p. 224.

Dr. Routh remarks of cod-liver oil :[1] 'Cod-liver oil, in teaspoonful doses, is almost always beneficial : if there be much acidity, one or two drops of liquor potassæ mixed with it, or more, according to the age of the child, is readily taken. This oily mixture should always be given after meals.'

I have given one of my children, when an infant (under medical direction, however), cod-liver oil, with a most beneficial result. I have seen cod-liver oil rubbed on the stomach of a little child who was unable to take the oil without causing nausea. The result was very satisfactory. The oil was rubbed on night and morning.

The late Sir J. Simpson, in a paper read before the Medical Society of London, 1849, showed the good results of external inunctions of cod-liver oil where the remedy could not be taken in the ordinary way.[2] Oil inunctions are used in Italy in cases of feverishness, but such should most certainly not be used without the advice and direction of a duly qualified medical man in the case of feverishness in children. A physician told me a most useful thing for a mother to have is a clinical thermometer, and if the child's temperature is up to 101° or 102° it is *always* necessary to send for a medical man without losing time.

The following extract is from a letter from a doctor having a large experience with children :—

'I should advise you to write to Mr. Casella, scientific instrument maker, Holborn Bars, and ask for a clinical thermometer. "The arrow on the thermometer indicates normal temperature (98·4°), and if it goes up to 101° or 102° it is time to send for a doctor. The temperature would not be above 98°, &c., unless there were some symptoms of fever, or of the child's being out of health, which would suggest to a mother the necessity of using the thermometer."'

Oatmeal has lately been much recommended for infant-feeding, and where given with plenty of milk will agree.[3] It

[1] *Infant Feeding*, p. 484.

[2] See also *Comptes Rendus*, October 1841 ; *Carpenter's Physiology*, p. 646.

[3] 'Scotch meal is always preferable to the English on account of its higher nutritive power.'—Letheby, *Lectures on Food*, p. 16.

should not be given before seven or eight months,[1] and it should be *well cooked.* 'Oatmeal, if imperfectly boiled, as when prepared in a hurry. . . ., is extremely indigestible, and produces the obstinate water brash common in the parts of the country where it is habitually used. Emden grits are the best adapted form of oats for gruel.'[2] Dr. Chambers adds: 'An oaten diet has bred the Scotch farmer and the English horse, and where will their equal be found?' Dr. Chevasse says:[3] 'You will find Robinson's Pure Scotch Oatmeal to be very pure, and sweet, and good,' and adds: 'Scotch children scarcely take anything else, and a finer race is not in existence.'

Dr. Goodhart writes:[4] 'Oatmeal should be given, a teaspoonful well rubbed up with a little cold milk, till it is of the consistence of cream; hot milk to the required amount for the meal is then to be added, and the whole boiled for a few minutes, when it is ready for use.' In boiling, stir all the time till done. I have known of a child's milk ordered to be thickened with oatmeal, and the oatmeal was merely put in the bottle of milk and shaken up, so that the child literally swallowed almost, if not quite, raw oatmeal. The effect on the child's health was very soon apparent, for it had a violent attack of water brash, and was very ill. Oatmeal should not be used for every meal (two meals a day, as a rule, is sufficiently satisfying), unless ordered by a doctor. Oatmeal water is sometimes used to dilute milk, instead of barley water.[5]

Dr. Walker[6] says of oatmeal water: 'To young babies, if the proper food and regular habits of the mother do not avail to overcome the child's constipation, oatmeal water added to the milk, in quantity from one-half to one-third, is frequently serviceable. It may be prepared in proportions as follows, a supply being obtained in the morning enough to last for twenty-four hours. It should be kept on the ice. If it becomes at all sour it should not be used.

[1] See 'Feeding,' pp. 77–80.
[2] *Manual of Diet*, p. .64
[3] *Advice to a Mother*, p. 104.
[4] *Diseases of Children*, p. 43, 2nd ed., 1886.
[5] See 'Feeding,' p. 185.
[6] *Laxative Food*, by Jerome Walker, M.D. Brooklyn.

'Add one tablespoonful of fine oatmeal (steam-cooked is preferable) to one pint of cold water. Stir well and strain off the water. Boil the water thus strained off until it is reduced to about one-half in quantity. When ready to use add to it one-half or two-thirds milk, sweeten a little, and also add a pinch of salt.'

MILKS AND FOODS FOR INFANT FEEDING, AND THEIR PREPARATION.

Artificial Human Milk

has lately been again much advocated for the feeding of infants and delicate children. I have made an extended trial, and can speak most favourably of it. In the case of one child of eleven months, who was unable to retain anything on the stomach, this milk not only suited perfectly, but a most marked improvement in the child's condition took place in a very short time. I give two receipts for making (one is from the eminent authority, Dr. Frankland); although they practically come to the same in the end, I think one receipt tends to elucidate the other. I have always prepared the milk, using Dr. Frankland's, and a friend's receipt, which I have marked *A*. This latter, I think, is more easily comprehended, being less complicated as to detail. Dr. Frankland's receipt was given to me by a medical man who has been favourably impressed by the great improvement in the children he tried it with. It is the original receipt. The artificial milk has three advantages, in my idea, to recommend it :—

1. Cheapness—which places it within the reach of people of limited means. It costs only the price of the ordinary milk, with the exception of the rennet, which I found came to about 1*s.* a week, and the lime-water 10*d.* extra.[1] If sugar of milk is used it will cost about 6*d.* more.[2] [3]

[1] See 'Feeding,' p. 193, Professor Frankland's receipt.

[2] *Ibid.*, p. 182.

[3] It cost me 14*s.* a week for my baby's milk when I had the 'humanised milk' from the Aylesbury Dairy Company—this not allowing for breakage of a bottle during the heating in hot water, as directed. This, I found, happened *so often* that I was obliged to have an extra bottle in case of breaking, which cost 9*d.* extra a day. From this it will be seen what a saving it is, having the milk made at home.

2. Its extreme digestibility. This milk is especially valuable in cases where cow's milk forms into curds and cannot be digested. It needs no medical direction for giving—anyone may try it.

3. The being able to prepare it easily. A spirit lamp [1] and ordinary saucepan are all that is necessary, and a cullender. I have used prepared rennet in preference to the butcher's rennet, which is difficult to get at some seasons of the year and in some places. Another objection is its tendency to become very quickly unfit for use in hot weather. *I have found Harvey's Cornish rennet the best.* It may be had direct from the maker, J. S. Harvey, chemist, 11, Market Jew Terrace Penzance, Cornwall ; or from J. Allden, chemist, 156, Cromwell Road, South Kensington, London. The Aylesbury Dairy Company [2] sell a preparation of rennet called Collins's rennet extract. It takes a teaspoonful of Harvey's rennet to rennet the quantity of milk named in Dr. Frankland's receipt and the one marked A. But of Collins's extract half a teaspoonful is sufficient. Another rennet is sold by S. G. Clements, Lewin Mead, Bristol, called 'Bristol Prime Rennet.' Another preparation of rennet is Walden's extract of rennet, sold by R. W. Walden, chemist, First Honours Pharmaceutical Society Great Britain, 65, Elizabeth Street, Eaton Square, London, S.W. This rennet is well spoken of. A physician writes to me, 'We find it a complete success.' *The milk is fit for use when made, and needs no addition of water.*[3] In making the quantity for the day's use it is best to warm the quantity, when required, over hot water.

Professor Frankland's Receipt for Artificial Human Milk.

Allow one-third of a pint (20 fluid ounces go to 1 pint) of new milk to stand for 12 hours, remove the cream, and add it to two-thirds of a pint of new milk as fresh from the cow as possible.

Into the one-third of a pint of blue milk (left after the re-

[1] See 'Feeding,' p. 134.

[2] Moscow Road, St. Petersburg Place, Bayswater, London.

[3] This is not a hard-and-fast rule. Some infants might require the addition of a little water ; *see* Eustace Smith's directions, p. 195.

moval of the cream) put a piece of rennet about one inch square. Set the vessel (a small basin or breakfast-cup may be used) into hot water (the *milk* must not be allowed to get *hot*, or the activity of the rennet will be impaired) until the milk is fully curdled (which takes from ten minutes to half an hour or so, according to the activity of the rennet, which should be removed as soon as the curdling commences, and put into an egg-cup *without* any washing—for use on subsequent occasions, as it may be employed daily for a month or so. A piece of cotton must be drawn through the rennet, by means of which it may be readily introduced into, or removed from, the milk).

Now break up the curd repeatedly with a dessert spoon, and carefully separate the whole of the whey, ladling and pouring it into a small tin saucepan.

When the curd seems to have had all the whey extracted, the whey must be rapidly heated to *boiling*, over a spirit lamp.

During this process of heating a further quantity of casein separates, and must be removed by straining the whey through muslin.

Now dissolve 110 grains of powdered milk-sugar in the hot whey, and mix it with two-thirds of a pint of new milk, to which the cream had been added, and the food is complete.

The artificial human milk should be used within 12 hours of its preparation.

If the milk thus prepared should be too rich for any individual infant, a fourth part (or less) of lime-water may be added to each meal.

Receipt A.

(Humanised milk receipt, as verbally given by Sir ——.)

Take a pint of milk. One-third put to stand, and take the cream. Then add rennet, about an inch square, to the skimmed milk, and keep it in a warm place until the curd begins to set. Then remove the rennet and wait until the curd is firmly set ; when set, squeeze out the whey through muslin, boil the whey, and strain again through muslin ; to the whey add one teaspoonful of sugar of milk, and then add the remainder of the pint of milk and cream.

The whey has only just to boil up, and it must be made night and morning. A spirit lamp is the quickest mode of making the milk.[1]

Directions for making Certified Human Milk.[2]

'Take half a pint of skimmed milk, heat it to about 96°, and put into the warmed milk a piece of rennet about an inch square. Set the milk to stand in a fender or over a lamp until it is quite warm. When it is set, take the rennet out and break up the curd quite small with a knife, and let it stand for ten or fifteen minutes, when the curd will sink. Then pour the whey into a saucepan and let it boil quickly. Measure one-third of a pint of this whey, and dissolve in it, when hot, a powder containing 110 grains of sugar of milk. *When this third of a pint of whey is quite cold* add to it two-thirds of a pint of new milk and two teaspoonfuls of cream, stirring the whole together. The food should be made fresh every twelve hours and warmed as required. The piece of rennet when taken out can be kept in an egg-cup and used for ten days or a fortnight.

'N.B.—It is often advisable during the first month to use rather more than a third of a pint of whey, as the milk is apt to be rather too rich for a newly-born child.' To this I would add that rennet can be procured of any butcher that kills, but in large towns these may be difficult to meet with. In this case some liquid essence of rennet may be used instead.

Dr. Eustace Smith recommends the following: 'A useful addition to the breast milk, where an addition is required during the first few weeks of life, is a mixture of cream with diluted whey; one tablespoonful of fresh cream is added to two of whey, and the mixture is diluted with two tablespoonfuls of hot water. This mixture may be given from the feeding-bottle every three or four hours. The whey should be made fresh in the house, as required, by adding prepared rennet to new cow's milk, in the proportion of a teaspoonful

[1] In very *hot* weather I always found it necessary to boil the milk after it was finished, or it would not keep.

[2] Dr. Playfair, *Science and Practice of Midwifery*, 6th edit., vol. ii. p. 302.

to a pint of milk, after which the curd is removed by straining through muslin.'[1]

Those who cannot prepare 'artificial human milk' at home will be able to get it at the Aylesbury Dairy Company, St. Petersburgh Place, Bayswater. The 'Artificial Human Milk' has only been of recent use in the hand-rearing of children. There is, however, mention in the British Pharmacopœia, as long ago as 1857,[2] of artificial ass's milk, but the receipt is hardly likely to commend itself to English people. To French people, who are accustomed to the use of snails as an article of food, the receipt might not be so repugnant.

Artificial Ass's Milk.

℞

Snails from a vineyard	No. 6
Hartshorn shavings	ʒiii
Pearl barley	ʒiii
Distilled water	2 lbs.

Boil to make 1 lb. of strained decoction, and add Syrup of Maidenhair, ʒi. Mix.

Dr. Bannister writes of rennet:[3] 'The effect of the addition of rennet to milk is to make the casein, which really is not in solution in the milk, apparently insoluble. The coagulation thus taking place when the milk is sound and good enables the operator to have the curd under complete control, and it has been already pointed out that the quantity of rennet added limits the intensity of such separation.

'The separator used from time immemorial has been the fourth stomach of the young calf, which, under the name of rennet, is a well-known article of commerce. The calf whose stomach is most active for the purpose is one which has had no other food than milk. The stomach must be carefully cured and preserved, and, without fully recording the methods of curing in use, it is essential that it be kept sound and free from all other taints except its own. The quantity used should be carefully noted,[4] because too much makes the curd

[1] *British Medical Journal.*

[2] Redwood.

[3] *Our Milk, Butter, and Cheese Supply*, by Richard Bannister, F.I.C., F.C.S.

[4] See 'Feeding,' p. 193.

leathery, and too little causes the curd to separate too slowly, and to be in hand too long.' [1]

Artificial human milk is useful to give a new-born baby pending the arrival of the mother's milk, being easily digested.

Analysis [2] of the 'Humanised Milk.'

Water	87·38
Solids	12·62
Fat	4·46
Proteids	2·57
Sugar	5·02
Ash, soluble	·22
„ insoluble	·35

The following analysis I had made [3] of the Humanised or 'Artificial Human Milk,' as made by myself at home with Harvey's rennet (see page 193).

'The sample,' write Allen, Hanbury, & Co., 'had the usual physical characteristics of milk. Examined microscopically, the sample was found to be free from clotted masses and misshapen globules. Examined chemically, it gave the following results :

Analysis of 'Humanised Milk' made according to Dr. Frankland's Recipe.

Reaction	Feebly acidulous [4]	
Specific gravity	1034	
Cream layer, on standing	8 53	per cent.
Total solids	15·25	„
„ fat	2·45	„
„ proteids	4·75	„
„ sugar	5·05	„
„ ash, soluble ·15 / „ „ insoluble ·07	·22	„
„ Extractives	2·78	„

The ash contained lime, soda, and potash as bases in union with phosphoric, hydrochloric, sulphuric, and carbonic acids.'

Lately I have seen a sickly infant given wine whey with remarkable success.

[1] See 'Feeding,' p. 193.

[2] This analysis is prepared by the Aylesbury Dairy Company.

[3] By Allen, Hanbury, & Co., 7 Vere Street, Cavendish Square, London, W.

[4] This is entirely corrected by the addition of lime-water, of which there was none in the sample of milk sent for analysis, as Dr. Frankland

Dr. Routh observes :[1] 'Wine whey should not be given extensively, and as a substitute for the ordinary milk food supplied. One meal in the twenty-four hours of this wine whey will suffice, and the quantity given at a time should not exceed one wineglass.' Dr. Routh adds : 'Wine whey is made by pouring a wineglass of good sherry or port into three wineglassfuls of boiling milk.'

Dr. Routh gives another receipt for wine whey (which is the one I saw used) :[2]

'Boil three wineglasses of milk, and add a wineglass of sherry or port wine. Strain, and add a wineglass of warm water ; a wineglass of this may be given once or twice a day.'

Dr. Chambers says of wheys :[3] 'All wheys are sudorific and nutritive'

Peptonised Milk[4]

is another kind of milk much spoken of for weakly infants. It can be purchased at the Aylesbury Dairy Company, St. Petersburgh Place, Bayswater. Dr. Nunn writes :[5]

'As an infant diet, both in sickness and in health, I have found nothing to equal the milk peptone among the artificial foods. Time and again I have tried this preparation after having given a fair trial to a number of other foods, all of which produced most unfavourable results, and always its employment was attended with greatest satisfaction. It may be given pure, mixed with lime-water, diluted with barley-water, gum-water, whey, &c.'

I think, before giving a milk of this description, it is well to consult a medical man. *This milk can also be made at home with 'Fairchild's peptonising powders,'*[6] with which are full directions for preparing milk for infant use.

does not mention it in his receipt, unless the milk is found too rich. See Dr. Frankland's receipt, 'Feeding,' p. 193, for quantity necessary.

[1] *Infant Feeding*, p. 435. [2] See *ibid.*, p. 512.

[3] *Manual of Diet in Health and Disease*, p. 258.

[4] The easiest way of preparing peptonised milk will be found at p. 203.

[5] *Lancet.*

[6] Can be purchased at Allen and Hanbury's, chemists, Vere Street, London, W.

Dr. Starr writes :[1] 'The great advantages of partial peptonisation are that the necessity for lime-water, barley-water, and thickening substances, to keep apart the curd, is done away with, and that when the digestive disturbance requiring a careful preparation of food is removed an ordinary milk diet can be gradually resumed by regularly diminishing the time artificial digestion is allowed to progress. This changes the caseine in a less and less degree, until finally it is taken in its natural form. Instead of this ordinary peptonising process,' adds Dr. Starr, 'I have for the past year or more employed the "peptogenic milk powder" prepared by the chemists[2] already referred to. This powder contains a digestive ferment (pancreatin), an alkali (bicarbonate of sodium), and a due proportion of milk-sugar.

'The mode of employment is as follows :—

Take of

Milk	℥ij
Water	℥ij
Cream	℥ss

'Peptogenic milk powder. Measure provided with each can of powder.

'This mixture is to be heated over a brisk flame to a point that can be comfortably sipped by the preparer (140° to 150° Fahr.), and kept at this heat for six minutes. When properly prepared, the resultant, so-called 'humanised milk,' presents the albuminoids in a minutely coagulable and digestible form, has an alkaline reaction, contains the proper proportion of salts, milk-sugar, and fat, and has the appearance of human milk.

'Leeds gives the following analysis of this prepared milk :

Water	86·2 per cent.
Fat	4·5 „
Milk-sugar	7 „
Albuminoids	2 „
Ash (salts)	0·3 „

'This corresponds very closely with his average analysis of human milk.

[1] *Dietetics of Infancy and Childhood*, by Louis Starr, M.D. Philadelphia ; *Annual of the Universal Medical Sciences, Sajous*, 1888, iv. 269, 270.

[2] Fairchild, Brother, and Foster.

'In using this powder, too, one can readily return to a plain milk diet by gradually shortening the time of heating: in other words, by slowly diminishing predigestion.'

Dr. Starr further adds:[1] 'For an infant of six weeks each meal may consist of:—

Peptonised milk	f℥iij
Sugar of milk	℥ss
Water	f℥j.'

A friend of mine, who has been using milk prepared in this way for a very delicate baby in a very ailing condition, tells me she found the milk easier to prepare in this way than by the 'ordinary peptonising process.' There are several ways of peptonising milk. Dr. Eustace Smith recommends:[2] 'Add to each fluid ounce of milk five grains of pure pepsin and four drops of dilute muriatic acid; digest in a water-bath at a temperature of 100° Fahr., until the mixture becomes clear; then neutralise with bicarbonate of sodium, and the milk is ready for use.' The other way, mentioned by Dr. Starr, which, however, he does not so strongly recommend, 'is to peptonise the milk by pancreatin.' Dr. Starr writes:[3] 'That manufactured under the name of "Extractum pancreatis" by Fairchild, Brother, and Foster has proved most efficient in the author's hands. To accomplish this artificial digestion, put into a clean quart bottle five grains of extractum pancreatis, fifteen grains of bicarbonate of sodium, and four fluid ounces of cool, filtered water; shake thoroughly together, and add a pint of fresh, cool milk. Place the bottle in water so hot that the whole hand can be held in it for a minute without discomfort, and keep the bottle there for exactly thirty minutes. At the end of that time put the bottle on ice to check further digestion, and keep the milk from spoiling. The fluid obtained, while somewhat less white in colour than milk, does not differ from it in taste; if, however, an acid be added, the caseine, instead of being coagulated into large, firm curds, takes the form of minute soft flakes, or readily broken-down feathery masses of small size. When the process is carried just to the

[1] *Dietetics*, &c., 1888, iv. 269.

[2] *Cyclopædia of Practical Medicine.* [3] *Dietetics*, &c., 1888, iv. 268.

point described the caseine is only partly converted into peptone ; but every succeeding moment of continued warmth lessens the amount of caseine until peptonisation is complete. Then the liquid is greyish-yellow in colour, has a distinctly bitter taste, and shows no coagulation whatever on the addition of an acid.

'This artificial digestion, therefore, may be carried just as far as circumstances indicate, although it is ordinarily best to stop it short of complete conversion, as children object to the markedly bitter taste, and often on account of it absolutely refuse the food. Partial peptonisation, too, is usually sufficient to adapt the milk to ready assimilation. To seize the proper moment for arresting the process, the person conducting it must be told to taste the milk from time to time, and, as soon as the least bitterness is appreciable, to remove the bottle from the hot water and place it upon ice for cooling and use. Such milk may be sweetened with sugar of milk, and given pure or diluted with water.[1] . . . To this cream may be added when desirable, and by diminishing the quantity of water and increasing that of milk the strength of the food may be made greater at any time.' Dr. Starr observes : 'Although every precaution be taken, the last of a quantity of predigested food is very apt to grow bitter, and if the attendants will take the trouble it is much better to peptonise every meal separately. This is readily done,' adds Dr. Starr, 'by ordering a number of powders of pancreatin and bicarbonate of sodium, so proportioned that each packet shall contain the proper amounts for one bottle of food.

'For example :—

℞ Ext. pancreatis . . . . . gr. ix
Sodii bicarb. . . . . gr. xxiv
M. et ft. chart (waxed papers), No. xij.

'Put one powder into a nursing-bottle, with two fluid ounces of filtered water and two fluid ounces of fresh, sweet milk ; shake together, and keep warm in a water bath for about half an hour before feeding ; sweeten with half a teaspoonful of

[1] Dr. Starr gives 'for an infant of six weeks,' for each meal, as copied at p. 200.

milk-sugar.' The food becoming bitter, another friend of mine, on trial, has found to happen so many times—as Dr. Starr says, with 'every precaution'—that she had to give it up and use the 'powders of pancreatin and bicarbonate of sodium,' which she now finds answer satisfactorily. Dr. Starr remarks :[1] 'When infants who are approaching the end of the first year become affected with indigestion it is often sufficient to reduce the strength and quantity of the food to a point compatible with digestive powers. For instance, at eight months the food may be reduced to that proper for a healthy child of six months or even less. Here, too, predigestion of the food is most serviceable. If a few grains of extractum pancreatis be added to a gobletful of thick, well-boiled starch gruel, at a temperature of 100° Fahr., the gelatinous mucilage quickly grows thinner, and soon is transformed into a fluid, the starch having been rendered soluble by the action of the diastase contained in the pancreatin ; by still longer contact the hydrated starch is converted into dextrine and sugar. Advantage may be taken of this property to render the foods containing starch assimilable. Thus to a mixture of barley jelly and milk, e.g. :—

Barley jelly[2]	℥ij
Sugar of milk	℥j
Warm milk	f ℥viij

add three grains of extractum pancreatis and five grains of bicarbonate of sodium, and keep warm for half an hour before feeding.' Dr. Starr adds : 'The same process may be employed with food containing oatmeal, arrowroot, or wheaten flour, with the effect of converting the starchy elements into digestible products, and without materially altering the taste.'[2] Dr. Starr further adds : 'When the infant has arrived at an age to take meat broths, these too may be readily peptonised when digestion is enfeebled. The recipe for peptonised beef-tea, which may be taken for an example, is :—To one-quarter of a pound of minced raw beef, entirely free from fat, add one half-pint of cold water ; cook over a slow fire, with constant stirring, until it has boiled a few minutes. Then pour off the liquor, and beat or rub the meat to a paste. Put the latter into a jar with

[1] *Dietetics*, &c., 1888, iv. 270. [2] See 'Feeding,' p. 79.

one half-pint of cold water, and pour in the liquor previously obtained. Add to this mixture thirty grains of extractum pancreatis and twenty grains of bicarbonate of sodium ; shake all well together and keep at a temperature of about 110° F., stirring occasionally for three hours. Next boil quickly, strain, and serve as required.'

Dr. Eustace Smith's receipt for barley jelly is :[1] [2] 'Put two tablespoonfuls of *washed* pearl barley with a pint and a-half of water, and slowly boil down to a pint ; next strain out the barley and let the liquid settle into a jelly. Two teaspoonfuls of this, dissolved in eight fluid ounces of warmed and sweetened milk, are enough for a single feeding, and such a meal may be allowed twice a day.' Benger's 'Liquor Pancreaticus' for artificial human milk, and Benger's Food (peptonised—the latter only requires the addition of milk and water and sugar, and peptonises the milk used), are other preparations. These can be obtained at the Stores (Army and Navy, Victoria Street, Westminster). And now the manufacturing druggists, such as Savory and Moore, prepare and advertise the 'Peptonised Milk,' and 'Peptonised Cocoa' and 'Jelly,' and sell 'Peptonising Pellets.' Of these latter Dr. Goodhart writes :[3] 'The process is made even more simple by using the peptonising pellets prepared by Messrs. Savory and Moore. The milk being brought to the requisite heat as before, one pellet is added to the pint : a quarter of an hour is the average time for an adequate change to be accomplished.'

Peptonised Milk (William Roberts).[4]

'A pint of milk is diluted with a quarter of a pint of water, and heated to a temperature of about 140° F. Should no thermometer be at hand, the diluted milk may be divided into two equal portions, one of which is heated to the boiling point and added to the cold portion, when the mixture will be of the required temperature. Two teaspoonfuls of the

[1] This is precisely the same as Dr. Starr gives, *Dietetics*, p. 266.
[2] *Cyclopædia of Practical Medicine.*
[3] *Diseases of Children*, 2nd edit. p. 668.
[4] Quain's *Dictionary of Medicine*, vol. ii. p. 1115.

liquor pancreaticus [1] and ten grains of bicarbonate of soda are then added to the warm milk. The mixture is poured into a covered jug, and the jug is placed in a warm situation under a "cosy," in order to keep up the heat. At the end of an hour, or an hour and a half, the product is boiled for two or three minutes. It can then be used like ordinary milk.'

Koumiss (Fermented Mare's Milk)

has for some years been prepared and used in the steppes of Russia in the treatment of wasting diseases such as phthisis pulmonalis, &c. A substitute for this remedy, made from cow's milk, is sold in this country under the same name, and can be procured at most of the well-known dairies. As koumiss is a preparation essentially of the nature of a medical remedy, a doctor should be consulted before using it. Those who wish to know more about koumiss should consult Dr. George Carrick's book published by Blackwood & Sons, 1881.

Ass's Milk

is by some considered a good thing to bring up infants on, being light and easy of digestion; and where an infant is very weak and feeble, or where the stomach is delicate and does not retain food easily, it is sometimes found of great service for a time. Continued, however, in some cases the result has not been satisfactory. Some authorities consider ass's milk too poor in casein and butter, and as having in it too much sugar and salts to be perfectly suitable as a milk for infants. I have heard of cream being added to ass's milk with advantage. It has been stated by Mr. Lobb [2] that 'by adding $2\frac{1}{2}$ per cent. of cream to ass's milk a very good substitute for human milk would be formed with ease.' The addition of lime-water as with cow's milk is recommended. Dr. Routh, in 'Infant Feeding,' p. 309, observes: 'To attempt to feed a child exclusively on food poor in fatty matters, as ass's milk, is evidently unphilosophical.' Dr. Edward Smith, from whose book, 'Prac-

[1] A very active extract of pancreas is now prepared on the large scale by Mr. Benger under the name of *Liquor Pancreaticus*, and sent out by Mottershead & Co., chemists, Manchester.

[2] *Hygiene.*

tical Dietary,' I have copied one or two other things, observes, page 123: 'Generally speaking, however, wherever milk is obtainable it is that of the cow, and if that of asses could also be obtained with facility it would be wise to use each in equal parts. Ass's milk,' Dr. Smith continues, 'is insufficient food when taken alone.' Dr. Goodhart remarks:[1] 'Till lately goat's milk or ass's milk has been resorted to, as most closely approximating to human milk. They may,' Dr. Goodhart adds, 'be given either undiluted, or diluted, as in the case of cow's milk, with water or lime-water, or even diluted with barley-water.'

Dr. Frankland thus writes:[2] 'The rearing of infants who cannot be supplied with their natural food is notoriously difficult and uncertain, owing chiefly to the great difference in the chemical composition of human milk and cow's milk. The latter is much richer in casein and poorer in milk-sugar than the former, whilst asses' milk, which is sometimes used for feeding infants, is too poor in casein and butter, although the proportion of sugar is nearly the same as in human milk. The relations of the three kinds of milk to each other are clearly seen from the following analytical numbers, which express the percentage amounts of the different constituents:

	Woman	Ass	Cow
Casein	2·7	1·7	4·2
Butter	3·5	1·3	3·8
Milk sugar . . .	5·0	4·5	3·8
Salts.	·2	·5	·7.'

I give an analysis of the composition of ass's milk as given by the best authorities on the subject.[3]

Ass's milk can be purchased in London at Mewes, Derison, & Co.'s, 4 Edgware Road.

Goat's Milk.

The use of goat's milk for human feeding dates from the very earliest times. We find mention of it in Proverbs.[4] 'And *thou shalt have* goat's milk enough for thy food, for the food of

[1] *Diseases of Children*, p. 26, 2nd ed., 1886.
[2] *Experimental Researches in Chemistry*, p. 843.
[3] See p. 206. [4] Chap. xxvii. 27.

COMPOSITION OF ASS'S MILK.

	Simon. Milk 1 year old	Peligot. Mean of several analyses	Cheval-lier and Henri	Lehmann	Vernois and Becquerel	Human milk
Water . . .	907·00	904·7	916·3	795·0 to 789·1	890·12	889·08
Solid constit.	91·05	95·3	83·5	205·0 to 210·9	109·88	110·92
Butter . .	12·10	12·9	1·1	12·1 to 12·9	18·50	34·61
Casein . .	16·74	19·5	18·2	16·0 to 19·0	35·65	39·24
Sugar, with extractive matter and salts . . .	62·31	62·9	—	(with extractives)		
Sugar . . .	—	—	60·8	60·8 to 62·9	50·46	26·66
Salts . . .	—	—	3·4	— —	5·24	1·38

thy household, and *for* the maintenance for thy maidens.' This shows how much was thought of its nourishing nature. St. Paul mentions: 'Who feedeth a flock and eateth not of the milk of the flock?'[1] which clearly indicates the keeping of goats and the general use of the milk as food. Mayer thinks 'it comes more near to human milk than that of the cow,'[2] and that 'children do well on it.'[3] Abroad goat's milk is largely used in some parts for infant-feeding, the children thriving well on it. At one time it was popularly supposed to assist in creating a nervous temperament. According to later researches, however, this supposition appears untenable. Abroad children suck direct from the goat. The goat is tied down, and its feet held at first, till it becomes accustomed to the child. But very soon it will come to the child of its own accord, and will lie down of itself in order that the child may take this milk.

Dr. Playfair says:[4] 'In many places the infant sucks the teat directly, and certainly thrives well on this plan.'

Galton writes:[5] 'It is marvellous how soon goats find out

[1] 1 Cor. ix. 7.

[2] Quoted in the *Gazette Médicale de Paris*. The analysis of Boysson proves the milk of the goat to be like human milk in composition. The smell of milk taken from goats without horns is said to be less than that from goats with horns. Abroad they do not mind the smell.

[3] See also Dr. Playfair, *Science and Practice of Midwifery*, 6th edit. vol. ii. p. 300.

[4] *Ibid.*

[5] *Human Faculty*, p. 267.

children and tempt them to suck. I have had the milk of my goats, when encamping for the night in African travels, drained dry by small black children, who had not the strength to do more than crawl about, but nevertheless came to some secret understanding with the goats and fed themselves. The records of many nations have legends like that of Romulus and Remus, who are stated to have been suckled by wild

beasts. These are surprisingly confirmed by General Sleeman's narrative of six cases where children were nurtured for many years by wolves in Oude ("Journey through Oude in 1849–50," i. 206).' I give a picture similar to that in a popular French story-book for children,[1] which will serve to show the

[1] Mde. la Comtesse de Ségur, *Mémoires d'un Ane.*

common practice of the child sucking direct from the goat abroad.

The manner of feeding goats would appear to affect the milk. 'If a highly nourishing and rich milk is desired, it is best to feed the animal on straw and trefoil; but, if a light milk is required, beetroot is preferable. Experience has proved that the goat as well as the cow will yield a larger flow of milk if fed in stables upon proper fodder; but then great attention should be paid to the cleanliness of the stalls and the removal of all offensive matters.'[1] 'The best milk,' it is added, 'which the goat affords is two months after kidding.' The smell of goat's milk 'is lessened by keeping the animal clean, and washing from time to time.' When people live in the country there is no difficulty, as a rule, about keeping a goat for milk; and the surroundings are more adapted for a healthy condition. I subjoin an analysis to show the difference in goat's milk owing to the food given.

INFLUENCE OF KINDS OF FOOD ON GOAT'S MILK.
(Parmentier.)

	Fed on straw and trefoil	Fed on beet-root	Normal (mean)	Human milk (normal)
Specific gravity . .	1031·10	1026·85	1033·53	1032·67
Water	858·68	888·77	844·90	889·08
Solid constituents .	141·32	111·23	155·10	110·92
Butter	52·54	33·68	56·87	34·61
Casein and extractive matters . .	47·38	33·81	55·14	39·24
Sugar	35·47	38·02	36·90	26·66
Salts	5·93	5·72	6·18	1·38

Goat's milk is supplied in London by Messrs. Welford & Co. from the Home Farm, Willesden (Chief Office: Elgin Avenue, Maida Vale, W.). It is also supplied privately by the British Goat Society, who would, no doubt, as well give assistance in the purchase of one if required. 'There are others who supply it privately, as I do myself when required.—H. S. HOLMES PEGLER, Hon. Sec. British Goat Society.'[2]

The difference between goat's and cow's milk will be seen from the following analysis of the two milks :—

[1] Simon's *Animal Chemistry*, ii. 65 [2] Extract from letter, 1887.

Analyses of Goat's Milk.

	Chevallier and Henri	Clemm	Boysson	John	Payen	Stipriaa Liuscius and Bondt	Lehmann	Donné	Vernois and Becquerel	Human Milk
Water . . .	868·0	865·175	892·8	849·3	855·0	744·0	886 to 884	819·4	844·90	889·08
Butter . . .	32·2	42·507	29·9	11·7	40·8	45·6	33·2 to 42·5	48·6	56·87	34·61
Casein . . .	40·2	60·321	52·9	105·4	45·2	91·1	40·2 to 60·3	43·8 with ex.	58·14	39·24
Sugar . . .	52·8	44·065	20·7	23·4	—	43·8	40 to 53	91·2	36·91	26·66
Salts	5·8		—	—	—	—	— —	—	6·18	1·38
Residue of whey	—	—	—	—	58·6	—	— —	—	—	—
Cream . . .	—	—	—	—	—	7·5	— —	—	—	—

Analyses of Cow's Milk.

	Simon			Herberger		Lecanu	Boussingault	Chevallier and Henri	Poggiale (10 cows)	Playfair (9 cows)	Vernois and Becquerel (30 cows)
Water	857	861	823	853·0	862·0	868	874·0	870·2	862·8	—	864·06
Butter	40	38	55	38·9	37·5	36	39·0	31·3	43·8	49·0	36·12
Casein	72	68	67	69·8	67·0	56	34·0	44·8	38·0	41·6	—
Casein & extractive matter	—	—	—	—	—	—	—	—	—	—	38·03
Sugar	—	—	—	—	—	—	—	—	52·7	—	55·15
Sugar & extractive matter	28	29	51	31·3	26·3	40	53·0	47·7	—	—	—
Fixed salts	62	61	13	7·0	7·2		—	6·0	2·7	—	6·64
Earthy salts	—	—	—	—	—	—	2·2	—		—	—

PATENT AND OTHER FOODS.

Baked flour

is much used by the poor and country people in infant-feeding, but it does not always agree with the tender digestion of very young children,[1] and in some cases it fattens too rapidly. I give two or three ways of preparing it, also some medical opinions as to its use. Some consider that baked flour conduces to convulsions when given at too early an age. 'When infants have been fed with flour it will be found that the stools are much larger than is proper for an infant, and, in fact, that the starchy matter is passing off unused. This is a constant source of derangement of the liver, and a frequent cause of fits.'[2] It is a common practice now to give young infants flour in their milk at a very early age, sometimes, indeed, merely putting the flour with the warm milk—in which case the child practically has raw flour. As the researches of Dr. Edward Smith, Dr. Letheby, and Professor Church show, flour is not digested unless *well and thoroughly cooked*; for this reason I myself prefer its being baked.

Dr. Routh writes:[3] 'The effect of baking the wheat flour is partially to cook the starch entering into its composition,' and adds:[4] 'It contains a smaller quantity of water which has been expelled during the heating process, and in this respect it comes to resemble more closely, because more concentrated, an animal compound; moreover, by the baking the starch granules are rendered more separable, and, as before stated, the gluten is reduced to a more porous state, and more readily acted upon by the gastric juice, and as an aliment, therefore, is more nutritious and digestible. Again, from its greater capacity for absorbing moisture it is somewhat more astringent and less likely to produce diarrhœa, which, indeed, it often checks; but the absence of chloride of potassium and fatty matters in it, both so essential to growth and cell-development, is, I think, a fatal objection to

[1] See 'Feeding,' p. 77.
[2] Edward Smith, M.D., LL.B., F.R.S., *Practical Dietary*, p. 121.
[3] *Infant Feeding*, p. 388. [4] See *ibid.*, p. 380.

it. Hence if it be given it should, to supply fat and chloride of potassium, be mixed with milk.' Most of the farinaceous foods for infants are made of baked flour. 'The so-called farinaceous foods for infants are only baked flour, sometimes sweetened with sugar . . . tops-and-bottoms[1] owe their value to the same circumstances—namely, that the farinaceous matter which is so indigestible with infants is broken up by baking into soluble dextrin.'[2]

Flour has always seemed to me to agree better in infant diet when baked than when merely boiled up with the milk; in fact, in the latter case I have very often seen it disagree. The following receipt for giving flour to infants I copy from a well-known and popular work, which will show that the idea is held—although so conclusively proved otherwise by medical and scientific men—that flour is a good food for 'young children,' and that it *needs no especial* or previous cookery before putting in the child's milk. The quantity of flour given in this receipt is larger than that named by Dr. Goodhart:[3] 'Take one pint of milk, one pint of water; boil it, and add one tablespoonful of flour. Dissolve the flour first in half a teacupful of water; it must be strained in gradually, and boiled hard twenty minutes. As the child grows older, one-third water. If properly made, it is the most nutritious, at the same time the most delicate food that can be given to young children.'

I think in many instances the quantity of farinaceous food given to infants is too large, and in most cases it is insufficiently cooked. It is a common impression that, the greater the quantity of flour, oatmeal, and arrowroot given to young infants, the greater the nourishment they receive. A little, well digested, however, of anything, is better for health than a arge meal badly digested. Baked flour sometimes produces constipation, but this, it is said, can be avoided by adding oatmeal to it. 'To avoid the constipating effects, I have always had mixed, before baking, one part of prepared oatmeal with two parts of flour; this compound I have found both nourishing and regulating to the bowels. One tablespoonful of it mixed with a quarter of a pint of milk, or milk and water,

[1] See 'Feeding,' p. 225. [2] Letheby on *Food*, p. 152.
[3] *Diseases of Children*, 2nd edit. pp. 29, 30.

when well boiled, flavoured and sweetened with white sugar, produces a thick, nourishing, and delicious food for infants or invalids. I know of no food, after repeated trials, that can be so strongly recommended by the profession to all mothers in the rearing of their infants as baked flour and oatmeal.'—*Mr. Appleton.*

Ptyaloid is said to be useful in preventing the constipating effects of flour when mixed with it. I am told it should be mixed in proportion : one teaspoonful of ptyaloid to two of ordinary flour. I have, however, no personal knowledge of its use.

'Farola' is a flour now being much recommended for infant-feeding. A physician writes to me : 'Farola is made of the finest flour, and as such would be useful in thickening the food after six months,' and adds it is 'light, nourishing, and agreeable.'

The 'Lancet' observes : 'Farola is a beautifully clear and finely divided semolina. It breaks readily into cells with water, and the microscope shows that it is pure wheat.'

In use I found, however, that it was difficult of digestion, and the child I tried it with did not do very well on it. I have heard of others, however, with whom it has agreed very well. It may be had direct from James Marshall, Ibrox Flour Mills, Glasgow.[1]

Chapman's Entire Wheat Flour is another flour which is very highly spoken of. I have seen some very fine children brought up on it. Dr. Chevasse observes :[2] 'Chapman's Entire Wheat Flour is another food for children, lately brought out, which I can strongly speak in favour of. Chapman's Wheat Flour, when a babe is seven or eight months old, is an admirable addition to my formula of milk-water-sugar-and-salt,[3] as it, like milk itself, contains everything to build up the body ; but still Chapman's food must never supersede the giving of milk to a child. Chapman's Entire Wheat Flour contains *starch* to warm the body and to make fat ; *gluten* to build up the body and to make fibrine or flesh ; and *phosphates*

[1] And of all druggists. [2] *Counsel to a Mother*, p. 31.
[3] See p. 182.

to form both bone and teeth, which, in teeth-cutting childhood, are most essential. It certainly is a valuable food, and cannot be too strongly recommended. We are impressed with the belief that Chapman's Flour is *principally* wheat, without any subtraction or addition whatever ; unless it contain—which I think it does – a small quantity of oatmeal—pure entire wheat flour and oatmeal being an admirable mixture for a child's food.'

Dr. Goodhart writes of Chapman's Entire Wheaten Flour: [1] 'This form is more suitable than white baker's flour, because it contains the pollard or outer part of the grain of wheat, and this is rich in nitrogenous matter, fat, and salts and also in the cerea'ine, which exercises a diastatic action upon the starch, turning it into sugar. The finest dressed white flour contains less nitrogen and more starch, and is, therefore, less wholesome, for reasons previously stated. The entire flour needs prolonged boiling for its preparation in order to break up its starch and convert it into dextrine or grape sugar. This may be done by putting it into a basin, tying it over with a cloth, and then immersing the whole in a saucepan of boiling water for some hours, or by tying it up tightly in a pudding-cloth and boiling. Eustace Smith orders a pound to be heated thus for ten hours, and then removed, the outer soft part [2] to be cut away, and the inner hard part grated and used as meal. A teaspoonful at a time, well mixed with cold milk, to which a quarter of a pint of hot milk is added before serving.' [3]

On the tins of Chapman's Entire Wheat Flour as sold by grocers and chemists there is no mention of prolonged boiling, as recommended by Dr. Goodhart, being necessary for its preparation for infants. Wishing to be quite sure on the point, I wrote to Dr. Goodhart, and received the following letter in reply on the subject of boiling the flour :—

'My dear Madam,—The directions named apply only to Çhapman's Entire Wheaten Flour as sold in tins by grocers, &c., and, although I am not prepared to say that the *printed* direc-

[1] *Diseases of Children*, p. 29, 2nd edit., 1886.

[2] This will be of a dark brown colour, and must be removed.

[3] It tastes smoother and more palatable if just boiled up and a little sugar is added.

tions are inadequate for a number of children for whom it is in use, for *infants*, who are unable to digest starch with facility, Eustace Smith's directions, which I quote, had better be carried out.

'In other words, I consider the prolonged boiling necessary for infants as a safeguard.

'Yours faithfully,

'JAMES F. GOODHART.'

Dr. Starr gives the following receipt for the preparation of flour, and says it may be given after the seventh month.[1] Dr. Starr writes: 'Instead of Mellin's Food a teaspoonful of "flour-ball" may be added. To make this material, take a pound of good wheat flour, unbolted if possible. Tie it up very tightly in a strong pudding-bag, place it in a saucepan of water, and boil constantly for ten hours. When cold, remove the cloth, cut away the soft outer covering of dough that has been formed, and reduce the hard, baked interior by grating. In the yellowish-white powder obtained almost all the starch has been converted into dextrine by the process of cooking, and the proportion of the nitrogenous principle to the calorifacient is as one to five—nearly the same as in human milk.'[2]

'Two meals of flour-ball daily—say, the second and fourth,' adds Dr. Starr, 'are all that can be digested. To prepare these, rub one teaspoonful of the powder with a tablespoonful of milk into a smooth paste, then add a second teaspoonful of milk, constantly rubbing until a creamlike mixture is obtained. This is poured into eight ounces of hot milk, stirring well, and is then ready for use. The other meals should be composed of milk cream, sugar of milk, and water, as already given.'[3] In beginning farinaceous food, such as flour, it is always better to begin with one meal (in the middle of the day) for a little time.

Baked flour is much used in many parts of Yorkshire for infant-feeding. As a rule it is always baked, not boiled, as

[1] Louis Starr, M.D. Philadelphia, *Dietetics of Infancy and Childhood; Annual of Universal Sciences, Sagous*, 1888, iv. 265.

[2] It will be seen this receipt is similar to what Dr. Goodhart recommends.

[3] See p. 182.

recommended by Dr. Goodhart, and from their manner of cookery appears light and easy of digestion, and the children thrive on it. I think, however, the amount of fresh air children are exposed to in the north, and the amount of strength they start with, should be taken into consideration on going into the subject.

The subjoined receipt for baked flour was given to me, when in Yorkshire, by a Yorkshire woman who had brought up all her fifteen children with it, beginning always with a meal or two at seven or eight months, and giving a free allowance of good cow's milk with lime-water for other meals. I was so much struck with the fine appearance of all the children still at home —some seven or eight, one being about twelve months—that I asked how they had been reared.

Baked flour, to prepare.—Fill an earthenware jar (a salt jar will do) with flour, press the flour down tightly, do not cover the jar over ; put the jar in a slow oven, and bake the flour to a light golden brown. Turn the flour out when baked by cutting round with a knife, scrape as required or all at once. If scraped all at once the flour should be put in a tin or bottle tightly corked so as to exclude the air and keep the flour perfectly dry. One or two teaspoonfuls of scraped flour to a half-pint of milk, or milk and water, and boiled together for a few minutes. Keep stirring while boiling. It should, when made, be of the consistency of cream. Add more milk if too thick when boiled.

Of the various wheaten flours for infant-feeding Allen and Hanbury's Infant Food has a good reputation, and is a carefully made preparation. I have seen some fine children brought up with it as an addition to cow's milk when extra nutriment was needed. Dr. Starr writes :[1] 'The nutrient value of the cereals and their products as they exist in so-called "infants' foods" has been imperfectly determined. They are undoubtedly useful as mechanical attenuants ;[2] but it is very questionable whether any of them, unless prepared with milk, can perma-

[1] *Dietetics of Infancy and Childhood*, by Louis Starr, M.D. Philadelphia ; *Annual of Universal Medical Sciences, Sagous*, 1888, iv. 259.

[2] See 'Feeding,' p. 79.

nently meet the demands of nutrition. At the same time it is quite probable that the soluble albuminoid substances obtained by Liebig's process [1] have a food value of their own, making them more serviceable than the starches.'

Lentil Powder

is much recommended by many writers of eminence on children's dietetics. Dr. Gover, however, remarks: [2] 'The meal of the lentil, or *Ervum lens*, is of extreme richness, containing more casein than either peas or beans, yet it is to be obtained in England only under fanciful names, generally mixed with barley flour, and sold at many times its value,' and adds: 'I may mention the much advertised preparations sold under names intended to imply some connection with or derivation from Indian corn are mere washed-out substances which are destitute of the materials necessary for the formation of bone and flesh.'

Dr. Chevasse says: [3] 'For a delicate infant, lentil powder, better known as Du Barry's "Revalenta Arabica," is invaluable. It ought to be made into food, with new milk, in the same way that arrowroot is made, and should be moderately sweetened with loaf-sugar.'

Dr. Geikie writes: [4] 'European children born in Palestine are passionately fond of lentil porridge: nature, unchecked by prejudice, turning eagerly to that which it finds best suited to its wants. Two kinds of the plant are grown, the brown and the red, the latter being the better.'

I have not found lentils sufficiently palatable for children to take to them as thus described by Dr. Geikie. I have tried various kinds, and have not been satisfied that the nutritive properties counterbalanced the extremely disagreeable flavour of the various lentil powders sold in England. Perhaps in Palestine the lentil, being in a fresh state, may have a somewhat different flavour. Butler, McCulloch, & Co., herbalists, Covent Garden, sell pure lentil powder, and if there is no

[1] See 'Feeding,' pp. 218, 219.

[2] *Dietaries in their Physiological, Practical, and Economic Aspects* p. 584.

[3] *Advice to a Mother*, p. 27.

[4] *The Holy Land and the Bible*, pp. 441, 442.

objection on the score of flavour it might be made a trial of; but I think there are so many things equally nutritive, and so much more palatable, that people should think twice before forcing a child, who perhaps has not a voice in the matter, into swallowing what would be with most of us a nauseous mixture. The French boy's 'Il faut le goût pour des choses comme ça'[1] applies here, and I am very doubtful if nauseous things can be so nourishing as they are sometimes affirmed to be.

Maize,

again, has been much recommended lately as a food for infant-feeding, but I have heard that in use it has not been successful. Dr. Chambers writes:[2] 'Maize in various forms is often recommended as a valuable food. It contains a good deal of oily matter, and on that account is much used for fattening geese at Strasbourg, and other domestic animals elsewhere. But its oiliness inclines it readily to grow rancid, and in this state it is apt, in horses, to cause eczema of the skin. It cannot, therefore, be wholesome for us, and, in fact, we find that in Lombardy and the Valteline, where damaged maize is habitually eaten, a special endemic cutaneous disease—pellagra[3]—year by year slowly widens its fatal shadow over the finest lands tilled by man. It is distinctly traced by Dr. Lombroso ("V. Lombroso sulla Pellagra") to the peculiar moulds which form in this decomposing breadstuff.

'Maize flour may be refined and made safer by washing out the nutritive portion with alkalies, and in this state professes to constitute "oswego," "maizena," "corn-flour"[4] &c. But the eater should understand that he has before him starch only, and must not reckon on it for nitrogenous nutriment. The economist will probably think he can buy starch cheaper in the form of rice-flour, which, indeed, is often sold under these fancy names, according to the evidence of Dr. Bartlett

[1] 'One needs a taste for things like that.'

[2] *Manual of Diet in Health and Disease*, p. 64.

[3] For further information on the subject see Quain's *Dictionary of Medicine*, vol. ii. p. 1102.

[4] See 'Home Remedies,' pp. 465, 466.

before the Adulteration Committee this summer.' I have myself come across no less than three children lately given milk thickened with 'maizena' and fed on pudding made with 'oswego,' and in each case the child was suffering from an affection of the skin, and it certainly looked similar to that which Dr. Lombroso and other Italian doctors describe as arising from eating maize flour, and much like what I have seen affecting the people in those parts of Italy and the Riviera, who habitually eat this kind of grain.[1]

Liebig's Malt Food for Infants

agrees with some children, but will be found to disagree with others. The preparation is by some considered a very valuable one: others dispute this. See Chambers' 'Manual of Diet,' p. 145, who says: 'Laputa never devised anything more preposterous than Liebig's food for infants.' Dr. Pavey, on the other hand, commends it.[2] I give the receipt for making it, because it is sometimes recommended for weakly children. I think it desirable to consult a medical man before using.

'*Home Preparation of Liebig's Food for Infants.*[3]

'Take half an ounce of wheat flour, half an ounce of malt flour, and seven and a quarter grains of the crystallised bicarbonate of potash, and after well mixing them add one ounce of water, and lastly five ounces of cow's milk. Warm the mixture, continually stirring over a very slow fire till it becomes thick. Then remove the vessel from the fire, stir again for five minutes, put it back on the fire, take it off as soon as it gets thick, and finally let it boil well. It is necessary that the food should form a thin and sweet liquid previous to its final boiling. Before use it requires to be strained through a muslin or fine hair sieve, to separate fragments of husk that may be present. It is malt made from barley that is to be used, and a common coffee-mill answers the purpose of grinding it into flour, which is to be cleaned from the husk by a coarse

[1] Dr. Hillier also; see 'Treatment of Rickets,' p. 100 of Hillier's *Diseases of Children.*

[2] See Letheby's *Lectures on Food*, p. 20.

[3] Pavey on *Food and Dietetics*, 3rd edit. pp. 178, 179.

sieve.' Allen and Hanbury sell a malt food said to be prepared according to the formula of Baron Liebig. It seems to be a matter of general agreement now, however, that malted food for infants should be made with *malt extract*, not malt meal.

'Malt finely powdered produces food causing diarrhœa. This originates from the sharp, pointed shafts of the malt, which, in pounding, remain with the powdered malt, *and affect the bowels of a child like fine needles.*" [1]

Hill's nursery biscuit powder and biscuit [2] are made with the 'malt extract.' 'In reply to your note we may say that we supply Messrs. Hill and Sons with malt extract for the preparation of their nursery biscuits.' [3]

I have made a very extended trial of the biscuit-powder, and can add my testimony to its worth. I have given it for two meals a day with milk (according to the directions),[4] and have found it easily digested and most nutritious. Mellin's Food is said to be a carefully made preparation, prepared according to the directions of Baron Liebig.

Dr. Semple writes: [5] 'Probably the best of all these "foods" is that known as "Mellin's Infant Food," made after the formula of Liebig.

'This food is very valuable for an infant at any age; a teaspoonful in the bottle of milk that has been scalded by boiling water can be used for delicate children, and will often prove an important addition.'

Dr. Starr says: [6] 'In the seventh month the Mellin's food may be increased to two teaspoonfuls and given three times daily.' A friend of mine has used Mellin's food added to cow's milk for a delicate baby, and speaks highly of it, and certainly the child improved with its use. As regards all malted food, it will agree better with some constitutions than

[1] Baron Liebig on the use of malt meal in malted food. *Liebig's Letters*, 2nd edition.

[2] Sold by Hill and Co., 60 Bishopsgate Street, E.C.; James Street and Victoria Street, S.W.

[3] Extract from a letter from Messrs. Allen and Hanbury, Dec. 29, 1887.

[4] It took about a tin—10*d.* a week for a child from fourteen months upwards.

[5] *The Mother's Guide*, p. 17.

[6] *Dietetics of Infancy and Childhood*, by Louis Starr, M.D.; *Annual of the Universal Medical Sciences, Sagous*, 1888, iv. 265.

others. It will sometimes be found to act as a laxative on children inclined to relaxed bowels. I am told, however, Mellin's food is not found to have this effect. I have seen some fine children reared on cow's milk with the addition of Hill's or Mellin's food at a suitable age. The latter, however, I believe, may be given to quite young infants. I have not found Hill's biscuit powder at all laxative, and have given it for a lengthened period to an extremely delicate baby, with a most successful result, the child growing fat (the flesh being firm) under its use.

Arrowroot.

Where there is any difficulty in a child over six months retaining food on its stomach, and where there is diarrhœa, arrowroot made thin and given lukewarm (about 90° Fahr.) is of service to give till the stomach becomes quieter; but if a child is constantly sick, or the diarrhœa is at all severe, *no delay* should be made in getting medical advice. Dr. Routh writes: 'No vegetable food, particularly arrowroot, should be given to any child without teeth except by special order from the medical man. If teeth be present it may occasionally be given.'[1] In England arrowroot, as a rule, is not given to children as a food, and it is by all medical men condemned for *early* infant feeding. I have, however, seen children, when a suitable age, fed on arrowroot and milk—two meals a day of arrowroot and milk, and the rest all milk—do exceedingly well. I gave one of my own children at twelve months arrowroot, of which I give the receipt for making, and this child did perfectly well, being no trouble whatever in bringing up, and has grown up quite robust. I gave first one meal a day (in the middle of the day), then, after a week or two, two meals, the additional meal being the breakfast milk as usual. The child took about three-quarters of a teacup, sometimes a full one.

Arrowroot, to make for infant use.

Take one teaspoonful of arrowroot. Mix it *well*, with a spoon, with one tablespoonful of *cold* milk (cow's or prepared

[1] *Infant Feeding*, p. 510.

Swiss). Put, when well mixed, in a saucepan in which is three-quarters of a pint of milk, or a pint if the arrowroot is required thinner,[1] quite warmed, *but not boiling*. Stir gently, but not too slowly, and *all the one way*, from left to right, with a *wooden stick*, or the handle of a wooden kitchen spoon if you have not a round stick, *all the time*, till it thickens and is of a smooth consistency like cream, when it will be ready for use. In England most people stir arrowroot with the bowl of the spoon, which some say makes it lumpy. Abroad it is always stirred with a round stick, and this they say helps to make it smooth. The Bermuda arrowroot is said to be the best. 'The mode of preparing the fecula from the roots greatly influences its value, and the superiority of the Bermuda arrowroot is attributed to the extreme care and cleanliness exercised in the different processes of manufacture.'[2]

Dr. Edward Smith, F.R.S., writes:[3] 'Arrowroot and sago must not be given with water only, since, as my experiments have shown, they are not digested, in the absence of some nitrogenous principle such as that supplied by milk, but pass off by the bowel unused.' In France arrowroot is often given in cases of continued diarrhœa. 'It is the custom at these and similar institutions,[4] whenever an infant is sick, to withdraw him altogether from the breast, and to substitute for the milk some farinaceous substance, made fluid by boiling, arrowroot, gum, and rice-water, or a thickened preparation of rice known as *crême de riz*, and other preparations of a similar kind forming the diet of a sick infant. In the reported cases of the Foundling Hospital and those for the reception of sick children, prescriptions of this nature form a very important part of the treatment, as will be seen by referring to the different treatises in French on the diseases of children.'[5] Dr Routh, in recommending Dr. Merei's method of giving arrowroot to infants with weak bowels, says:[6]

[1] This did for twice.

[2] 'The Preparation of Arrowroot in Bermuda,' *Journal of the Society of Arts*, July 8, 1887.

[3] *Practical Dietary*, pp. 129, 130.

[4] Parisian hospitals.

[5] Dr. Stewart, *Diet of Infants*, p. 141.

[6] *Infant Feeding*, pp. 353, 354.

'In case of feeble children with bowels previously deranged, he[1] recommends that instead of diluting the milk with water we should add a decoction of arrowroot, made with one teaspoonful of this substance to three-quarters of a pint of water, this quantity to serve for the admixture of the whole day's supply. In more severe cases the arrowroot may be increased to two teaspoonfuls. This arrowroot is not given as an aliment, but as a softish substance to soothe mechanically the irritation of the intestinal mucous membrane. Langenbeck, indeed, believes that in such cases the granules of starch intersperse themselves between the particles of caseine, and thus in great measure prevent the formation of hard indigestible curds. The mixture Dr. Merei gives consists of three or four parts of this thin decoction of arrowroot to one part of new milk slightly boiled, and to the twenty-four hours' amount of food thus prepared he adds about one to two tablespoonfuls of cream. Children will digest well from a pint to a pint and a-half of this mixture in twenty-four hours, according to age. As they grow older he increases the proportion of milk, but not of the cream.'

Dr. Routh strongly condemns arrowroot-feeding for *young infants*. He adds :[2] 'I believe it is a cause of the death of many infants.' And most probably, when given in too great quantity or only with water, or to very young infants, this is so. Some people give milk to infants in a feeding-bottle, having previously shaken up a teaspoonful of raw arrowroot in it. Given in this way, there can be no doubt that arrowroot is harmful. Abroad they never give arrowroot except previously well boiled with milk as a food. I am not prepared to say that it may not have been the milk[3] (which she took freely) which nourished the child I have mentioned, and that little may have been due to the arrowroot : I merely give the instance in my own family of feeding a child with arrowroot, as I think it is worth noting.

The feeding of children with arrowroot is thus referred to

[1] Dr. Merei. [2] *Infant Feeding*, p. 364.

[3] She was given Swiss milk for nearly two years (from birth), as we could get no fresh cow's milk.

in the 'Dictionary of Domestic Medicine and Surgery,' 22nd edition, p. 37 (by Drs. Thomson and Steele). 'A child fed exclusively on arrowroot, water, and sugar (and such has been the case) must become unhealthy and, without fail, rickety. The case is abundantly altered when with arrowroot milk is combined. In this fluid exists whatever is requisite for the animal frame: nitrogen for its muscle, phosphorus for its nerve, earthy salts for its bone. The combination of arrowroot *with milk* is one of the best which can be given to a child. *It must never be given to young infants.*

Rice Water

is much used abroad for stopping infant diarrhœa. I have found it of much service for this purpose. Two tablespoonfuls of rice (having first washed in cold water): pour a breakfast-cup (half a pint) of boiling water on it. Let it stand half an hour. Strain, and mix the water with the child's milk instead of ordinary water. Warm the milk and rice-water over hot water, but give only lukewarm. 'Patna rice is best, as it is least laxative.'[1] 'Patna rice has the least laxative action of all cereals.'[2] The foregoing is the foreign way of preparing rice-water; the English is: 'Soak a full teaspoonful of rice (Patna) in cold water for half an hour, pour the water away, and add half a pint of cold water. Boil this down to rather more than a quarter of a pint. When cold, strain and mix with a child's milk instead of ordinary water.' A larger quantity can, of course, be made, only in the same proportions.'

Dr. Semple observes of rice-water:[3] 'If the bowels of the child are inclined to be loose, you may substitute *rice*, which has also a constipating effect, soaking a full teaspoonful of rice in cold water for half an hour, draining it off, and then adding the water to boil,' and adds:[4] 'A child that passes curds by the bowels should be watched with caution. Its food should be changed, and given more diluted and less frequently; and if the condition persists the undigested material that remains should

[1] *British Medical Journal*, 1870.
[2] Dr. Chambers, *Manual of Diet in Health and Disease*, p. 48.
[3] *The Mother's Guide*, p. 17.
[4] *Ibid.*, pp. 33-35.

be expelled from the intestines by some slight laxative. The condition may arise if the child seems to be weak and drooping from sheer debility, and especially is this the case in summer, or in children constitutionally weak. If such be the cause, the infant will show it by languor ; there will be no evidences of acute catarrh, no fever, and no violent pain. A small pinch of pepsin (the best obtained from a reliable druggist) in a table-spoonful of water, with four or five drops of the best *port wine*, given about ten minutes before nursing, will often be a great service. . . . A little weak gum-arabic water is often, for a day, an excellent substitute for milk in cases where dieting is required to check a watery diarrhœa, or even toast-water in many cases is invaluable, especially in older children.'

Dr. Routh writes :[1] Occasionally, where the diarrhœa is very obstinate, rice-water may be substituted for ordinary water as the diluting medium, together with the proper medicinal remedies.' The first receipt for making rice-water is the most expeditious and most easy to prepare, as it requires no saucepan. I have tried both kinds, and think the rice-water prepared in both ways is very similar. I have given rice-water to quite young infants and with an equally good result. Often when a baby's breath smells sour a dose of Dinneford's Fluid Magnesia will correct the acidity in the stomach, which in all probability causes this, and will thus prevent diarrhœa setting in. If the diarrhœa is only very slight, also a small dose of magnesia (one or two tea-spoonfuls) will, by carrying off undigested food, check diarrhœa. *Never, however, should diarrhœa be allowed to continue.* The popular idea that the diarrhœa is checking the feverishness of teething is a complete delusion. In most cases—nay, I may say all—the cause requires to be found out by the practised eye of a medical man, and with infants especially delay in most cases means death, or serious deterioration of health.

Dr. Ellis says :[2] ' Diarrhœa should not be trifled with in a child of any age . . . Delay in seeking proper advice is often the cause of alarmingly fatal attacks of this kind in early life. The warm bath and one grain of grey powder may generally be safely used : but if it does not yield to these let medical

[1] *Infant Feeding*, p. 452. [2] *Disease in Childhood*, pp. 136, 184.

assistance be at once obtained.' Dr. Ellis further adds: 'Diarrhœa arises from such a variety of causes, and sometimes so rapidly passes into a dangerous symptom, that I feel great hesitation in advising any sort of domestic treatment for it. The warm bath,[1] as already recommended, a light milk diet, the removal of all causes of irritation, and a small dose of aromatic powder with chalk and grey powder, ought to remove any attack not sufficiently severe to require medical assistance. If these fail, the less delay in obtaining further help, the better, as cold and improper food are the most frequent cause of diarrhœa in children; the avoidance of these will prevent many attacks in a susceptible child. The first inquiry which should be suggested to a mother by the appearance of diarrhœa should be into the food her child has been partaking of, and her first duty to render it as simple and unirritating as possible.

'During the whole period of dentition, at which time diarrhœa is often a very troublesome visitor, it will often be found necessary to examine carefully into the diet, and to adapt it to the irritability of the stomach and bowels, which a little cause soon provokes.' Dr. Ellis speaks of 'cold' food being an element in causing diarrhœa. The habit nurses have of carrying a bottle of food in their pocket to give the child out of doors perhaps may explain many an unaccountable attack of diarrhœa. The food no doubt is warm when the nurse leaves home—perhaps almost boiling—but is it warm when given to the child? I had the curiosity this summer to find out, and of nine nurses who were giving the feeding-bottle to children out of doors, in eight cases the food was cold, or nearly so. The ninth nurse had only left the house a short time. The system of saving oneself a little trouble invariably leads to worse. It is quite possible *always* to feed a child at home, and it is decidedly best. Most medical men speak strongly against the prevalent habit of giving babies half-cold food.

Robb's biscuits, Spiking's biscuits, are well known, as also Savory and Moore's food for infants, Ridge's, Nestlé's, and other patent foods, which I need not enumerate. A very good kind of rusk, called 'Round Rusk,' is sold by

[1] See *Croup*, p. 425; also 'Water,' pp. 365 and 366.

Barker & Co., 3 Bury Street, St. James's, for infant-feeding. A prize medal was awarded to this maker at the International Health Exhibition for excellency in the manufacture of rusks and biscuits. When using the round rusk, 'make it into jelly and use a dessertspoonful of this jelly to thicken,'[1] if farinaceous food is only just begun. Use it twice a day. After a time a child will take a half or even a whole rusk for a meal.[2] The best way to make into a jelly is to soak with a little boiling water, beat up with a fork, and strain. I have, however, found it more convenient to pound up the rusk very fine and add the hot milk to it, and after standing with the saucer on the cup for five minutes it will be ready for use. It is useful, a medical man told me, for a baby who suffers from relaxed bowels. I have found it an excellent infant rusk, and rather lighter than Robb's, which it somewhat resembles. I have brought up two children with Robb's biscuits, giving them first one and then two meals a day, beginning when the child was about eight months, and, although they are a little old-fashioned now, newer preparations having in some measure superseded them, I think myself they are excellent.

Dr. Routh, in 'Infant Feeding,' pp. 391, 466, speaks highly of Robb's biscuits. Dr. Routh says: 'Among the best bread compounds made out of wheat flour that which from my own experience I should recommend (because I have seen it frequently attended with beneficial results to children who were evidently losing flesh and strength under other ordinary foods) is Robb's Biscuits. This kind of food is almost always readily digested, and infants seem to relish it wonderfully. . . . In the success which follows the employment of Robb's Biscuits,' Dr. Routh further adds, 'there certainly is something in their composition which proves particularly fattening and wholesome for children. If the meal given be properly regulated, and due attention be especially paid to the state of the bowels, we have every reason to anticipate that the plan followed will be attended with success. Dill or cinnamon

[1] Given by a medical man to a baby seven months old.

[2] It cost me about 1*s.* a week for rusks for a child of sixteen months upwards.

water,'[1] Dr. Routh advises, 'as occasional carminatives, should be given, particularly with Robb's biscuits.'

When it is wished to give the biscuits through the bottle pound up the quantity required for the meal into a fine powder. Let it stand with a little boiling water added for a few minutes, covered over, and then add the warm milk, and thoroughly beat up with a fork, so as to mix well, and it will be fit for use. One of Robb's biscuits is sufficient for a meal, or even half. Robb's biscuits may be given for three meals if a child can digest it. I have never given more than two a day. When made in the ordinary way the biscuit is soaked for twenty minutes in boiling water. Strain the water off. Add milk and a little sugar, and beat up with a fork.

Preparations of Raw Meat

are occasionally given to infants in delicate health and young children, and with much success in some conditions of health; but this is within the province of medical men, and cannot be properly treated of in a work like the present, which is merely a little guide to nursery life in health and under ordinary conditions. The giving of raw meat to an infant or child presupposes an invalid condition of health. Dr. Smith, F.R.S., writes:[2] 'A habit is arising of giving very strong broths and beef-teas,[3] and also raw meat, to children who do not grow well. The latter is much to be condemned, since, whatever immediate value it may have in improving nutrition, it will certainly lead to the production of worms within the body, and thereby do much harm ultimately. The former may be given in moderate quantity, but only of moderate strength.' Dr. Routh writes:[4] 'Meat about to be given *raw* should from prudential reasons be carefully examined. If it appear grey, and there are any spots on the surface, it is a suspicious specimen. A small magnifying power will at once, however, clear up the doubt. Fortunately in this country beef is seldom, if ever, infected with these parasites,[5]

[1] See 'Home Remedies,' p. 474.
[2] *Practical Dietary*, pp. 133, 134.
[3] The receipts given are for broths and beef-tea of moderate strength.
[4] *Infant Feeding*, pp. 348, 349.
[5] Trichina.

and it is this variety of meat which is usually prescribed in a raw state. Raw-meat juice is thus preferable to raw meat, since in the straining of the meat through a coarse sieve, and the squeezing of it in a press-strainer, the worm is excluded.'

Those who require receipts for preparing raw meat for infant use, and other information, will find much valuable instruction in Dr. Routh's book, 'Infant Feeding.' A physician told me that if raw meat is chopped up fine, and is then put in a piece of fine muslin and tied securely, being made so that the child can get it in the mouth to suck, the child, by the action of sucking, gets all the nourishment of the meat through the muslin, which will afford nutriment without any ill effects ensuing. He told me that he had been very successful in giving raw meat to infants in this manner. Also the following receipt for beef-essence from raw beef was given to me by a friend who had it from a leading physician for a delicate, sickly child. 'Take a quarter of a pound of the best rump steak (gravy meat) or the reddish buttock meat (this latter is the best), cut or chop it in very fine pieces, so as to make a mince similar to spinach chopped up for table. Next put this mince into a tumbler, add water to the brim (lukewarm water, temperature 120° F.), stir up frequently, and let it stand for three hours. Then strain off the water,[1] which will be a claret colour and fit for use.' This was given first twice and afterwards three times a day in the usual milk, a wineglassful (sherry) at a time. It should be used the day it is made.

I give a few simple receipts for beef-tea broths, meat jellies, and puddings, as they may be useful to young mothers. I am not an advocate of the principle, 'An unpalatable thing is generally a wholesome one.' I think, on the contrary, food agreeable to the taste is not only nicer, but is also more nourishing. 'What a healthy child likes it will usually digest; what it dislikes will disagree.'[2] 'My appetite is in several things of itself happily enough accommodated to the health of my stomach; whatever I take against my liking does me harm,

[1] Use a fine sieve.

[2] Dr. Goodhart, *Diseases of Children*, 2nd edit. p. 31.

but nothing hurts me that I eat with appetite and delight.'[1] It is most cruel as well as unwise, forcing children to eat. Where any failure of appetite is observed the cause should be looked for, and if it continue a doctor should be consulted. When quite well, and what is given to them to eat is nice, children never refuse their food and always enjoy their meals. A distaste to food shows some weakness or failure in health, and should be taken as a sure sign that a child is not *quite well.*

Beef Soup.

Five to six pounds of the shin of beef, and a knuckle bone. Cut the beef in small pieces.

Then brown them in a saucepan with the marrow from the bone. Add when brown two quarts of boiling water. Carefully, when it comes to the boil, take all the scum off; then let it gently simmer for five hours, adding a small lump of white sugar and a teaspoonful of salt.

Take it off and strain through a fine sieve; put in a pan, and let it rest all night, and in the morning skim the fat off, when it will be ready for use, the quantity required merely wanting warming. A much less quantity can, of course, be made, only using the same proportions of meat and water &c.

Another Receipt for Beef Soup[2] *(for young children when able to take vegetables).*

This receipt gives 6 pints of beef soup, and avoids a too concentrated strength.[3] It is a very palatable soup, and can also be made in half the quantity.

Cut 3 lbs. of beef into pieces the size of walnuts, and chop up the bones, if any;[4] put it into a convenient-sized pot with ½lb. of mixed vegetables, such as onions, leeks, celery, turnips, carrots (or one or two of these if all are not to be obtained), one teaspoonful of sugar (white), 2 ozs. of butter, half a pint of water. Set it on a sharp fire for ten minutes or a quarter of

[1] Montaigne, *Essay on Experience.*
[2] French.
[3] See 'Feeding,' p. 227.
[4] It is advisable to have bones on account of the gelatine, which will increase the nutriment of the soup.

an hour, stirring now and then with a spoon till it forms a rather thick gravy at the bottom—but *not brown* ; then add 7 pints of hot or cold water, *but hot is preferable* ; when boiling, let it *simmer gently* for an hour. Skim off all the fat. Strain it through a sieve.

The foregoing receipts are not for *invalid* beef-tea, where merely the essence of the meat is required. Dr. Chambers's receipt for invalid beef-tea is: [1] 'Take half a pound of fresh-killed beef for every pint of beef-tea required, and remove all fat, sinew, veins, and bone. Let it be cut up into pieces under half an inch square, and soak for twelve hours in one-third of the water. Let it then be taken out and simmered for two hours in the remaining two-thirds of the water, the quantity lost by evaporation being replaced from time to time. The boiling liquor is then to be poured on the cold liquor in which the meat was soaked. The solid meat is to be dried, pounded in a mortar, freed from all stringy parts, and mixed with the rest. When the beef-tea is made daily it is convenient to use one day's boiled meat for the next day's tea, as thus it has time to dry and is easier pounded.'

Another receipt for invalid beef-tea is 2 lbs. of shin of beef, cut small. Half a teaspoonful of salt. Add a pint of cold water ; let it stand in a covered vessel (jar with a cover) in a slow oven from four to five hours, strain while hot, and let it stand to get cold, when it will be fit for use, merely needing warming.[2]

Dr. W. Mattieu Williams, in speaking of the making of beef-tea, says : [3] 'As the saline juices of meat are contained, for the most part, within the cell walls of the muscular fibre, or the sheaths of the bundles of fibres, we may avail ourselves of this mysterious action, and extract these saline juices by exosmosis. In spite of its unfamiliar name, it is one of the most familiar of kitchen operations, both useful and mischievous. When meat is rendered tasteless in the course

[1] *Manual of Diet in Health and Disease*, p. 262.

[2] Suitable for infant-feeding. See p. 153 for age at which it may be given.

[3] *Cantor Lectures*, Society of Arts, *The Scientific Basis of Cookery*, delivered December 1883.

of boiling or steaming, it is due to the exosmosis of its juices. On the other hand, in making meat broth, or soup, or beef-tea, exosmosis is usefully applied to produce an intended result.

'The making of beef-tea is a good example of this, especially when made by simple maceration, *i.e.* by using cold water only. To work out the *rationale* of this, the distinction between colloids and crystalloids must be understood.

'Certain solutions perform the endosmosis and exosmosis I have just described, while others do not. On comparing them, it has been found that those which do thus pass through animal membranes are solutions of crystallisable salts, while those which do not are solutions that, when evaporated down, form jellies, mucilage, or amorphous, formless masses ; hence the terms colloid and crystalloid. This being the case, it is evident that if we immerse a piece of gravy beef in cold water only one class of its juices will pass through the enveloping membranes ; this class will include the saline juices of which I have spoken, and will not include the albumen, nor any gelatine that may be dissolved. If the beef is minced as in ordinary practice, a little of the albumen will be washed off the surface exposed by the cutting, and a modicum of gelatine may be dissolved from these surfaces. If, on the other hand, we stew beef in water heated just below the temperature at which albumen coagulates, more of this albumen will be washed out, and much more gelatine will be dissolved.

'Thus we shall obtain two kinds of beef-tea, the first containing only those juices which are directly absorbed by the capillaries of the stomach, and thus pass directly into the blood ; and the second containing these same, *plus* some gelatine which has to be digested after the manner of solid food. In both cases the albumen is separated from the liquid by heating it to the boiling-point of water. It then rises to the top as a "scum."

'I have been asked which is the proper method of making beef-tea : by cold maceration, by moderate stewing, or by boiling. The boiling may be at once dismissed, for reasons that will be understood by all who have listened to what I have said concerning the coagulation of albumen.

'The relative merits of the other two processes demand further consideration. If the beef-tea is required for a very delicate invalid the "cold-drawn" may be the best, but this conclusion presupposes a condition of the body demanding a supply of these particular saline juices, which perform certain parts of the work of nutrition, and appear to have a kind of stimulating influence. A skilful physician is required to decide whether this is or is not the case.

'If the beef-tea is made for a convalescent regaining digestive power, and demanding full nutrition, there can be little or no doubt that the liquid prepared by digesting minced beef in warm water (which I prefer to call beef-broth, or beef-soup, restricting the name of beef-tea to the cold-drawn) is the best. In this there is a little gelatine, together with abundance of the saline juices, which render the gelatine digestible and nutritious.'

Mutton Broth.

Two pounds of neck of mutton; cut up small; add a quart of boiling water; let it gently simmer for an hour; strain, and put in a pan for use.

Mutton Broth, when required stronger for an invalid or delicate child.

Three pounds of neck of mutton; cut up small; half a teaspoonful of salt; one pint of cold water; stew gently three hours; strain, and it will be fit for use.

Chicken Broth.

One chicken; cut up small (using also the bones); add two quarts of boiling water; simmer gently for two hours on a slow fire; take off, and add a teaspoonful of salt; strain through a fine sieve; put in a pan and leave to cool, when it will be fit for use, needing only the quantity required to be warmed. Will keep three days.

If only a small quantity is required, half a chicken and half the quantity of water will make equally good broth.

Chicken Broth Jelly.[1]

One moderate-sized chicken; cut up small (using the bones); half a teaspoonful of salt; one pint of cold water; stew gently three hours in a saucepan at the side of the fire; strain, and it will be fit for use when cold. When cold it will form a clear, opaque-looking jelly. It is easily dissolved by placing in a cup over hot water.

Those who cannot have chicken broth made at home will find Moir's chicken broth, sold at the Army and Navy Stores, Victoria Street, London, tenpence a tin, of good quality. A young friend who is giving it to her little boy speaks well of it. The mutton broth sold at the Stores is also favourably spoken of. When the use of tinned things can be avoided, undoubtedly, however, it is best. If given, the preparation should be all used at once and immediately after opening. A doctor experienced in infant-feeding tells me mutton broth and beef-tea do not always agree with young babies, and should in no case be given before eighteen months. He considers veal and chicken broths and jellies given with milk[2] more nourishing because more easily digested, and that such may be begun at seven or eight months in small quantities.

Veal Broth Jelly.

Two pounds of knuckle of veal, cut up small; add half a teaspoonful of salt, one pint of cold water; stew gently, strain, and when cold the jelly will be fit for use, only needing warming over hot water. Keeps three days in ordinary weather.

Port Wine Jelly.

One pint of port wine, 1 oz. of isinglass, 1 oz. of sugar, ¼ pint of water—dissolve the isinglass and sugar in the water over the fire, then add the wine and strain it through muslin into moulds.

[1] This and the veal broth jelly are the receipts used for the little child mentioned 'Feeding,' p. 149.

[2] See 'Feeding,' p. 119.

A useful way of giving port wine to delicate children requiring such. Less quantity can of course be made, and the jelly may be added to milk.

Calf's-foot Jelly.

Calf's foot (well washed) ; put on in 3 pints of cold water, bring it to boil ; skim it well, then stew gently for six or seven hours till reduced to a pint and a half : then strain and let stand till cold ; take the fat off. Put to it two whites of egg well beaten, then bring it gently to the boil and strain through a flannel bag.

Calf's-foot jelly can be prepared without the white of eggs, but it is not so clear. Dr. Routh says :[1] 'The white of the egg is albumen in a very pure state, with about 22 per cent. of water and ·65 per cent. of salts,' and further remarks on the nutritive value of eggs in infant-feeding, so that the clearing of the jelly with the white of egg would in no way affect it injuriously.

Ceylon Moss Gelatinous Chicken Broth

is much esteemed abroad as being light and nutritious for invalids, or those who are in feeble health. The following is a good receipt for making it. 'Cut a fowl into four parts, take out the lungs, and wash it thoroughly ; place it in a stew-pan with four ounces of prepared Ceylon moss, adding three pints of water and a little salt ; having boiled the broth for three-quarters of an hour by the side of a stove-fire, pass it through a napkin, and serve it in a caudle cup to the invalid.[2]

Chicken Panada

is also highly esteemed in France for invalid or children's diets. 'Roast off a young fowl ; take all the white parts, and pound them with the crumb of a French roll soaked in broth ; dilute these with a little chicken broth (made from the remains of the roasted fowl) to the consistency of a soft batter or creamy substance ; pass it through a tammy as in preparing any other purée. Previous to serving this panada, it should be

[1] *Infant Feeding*, p. 330. [2] Francatelli's *Modern Cook*, p. 109.

moderately warmed. . . . In the composition of every sort of dietetic preparation for the use of infants and invalids it is strictly necessary to avoid the use of herbs, vegetables, and spices ; even salt should be used sparingly.[1]

PUDDINGS.

Sago.

Put in a pan 2 oz. of sago, 2 oz. of sugar (sifted white), a pint of milk, half a lemon-peel or a very little cinnamon (these should be left out for very young children) ; boil for a few minutes or until rather thick, stirring all the while ; beat up one egg, and mix quickly with the same. It is then ready for either baking or steaming, putting in a dish for this purpose.[2]

Sago Pudding for a Baby.

Half pint of new milk, 3 teaspoonfuls of sago, 2 teaspoonfuls pounded loaf-sugar ; boil for twenty minutes, then bake lightly in a pie-dish.

Custard Pudding for a Baby.[3]

One new egg, half a teaspoon of sifted sugar, 5 tablespoonfuls of milk. Steam in a breakfast cup for a quarter of an hour.

Tapioca.

Put in a pan 2 oz. of tapioca, 1½ pints of milk, 1 oz. of white or brown sugar. A little salt, just a pinch. Set on the fire and boil gently for fifteen minutes, or until the tapioca is tender, stirring now and then to prevent it sticking to the bottom or burning ; then add two eggs well beaten ; steam or bake. It will take about twenty minutes steaming, or a quarter of an hour baking slightly.[4]

[1] Francatelli's *Modern Cook*, p. 108.

[2] It takes about three-quarters of an hour to bake or steam.

[3] A child of sixteen months may have this pudding if eggs agree with it ; if not, the next. My children at this age would eat the whole for dinner, but nothing else.

[4] Dr. Christison remarks of tapioca: 'No amylaceous substance is so much relished by infants about the time of weaning, and in them it

Rice Milk (Gouffé).

Blanch in plenty of water two and a half ounces of best Carolina rice ; cool with plenty of cold water, and drain ; boil three pints of milk in a two-quart stewpan ; mix the rice in the milk and stir on the fire till boiling ; add a lump of sugar and a small pinch of salt—say a quarter-ounce of each ; boil for an hour, and serve.

This French receipt answers also, substituting vermicelli, semolina, tapioca. Dr. Chambers gives this same receipt in his 'Manual of Diet,' p 287.

Bread and Butter.

Butter a tart-dish well, and sprinkle some sultanas or currants all round it ; then lay in a few slices of bread and butter with sultanas or currants lightly sprinkled between. Boil one pint of milk, pour it on two eggs well whipped, and then on the bread and butter. Bake it in a hot oven for half an hour.

Batter.

Break two fresh eggs in a basin, beat them well, and add one tablespoonful and a half of flour, which beat up with your eggs with a fork, until no lumps remain. Add a gill of milk, a teaspoonful of salt. Butter a teacup or a basin, pour in your mixture ; put some water in a stew-pan, enough to immerge halfway up the cup or basin in water ; when boiling, put in your cup or basin, and boil twenty minutes, or till your pudding is well set. Pass a knife to loosen it, turn carefully out in a dish, and dust some white sugar lightly over.

Treacle.

Make a paste of 1 lb. of flour, 6 oz. of beef suet. Line a basin with a layer of paste, and then treacle ; then a slice of bread, and so on till the basin is full. Tie over, and boil two hours and a half.

is less apt to become sour during digestion than any other farinaceous food, even arrowroot not excepted.'—Dr. Thomson and Dr. Steele, *Dictionary of Domestic Medicine*, 22nd edit. p. 590.

FEEDING INFANTS.

An infant up to a month old should be fed every two hours when awake ; but it should on no account be awakened from sleep. If the sleep, however, is very prolonged it should get its food *without delay* on awakening. An infant should be taken up, and should not be fed lying on its back. 'An infant should be held upon the arm (the left is best) in an inclined position, not only while taking food, but for five or ten minutes afterwards. This decidedly diminishes continued infantile vomiting.'[1] 'The child should not receive its nourishment while lying. It should be raised, which will not only become a pleasanter position, but it also diminishes the risk of strangulation.'[2]

Dr. Routh says :[3] 'The semi-erect position which the child adopts in sucking is not only favourable, as affording it the readiest means of partaking of its mother's heat, but there is besides an anatomical reason. The stomach is placed more perpendicularly as to position. There is but feeble muscular power in it, and the cardiac opening is less able to contract and retain food taken. Thus in *any other position of the child but the semi-erect the milk taken is likely to be brought up again* and lost to the child. Yet it is strange that in feeding children by the bottle nurses are usually in the habit of laying the child on its back, on their knees, often with the head lower than the trunk, so as precisely to favour those accidents which it is desirable to avoid. In discussing the conditions to be observed in giving infants their food I would lay down the two following rules as essential to the preservation of the child's health : (*a*) That in early ages especially a child should be kept warm artificially or naturally, especially during the time it is being fed. (*b*) That a child should be made to take at such periods the semi-erect, which is the natural, position.' I saw a little infant very nearly choked once through being given its bottle in bed. The nurse, having given the baby its bottle, thought no more about it, and was occupied with doing something in the nursery which engaged her whole attention, and, not observing that the child had slipped, was horrified to

[1] *British Medical Journal*, 1870.
[2] Dewees, *Diseases of Children*, p. 178.
[3] *Infant Feeding*, pp. 92–97.

hear a choking sound from the cot ; and if she had not had presence of mind, and if she had not been very prompt, the child most assuredly would have been suffocated. It is most unsafe giving a young infant its feeding-bottle in bed, and, although a common practice, cannot be too strongly condemned.

Dr. Semple remarks :[1] 'After a child has been nursed it should be placed upon its *right* side or upon its back, and kept *perfectly* quiet ; if placed on its left side the weight of its liver pressing upon a full stomach will often cause it to vomit, and if tossed up and down in the arms, or exhibited to admiring friends, its motions will certainly be unhealthy, probably green, knotty, and highly offensive.' If brought up with a feeding-bottle, it should *always* be given as much as possible in the same position the infant would take its milk if nursed. If it is unwise giving the feeding-bottle lying in the cot, it is still more so to place a child on its back in a perambulator (as is so often done) with its feeding-bottle in its mouth.[2] After a month the food may be given every two hours and a half; the strength of the milk being increased, it will take a longer time digesting. It will generally be found that every two hours and a half to three hours is sufficiently often to feed a baby.[3] If, however, a baby has been out in the air it will probably require feeding in less time. This is best judged, however, by whoever has charge of a child, and I only give these as approximately correct times. Some children are naturally more hungry than others, and even if the food is made stronger they require feeding oftener than what is supposed to be the correct time.

'To limit and feed a baby by a precise rule, without regard to its own manifestations of its requirements—a child, who in the earlier two or three years of life gains half the height and weight it will acquire in all its life—is absurd folly.'[4] People sometimes think that infants will sleep better if fed, before going to sleep for the night, with a more solid food than milk—food such as

[1] *Mother's Guide*, p. 15.
[2] See 'Feeding,' p. 132.
[3] See 'Feeding,' pp. 89–104, 112, for intervals between feeding.
[4] Mr. Richard Quain, F.R.S., on *Health in Youth*, Trans. of the Royal Society, 1848.

the patent foods or bread-and-milk pap.[1] This is, in reality, quite a mistaken idea, and is productive of much mischief. The lighter the food given to an infant before being put to rest and during the night, the better. As the process of digestion seems to be more or less dormant during sleep, a heavy food only causes indigestion—instead of being of benefit, is, in fact, dangerous. Amongst a number of cases of death from convulsions mentioned by Dr. Routh, several occurred after, or in consequence of, too heavy feeding at night. I will mention two deaths he gives, as bearing out what I say : 'The child of a wet-nurse and her nurseling were fed on a hearty supper of bread-food, and were found dead at 4 p.m.'[2] Infants should be fed during the night and the first thing in the morning. In fact, an infant will not go all night without food unless narcotised. When a baby requires feeding it is injurious to keep it without food for a length of time ; crying and distressing itself will help to cause indigestion and flatulence. Some are under the impression that the more an infant cries the better it is for it ; as I heard an old nurse say, 'She do cry violent, but then you see it don't harm babies, it only flates[3] their lungs.'

The practice of giving young babies small pieces of food of various kinds is not only injudicious, but is also dangerous and productive of illness. I have heard of several cases where young babies, having swallowed the piece of food given to them merely to suck, have had convulsions and have died. When a young baby has eaten or swallowed anything of an indigestible nature it is advisable to give a dose of castor-oil so as to immediately remove what may be a cause of serious irritation to the stomach or bowels. Pieces of hard biscuit are sometimes given to very small babies, and this is the sole cause perhaps of the stomach-ache, the colic, &c., of poor baby. Letting young babies suck pieces of raw apple, lemon, orange, cucumber, pears, &c., with the idea of cooling the gums, does

[1] See 'Feeding,' pp. 68–80.—This is entirely referring to infants; older children decidedly require a supper, see p. 293. I have found after eight months my children do best with a supper of Hill's or Robb's, or jelly and milk, *a little time* before going to bed.

[2] *Infant Feeding*, p. 508.

[3] Inflates?

no good and may be productive of accident. Not very long ago I heard of the sudden death of a strong, healthy little boy of fourteen months through having swallowed a piece of raw apple. The death of the child was so sudden and unaccountable that the family were compelled to have a post-mortem examination, when it was discovered that the child had died through swallowing the piece of unpeeled apple. The subjoined is from the 'Times,' Thursday, December 29, 1887 :—

'The Canterbury coroner, Dr. T. S. Johnson, yesterday held an inquest upon the body of a boy named Lefevre, who came by his death under peculiar circumstances. The boy, with his parents, was staying with relatives during Christmastide, and on Tuesday evening sat upon his father's knee eating a small piece of apple. His mother happened to leave the room, and the child, in crying for her to return, drew the apple into the entrance to his lungs and was suffocated before medical assistance could arrive. A verdict of "Accidental death" was returned.'

Giving children under three years acidulated drops, lozenges, &c. to suck is dangerous, as they are apt to be swallowed whole, and if by any mischance they should get fixed in the throat undoubtedly death would ensue. I had one of my children nearly choked by a delectable lozenge Some laugh about so much care with children, and hint that one is 'rather fussy,' but an accident soon happens, so that to err from over-care is better than to have afterwards unavailing regret for that which might have been prevented if thought of. An inquest which took place September 1, 1887, records the melancholy death of a man from swallowing an acidulated drop which became fixed in the throat, causing suffocation,[1] and, as it is not the only death which has resulted from swallowing a drop or lozenge the wrong way, I think a word of warning to mothers with young children is not out of place.

'Yesterday, at the Coroner's Court, Golden Lane, Mr. S. F. Langham, the City coroner, held an inquest on the body of Charles James Bush, aged 24, lately employed as a potman at the White Hart public-house, Salisbury-square, Fleet-street.—

[1] *The Morning Post*, Thursday, September 1, 1887.

May Record, barmaid at the White Hart, deposed that on Sunday night, about half-past ten, she was in the kitchen when Bush came to fetch some coal. She noticed that his face was exceedingly red, and in answer to her questions he said, "I feel so poorly. I have swallowed an acid drop, and it seems to choke me." Witness gave him some butter to ease his throat, and he also took a dose of Seigel's soothing syrup, but nothing seemed to do him good. Dr. Green, of Bouverie Street, was called in, but his efforts were unavailing, death ensuing at eleven o'clock.—Dr. Green deposed that on making a post-mortem examination he found the windpipe severely lacerated. Death resulted from suffocation, consequent on the closing of the throat.—The jury returned a verdict in accordance with the medical testimony.'

Young children are sometimes very fond of picking up and eating soft paper, bits of thread, and some will even eat bits of cinder. Where this is seen it should instantly be stopped, as it is very dangerous when children acquire the habit of picking up and promiscuously eating anything they find about. Children also sometimes get into a habit of chewing their food too much, especially meat, so that before swallowing it they extract not only all the good, but make it also hard, dry, and difficult of digestion.

I have seen a child so chew meat that on its being taken out of the mouth it was exactly like a little pellet of dry leather. It is a habit which, once acquired, is very difficult to conquer, and requires great care and watchfulness in trying to break a child of. Dr. Chambers writes :[1] 'With regard to the amount of chewing required by flesh food there is a good deal of popular misconception. Persons with bad, false, or tender teeth are often found to fancy that a vegetable diet is more suited to their imperfect power of mastication than an animal one ; and we not unfrequently see mothers instructing their children carefully to chew meat, and neglecting the same precaution in respect of vegetables. Physiology teaches an opposite caution. It is desirable, indeed, that the jaws should break up muscular fibre, lest it should perchance stick in the gullet

[1] *Manual of Diet in Health and Disease*, p. 111.

and be certainly difficult of penetration by the gastric juice in the stomach ; but to a vegetable aliment the performance of more important functions is due. It is still more indispensable that it should be broken up, for it has to be immediately acted upon ; and it is indispensable also that it should be detained in the mouth till enough saliva to convert its starch into glucose has been secreted. Complete mastication, important for both, is still more important for vegetable than for animal food, and the leisurely performance of the operation cannot be prudently omitted by a mixed eater.'

It is very dangerous giving or allowing quite young children leaves and berries to play with, as they will often suck and eat them, causing sometimes sickness and even death. I had once what might have been a terrible accident with one of my children. The foolish little thing was allowed to have some leaves and berries (which she had plucked) to play with, on promise of not eating them. 'We will only play at doctor's shop, we won't eat the berries and leaves.' Alas ! a wise resolution, like many another, forgotten by one misguided little soul as soon as uttered. The berries were unluckily eaten, with the result that, had not sharp remedies been administered as soon as the discovery was made that the berries had been swallowed, the child would have lost her life. If a child has eaten any leaves or berries—unless it is positively known that they are from a harmless plant—no delay should be made in sending for a medical man and giving an emetic at once. The leaves and berries of some apparently harmless plants are highly dangerous and will cause death. The following will show how very careful people should be in preventing children eating or sucking berries or leaves of plants.

'The Deputy Coroner for East Middlesex held an inquest at the Prince of Wales Tavern, Mile End, on the body of Mary Ann Garrett, aged two years and ten months. Mrs. Mary Ann Garrett, 36, Copley Street, Mile End, the mother of deceased, stated that on Saturday she put the child to bed, and she then appeared to be all right. Soon afterwards the deceased was taken sick, and the following morning was much worse. Witness then sent for a doctor, who came and pre-

scribed for the child ; but she continued to get worse and died the same morning. Witness had another child, who told her that deceased had been eating some leaves of a plant in the garden. The plant was a specimen of the begonia. Mr. Charles Chaple, surgeon, said when he was called to the deceased he found her suffering from pains in the bowels, and she was seized with vomiting and purging. He prescribed for her, but she never rallied, and died a few hours after. He had since made a post-mortem examination, and had found that death resulted from collapse and convulsions caused by eating the stem of the plant begonia. The jury returned a verdict in accordance with the medical testimony.'[1]

'Yesterday, Mr. W. J. Harris, coroner, held an inquest at Northfleet, near Gravesend, on the body of a little boy, named Harry Johnson. The deceased, it appeared, had eaten both the flesh and kernels of the berries from a yew-tree near his father's house. Some time afterwards he became very ill, was seized with convulsions, and expired in his mother's arms. By direction of the coroner, Mr. Josiah Sarjant, surgeon, made a post-mortem examination of the body. He found all the principal organs perfectly healthy, but upon opening the stomach he noticed some red patches of recent inflammation. The mucous membrane easily separated from the stomach. There was nothing in the stomach except a little mucus. From those symptoms he was of opinion that the child died from an irritant poison, most likely from the kernel of the yew-berries. The jury returned a verdict in accordance with the medical evidence.'[2]

'*Death from eating poisonous berries.*—A child three years of age, named May Storer, daughter of a miner living at Polesworth, Warwickshire, died there on Tuesday night, in great agony, from the effects of eating the berries of the nightshade. It seems that the child, while out in the fields near her home, got the berries from a hedge and ate them.'[3]

'*Poisoned by hemlock.*—At an inquest held at Consett

[1] *The Times*, Wednesday, September 10, 1884.
[2] *The Times*, Thursday, September 18, 1884.
[3] *The Morning Post*, Thursday, September 8, 1887.

yesterday on two little boys named Bernard and Joseph Molloy, who died suddenly on Monday, the medical testimony showed that they had sucked the ends of hemlock stalks, absorbing such a quantity of poison as to result in their death. The doctor stated that hemlock was a very active and dangerous irritant at this season of the year. A verdict of 'Poisoned by the juice of hemlock' was returned.'[1]

Pipes should not be left about where there are young children, nor should they be allowed to have an old pipe to play with, as if a child puts a disused pipe in its mouth it may be poisoned. There have been several deaths owing to poisoning from the nicotine contained in a disused pipe. It is a common practice to let children, and even to encourage little babies, to smell flowers and plants. It is, however, attended sometimes with very unpleasant results, for some flowers are full of insects, which, being drawn up the nose, will cause much irritation and discomfort. It is exceedingly unwise letting children have sharp knives at too early an age. Serious accidents have happened through very young children being allowed to use sharp knives and sharp scissors. Silvered knives are best for young children, and are of equal use to them.

THE DIET OF OLDER CHILDREN.

With an infant, if the milk or food given agrees, it is best to continue without change.[2] The diet of older children, however, should be varied. Keeping children entirely to a meat diet or to any diet without variation is prejudicial to health. Vegetables, puddings, cooked fruit, as well as poultry and fish, are not only a most wholesome but a necessary addition to the diet of children. People say, 'But look at poor people's children, they do very well and they don't have all these changes of food.' Granted—but, except in the case of those who have the benefit of sea or country air—in itself, where the surrounding conditions of life are fairly healthy, equal to food—how do they look? There is no doubt that children living in towns and

[1] *Pall Mall Gazette*, August 9, 1888.

[2] See 'Feeding,' pp. 122, 123.

cities require more nourishing food even than those living in the suburbs of cities and towns. I do not advocate rich made-up dishes ; but I do advocate not keeping children entirely to mutton and beef—a poor economy—for the three hundred and sixty-five days of the year. Children are likely to grow up strongest and healthiest who are given a liberal diet.

Sir Erasmus Wilson, F.R.S., wrote :[1] 'Children are growing animals ; nutrition in them is active, and calls for good and plentiful material in the shape of nourishment. . . . The substance of their meals cannot be too nutritive or too much varied ; they have men and women to make—healthy, and strong, and handsome men and women—and to do this well the little artisans must have good food and plenty. . . . I have heard parents make a boast that their children were fed exclusively upon mutton, as though it were their intention to render the stomach incapable of supporting and digesting any other kind of food—in which they generally succeed. Another monomania is that of minimising the quantity of food. . . *Sameness of food*, improper food, defective ventilation, and insufficient exercise are the causes of most of the diseases of children, and especially of cutaneous complaints. This is the secret of the ring-worms and scalled heads of public seminaries.'

An old German distich says—

'Dr. Diet, Dr. Quiet,
And Dr. Merry-Man
Are the best
Physician.'

Where too much restriction is exercised over the food of children they get into a state of being unable to eat, without feeling uncomfortable, a variety of food. The appetite, by being educated, as it were, to certain foods, gets a liking for only those it is used to, and so other kinds are not only often unpalatable, but are in some cases rejected by the stomach, thus rendering the digestion delicate and fastidious. 'Change of food is to the stomach what change of air is to the general health.'[2] Dr. Chambers says :[3] 'Let it always be understood that food is not to be

[1] *Healthy Skin*, pp. 125–128. [2] *Ibid.*, p. 127.
[3] *Manual of Diet*, pp. 151, 152.

dispensed with pedantic accuracy as if it were a pharmaceutical prescription. Even in hospitals considerable latitude is allowed, and still more in private nurseries should we avoid making life a toil by too much interference. It is only in cases of prominent and persistent excess in one direction or the other that we should bring our adult reason to bear on infantile instinct. *Extreme monotony should be avoided.* It is a great inconvenience to young persons in after-life to have been brought up in such a narrow round of indubitably wholesome victuals that they cannot eat this or that.' Again Dr. Lankester remarks :[1] 'The question of food lies at the foundation of all other questions. There is no mind, no work, no health, without food ; and, just as we are fed defectively and improperly, so are our frames developed in a way unfitted to secure that greatest of earthly blessings—a sound mind in a sound body.'

It is very strange how little good feeding is regarded as being necessary where severe and continuous mental work is required of children. One question entirely overlooked by parents in the majority of cases in selecting schools for their children is the feeding,[2] yet this is not only a necessary matter to be looked into, but so lies at the root of health and strength—which means power to work—that it should on no account be neglected. It is seldom or never inquired into how young children are fed at school. It really seems to me sometimes that people are so glad to get rid of their children that as long as they do not complain they do not care what treatment they receive at school. But it should be remembered children at school are under a fixed and rigid rule, and, being in a collective body, have no voice. There is, in reality, no appeal for them, and, as I have pointed out,[3] children hardly ever complain. It should always be remembered that children have

[1] *Food in relation to Health.*

[2] 'There is no doubt whatever that numbers of pupils have to suffer in after-life from weakened constitutions, not to speak of more immediate ailments, from the scantiness of food supplied at the schools to which they have been sent.'—*Errors in Diet*, by Dr. Wilson, Medical Officer of Health.

[3] See 'Education,' p. 597.

no option. It is always 'a case of obliged to' with them. I am much reminded, when I see a child questioning anything which it will be compelled to do, of what I heard an old cabman in Paris once say.

In Paris there is an extra amount to be paid for cabs taken out of the city boundary, so that when you take a cab outside the barrier, no matter how short the distance, the fare is more. Having taken a cab into the wood outside Paris, and being unaware of this on discharging the cab, we tendered the man what would have been his fare had he not gone out of the city. On looking at the amount given the old man said, 'Ce n'est pas assez.'[1] Our reply 'Pourquoi?'[2] brought forth the laconic answer, 'Il n'y a pas de pourquoi,'[3] and this applies exactly to children at school. 'Il n'y a pas de pourquoi' with them, so that those over them should be considerate of their defenceless condition. Schools, both public and private, require looking to, and alteration is much needed in the matter of feeding. The English mutton-and-beef principle reigns supreme. The daily pudding, put in, 'a sop to Cerberus,' to neutralise the bad effect of an unvaried meat diet, which the most ignorant seem to think may be harmful to health, is often made so that children get actually to dread its appearance on the table. I often wonder, if potatoes did not exist, what poor children would do, for vegetables are, as a rule, an unknown innovation on the regular diet, and fish and poultry are seldom—I might say, never—seen on the school dinner-table. The common reply of those keeping schools, 'Vegetables, fish, and poultry are so expensive,' may be right, but surely some arrangement might be come to by which children might have some variety in their food. As a matter of health the present way of feeding children at school is injurious and requires alteration. Why do not fathers and mothers combine to get better feeding for their children at school? Better and more varied diet would be a national benefit. Badly cooked and indifferent dinners at schools must be a matter of notoriety for the following to be written in a leading article in one of the daily newspapers on the reluctance of children to return to school after the holidays. 'We have

[1] 'It is not enough.' [2] 'Why?' [3] 'There is no why (wherefore).'

said nothing about the bad dinners, which are too common, the ill-cooked and repulsive food.'[1]

Dr. Gover writes:[2] 'With regard to the dietetic importance of fresh vegetables, I will only repeat that their omission is attended with a fearful deterioration of the blood, and that their diminution below a certain point results in a train of evils which are apt to be ascribed to other causes. A scanty supply of vegetables, and of the saline matters which they convey, may not, perhaps, produce actual disease as an immediate and very obvious consequence, and yet, by undermining the general health, the approach of the enemy may be rendered fatally easy, and his final victory certain. There are other forms of malnutrition manifested by the pallidity, decaying teeth, foul breath, and arrested development common among town populations, and probably due in a great measure to the partial absence of principles supplied by succulent vegetables in a fresh condition.'

Dr. Milton writes:[3] 'The passionate craving, too, often shown by sailors after a long voyage, for green meat of every kind, even when they have been well provided with lemon-juice, proves that vegetables supply some undefined want of the frame. For these reasons I always recommend a due proportion of them, especially the more nutritious kinds; not that they possess any curative property, as patients with disease of the skin often fancy they do, but because dispensing with them clearly leads to mischief.' Yet how seldom are good, fresh, and a variety of vegetables supplied to school children! Yet these are our future men and women, the young life springing up, and whatever is done for them *now* means future happiness or future misery.

Dr. Gover adds: 'What is wanted is variety at different meals, for the differences in the productions of the different seasons and of different climates point out to us unerringly that it is proper to vary our food; and one good rule by which not

[1] *The Daily News*, Thursday, September 13, 1888.

[2] *Dietaries in their Physiological, Practical, and Economic Aspects*, by Dr. Richard Gover, M.R.C.P., p. 581.

[3] J. L. Milton, M.D., Senior Surgeon to St. John's Hospital, *Hygiene of the Skin*, p. 63.

only to maintain health but fully to secure and enjoy the variety provided by nature is to abandon everything out of season. We are taught, then, by science and experience that the nitrogenous, oleaginous, saccharine, and mineral constituents of food must all be duly represented, and that the absence or even deficiency of any one of them is incompatible with vigorous growth and the maintenance of perfect health. We should learn to change our diet with seasonal variations; for to live, as many of us do, very much in the same way both in summer and winter is as unreasonable, and may be, in its degree, as fatal, as it would be for an Esquimaux to endeavour to sustain himself on a diet suitable to the tropics, or for an Indian to feed on the flesh of the walrus and whale blubber. If more care were exercised in this particular there would be less autumnal diarrhœa, which is due in many cases, not to eating fruit, but to the accumulation in the system of superfluous material, for which there has been no natural demand, and which is liable to be a source of disease so long as it continues to overload the circulation.'

At one of the meetings of the British Association, September 1887, Dr. J. Milner Fothergill, in a paper on 'The Effect of Town Life upon the Human Body,' observed:[1] 'The spread of teetotalism and vegetarianism told of a dark groping in a right direction, in blind obedience to the law of self-preservation. It should also lead to some modification of the existing system of education. It was by the imperfectly-nourished town child that the weight of the burden of education was most acutely felt.'

One hears of tons of fresh fish being thrown away at the fish markets. Why could not some arrangements be come to, to supply schools at a cheap rate with good fish? People say, without a moment's thought or reflection, 'A visionary, an absurd idea,' but have not many ideas, ending in ultimate and complete success, been called at first 'visionary and absurd,' and have not people pooh-poohed them? Was anything more ridiculed or laughed at first than 'Stores,' now so successful and popular?

[1] *The Morning Post*, Saturday, September 3, 1887.

The old-fashioned bowl of good bread, nicely cut, with nice, fresh, warm milk poured over it, and sweetened to taste, was said by all at one time to be a wholesome, nutritious breakfast for children. With some children, however, and especially with those living in London, it may disagree,[1] and so something else has to be found. Porridge made of oatmeal is theoretically perfect, but practically is often found the reverse. Badly made and not sufficiently boiled,[2] it is both indigestible and unpalatable.[3] Oatmeal will also disagree with some constitutions where the climate is warm. Dr. Milton writes:[4] 'I fancy faith in porridge is dying out, and the conviction growing up that the time for it is passed; perhaps, too, the question is, not so much whether it is or was a valuable article of diet, as how long healthy occupation, pure air, and original strength of constitution enable men to work on a kind of food the use of which would not support the frame in a more artificial state of life. . . . Those who have to endure wearing labour for several hours—as, for instance, country postmen in remote or mountainous districts—find in the end that they cannot continue to breakfast on porridge; while literary men, teachers, and so on, are now and then surprised by the discovery that the breakfast which suited them so famously as schoolboys fails when they have to stand the worry of life and the strain of several hours' mental work.'

Porridge is one of the things that people are under the impression requires no especial manner of cooking—in fact, requires only putting in a saucepan with water, stirring, and when boiled is fit for use. But, like every other article of food which requires cooking, there is a way of cooking it which will render the flavour better, and if done anyhow, and without regard to the quantity used, it is sure to turn out unpalatable. The following receipt was given to me by an Inverness woman whose porridge tasted to me somewhat less unpalatable than

[1] See 'Feeding,' p. 69. [2] *Ibid.*, p. 191.

[3] 'Oatmeal is no doubt rather hard of digestion, and causes irritation of the bowels; there is a notion also that it produces heat and irritation of the skin.'—Letheby's *Lectures on Food*, p. 18.

[4] J. L. Milton, M.D., Senior Surgeon to St. John's Hospital for Diseases of the Skin, *Hygiene of the Skin*, p. 58.

it usually does. 'Put half a pound [1] of fine or coarse oatmeal (according to taste) into a saucepan with a good pinch of salt (about a small teaspoonful), add 1 pint of cold water, and stir until thoroughly mixed and quite smooth; then add $1\frac{1}{2}$ pints of boiling water, place on the fire, and stir constantly until they have boiled ten minutes. It is then ready for use.'

Dr. Chambers gives a receipt for porridge,[2] and says: 'Always use the coarsely ground Scotch oatmeal. Mix two tablespoonfuls of it with a small teacupful of cold water, till it is of uniform consistence. Then pour in a pint of boiling water, and keep boiling and stirring it for forty minutes. It is then fit to eat, but may be kept simmering till wanted if a little more water be added as the other steams away. It should be served in a soup plate quite hot, and cold milk added to reduce it to an eatable temperature. Some like salt with it, and some like treacle.' Corn-flour, again, is apt to be indigestible for very young children;[3] moreover, children soon tire of it, and if not carefully made it is decidedly not nice.

When children get old enough, good tea, not too strong—not, however, made so that it is unpalatable—with the *addition of milk*, will not only not harm, but will, as some physicians aver, tend to assist digestion. Dr. Edward Smith, F.R.S., writes:[4] 'The essential action of tea is to promote all vital actions, and to increase the action of the skin. . . . If anyone will notice the effect of a basin of milk when taken alone, he will find that the hands and the exposed parts of the skin become hot and dry, and will at once appreciate the fact that the addition of milk or fat to tea has the effect of preventing the increase of perspiration, and thereby the cooling of the body.' The old popular ideas as to the unwholesomeness of tea for children, and the necessity of milk alone as a beverage for them, seem to be dying out. Dr. Milton writes of milk as an article of food alone:[5] 'Uncooked milk, however, is by no means the harmless thing

[1] A lesser quantity can, of course, be made.

[2] *Manual of Diet in Health and Disease*, p. 314.

[3] See 'Feeding,' p. 217; see also 'Home Remedies,' p. 465.

[4] *On the Uses of Tea in the Healthy System*, *Journal of the Society of Arts*, February 1861.

[5] *Hygiene of the Skin*, p. 59.

represented in the traditions of pastoral life, and in some forms of skin disease must be interdicted. It often disagrees with elderly persons, bringing on great oppression at the stomach, followed by severe and prostrating sickness, and when not expelled in this way will sometimes linger in the bowels under the shape of hard, cheesy lumps, causing great discomfort. Occasionally it does not suit people in the prime of life, or even quite young children. Both the grown-up patients and the parents of the younger ones have repeatedly, when their attention had been drawn to the subject, noticed an improvement from leaving off milk in the shape of relief from discomfort, so often indeed that I can only come to one conclusion on the point; and, though I bow deferentially to the opinion so eloquently expressed by Dr. Prout, that the addition of oily and albuminous to farinaceous and saccharine matter, which man has always made, equally in the rudest times and in the most refined forms of scientific cookery, only approximates his food to the constitution of milk, I must appeal to experience against using the great prototype of all food except in the way mentioned in this paragraph as permissible. Perhaps the greatest mistake of all is taking a quantity of cold milk along with meat for breakfast,[1] an error not uncommonly committed in the hope of getting up the strength. On the other hand, it seems, in the shape of milk puddings, to be harmless even when taken freely. . . .' Dr. Milton adds: 'Milk is allowable enough when taken with either tea or coffee; if used with the latter, it should always be boiled.' Children with whom milk disagrees, taken as bread and milk, will, however, often digest well milk and water, or milk and lime-water, one tablespoonful to the half-pint, and bread eaten separately.

Dr. Routh writes:[2] 'There is a vegetable compound in use among the inhabitants of these islands which has some advantages even when given to children, and that is *tea*; and what is remarkable is its close resemblance to juice of flesh. The equivalent of tea as a nutritive substance is very high, considerably higher than the best cereal grain. In juice of

[1] An American custom.

[2] *Infant Feeding*, p. 392.

flesh we have creatine and creatinin present—two animal compounds which, according to Liebig, closely resemble the active principle of tea—theine. The richness of tea in albumen, fibrine, and probably casein, is also remarkable. The large quantities of potash and phosphoric acid likewise are worthy of note.' Dr. Edward Smith, F.R.S., observes:[1] 'It is necessary that there should be a supply of food upon which tea may act, otherwise the increase of vital action will waste the body. There is one way in which tea may prove beneficial as a corrective of milk, which alone may be found too heavy.' Dr. Routh strongly recommends tea where children cannot digest milk or are in a debilitated condition.

'Now and then,' Dr. Routh writes,[2] 'not only is diarrhœa present, and intense debility, but the stomach is very irritable; no kind of food can be kept down, particularly milk—not even wine whey; and those substances, perhaps, which have hitherto best agreed with the child, cannot now be borne. The aliments to be given in these cases are two: *good black tea*, mixed with milk, which last should be given only in sparing quantities, and raw meat.' Dr. Routh adds: 'Tea comes to resemble very closely beef-tea, and as such may be looked upon as a very good substitute. While it dilutes the milk, which in the cases we are now considering appears to be too rich for children, it facilitates the digestion of the smaller quantity of milk now given, and itself sustains the strength of the little child, retarding the waste of the body. The small quantity of sulphate of copper which it contains seems to act as an astringent, and, as it often does in the adult after an attack of sea-sickness, it allays the nausea.

The following case, stated succinctly, is an example of this kind. 'A little girl aged about one year, of delicate constitution also, hearty nevertheless, and who from the age of four months had been brought up by hand—on milk and water at first; subsequently milk only, corrected by lime-water and sugar of milk—was suddenly seized with vomiting: the moment it took its milk, of which it always partook with its usual avidity,

[1] *The Uses of Tea in the Healthy System.*
[2] *Infant Feeding*, p. 454.

it became sick. Diarrhœa also supervened, the motions passed were unchanged food, the child became weak and emaciated, and appeared to be losing flesh every day. My colleague, Dr. Savage, being called into consultation, recommended that pure milk should be discontinued, and from two to three parts of weakish infusion of black tea to one of milk should be given to it. No other treatment was ordered, but this sufficed to restore the functions to their normal condition. In this case the child was not bilious, and the milk exceedingly good. The simple fact was, it could no longer digest pure milk.'

I have given tea (made in the ordinary way), one part tea to two of milk, to a baby thirteen months, and have found it retained on the stomach when every other food caused immediate sickness. Sometimes when children are suffering from constipation I have found tea and milk will give relief, taken hot, without food, in the morning. Because one uses tea on one occasion, however, that is no reason for using it for a continuance if it is thought to be unadvisable. In all cases it is found after twelve months—even if milk alone can be continued so long a time—that some additional food must be given. Tea, of course, at this age is not to be recommended, except for cases similar to the above. Tea I myself have found of great benefit with young children, and when they have been unable to take bread and milk, or even plain milk, for breakfast, to which I have given a fair trial, I have found they easily digested and took with pleasure tea and milk, and improved with its use.[1] I have now for many years, when in England—since being advised to do so by a leading physician—given tea to all my children from the age of about two and a half or three, and have not found it in any way injurious to

[1] Dr. Ferguson, a factory surgeon, who has devoted a large share of attention to this subject, has ascertained from careful measurements of numerous factory children that, between 13 and 14 years, they grow nearly four times as fast on milk for breakfast and supper as on tea and coffee. . . . If tea or coffee are given, they should be given, he says, 'sparingly, and largely diluted with milk.'—*Errors in Diet*, p. 137, by Dr. Wilson, Medical Officer of Health. In accepting Dr. Ferguson's deductions the food factory-children have should be considered. Children certainly do best on milk, but many cannot take it in a pure state. *In fact, they must have some diluent.*—AUTHOR.

them ; always, however, giving food at the same time, and adding a sufficient quantity of milk to the tea.

Many eminent doctors, as well as Dr. Smith, are of opinion that tea should not be taken without food. In the case which I have quoted, however, other food is not mentioned as having been given, the tea being merely given as a corrective of the milk, so that tea alone—provided there is milk with it—cannot have a harmful effect. As regards my own personal experience of tea I have for the last twenty years taken a cup of tea (with the addition of a little milk) every morning on waking, and without any food. I have not found that it interfered with my breakfast, nor can I call to mind its having any ill effect at any time. An aunt who died at the age of seventy-one had for more than fifty years taken a cup of tea every morning on waking, and she enjoyed all her life robust health, and was in no respect a nervous person. Other relations have done the same. In fact, we have been a tea-drinking family for generations, and we have all had excellent health ; and I really cannot, after close observation, say it has in any way tended to produce a nervous condition. I can quite imagine, however, its being harmful in certain conditions of health, and even to some temperaments.

Dr. Milton writes:[1] 'Simple black tea is best,' and adds: 'No hill tea should be mixed with it, for, though it may improve the flavour and colour, it often proves too irritating for the nervous and dyspeptic.'

I am told tea is very easily tested. 'A Russian analyst, writing to the papers, gives the following as a test by which tea can be proved to be genuine or not. Take a pinch of tea in a glass, pour upon it a little cold water, and well shake it up. Pure tea will only slightly colour the water, while a strong infusion is quickly got from the adulterated, or painted, leaf. Now boil both sorts separately, and let them stand till cool, and the difference between them will be most marked. The false tea will become still stronger after long standing, but will remain transparent, whereas the pure tea will

[1] Dr. Milton, Senior Surgeon to St. John's Hospital, *The Hygiene of the Skin*, p. 52.

become muddy or milky. This last appearance arises from the tannic acid, which is a natural property in pure tea, but which in artificial tea is entirely absent.' [1]

Dr. Milton further writes : 'Persons of the latter class [2] should make their tea by pouring the boiling water upon the leaves, and pouring it off again almost directly ; the fashion, prevalent in some parts of the Continent, of putting the tea into a silver basket, or sieve, fastened to the spout of the teapot, and then filling this with boiling water, which is poured over the tea into the cup, answers very well. Either method will do all that is requisite—that is to say, it will extract the flavour and grateful stimulus of the tea, leaving behind its irritating active principle.'

A contrivance has lately been invented which answers better, it is said, the purpose of the 'silver basket' mentioned by Dr. Milton ; this is called a tea-float, and can be purchased at the Atmospheric Churn Company, 19 New Bond Street, London. I remember, when a child, seeing some curious old china tea-cups belonging to an uncle who was fond of collecting old china. The cups were without handles and had a piece of china pierced over with holes, and a little round knob in the centre to catch hold of. This fastened to the bottom of the cup, and I was told the tea was put underneath this piece of china. The cups, I believe, belonged to Queen Anne, and I was also told that tea at that time was often made in the cup.[3] Dr. Chambers's receipt for making tea is the same I have used for years, so I copy it, as there is always more confidence placed in what a medical man says. Dr. Chambers calls his 'Invalid Tea.' But the tea made according to his formula is so satisfactory that I do not think it requires an invalid condition to appreciate its goodness.

Dr. Chambers's receipt for making tea.[4]—'Pour into a small china or earthenware teapot a cup of quite boiling water, empty it out, and while it is still hot and steaming put in the tea. Add

[1] *The Scientific News*, 1888.
[2] Dyspeptic.
[3] See also Letheby's *Lectures on Food*, p. 177.
[4] *Manual of Diet in Health and Disease*, p. 259.

enough boiling water to wet it thoroughly, and set it close to the fire [1] to steam three or four minutes. Then pour in the quantity of water required, boiling from the kettle, and it is ready for use.

It makes a great difference, using a china or earthenware teapot. If the latter is used, it is best to buy one glazed inside, Who does not know the seaside lodging-house Britannia metal teapot? And the seaside tea, made with half-boiling water. and tasting as if a bit of soda had by mistake found its way into the teapot? The use of copper kettles for boiling water for making tea is of doubtful advantage. All copper vessels, unless carefully looked after, and kept well cleaned and properly tinned inside, are dangerous. I have heard of two or three cases of serious illness arising from the use of copper kettles in making tea. The following, from the 'Times,' Wednesday, December 28, 1887, shows the necessity for care in the use of copper vessels :—

'*A Wedding Party poisoned.*—At Great Houghton, a suburb of Northampton, a wedding party was poisoned on Monday by partaking of tea which had been brewed in an old copper tea-urn. Some verdigris inside the urn mingled with the tea, and the members of the wedding party, twenty-two in number, were seriously poisoned. Help was sent from Northampton Infirmary, and fortunately, by prompt medical assistance, fatal results were averted. It was not till yesterday that several of the people were out of danger. Four or five are still seriously ill, including the bride.'

Tea, when made, should be of a dark, amber-brown colour, *not black.* The reason tea is generally so rough in flavour is, there is either too much tea used, or it is kept by the fire too long, thus becoming a complete decoction instead of a soft, agreeable, tasting drink. The old adage says, 'Of tea take one teaspoonful for self, and one for the teapot.' Of strong tea one teaspoonful and a half is often found sufficient for a small teapot, for one person. When making a cup of tea use cold milk. 'The Royal poet of China, the late Emperor Kien-Long, composed an ode eulogising tea. He first describes the mode of drawing tea, which, when divested of his peculiar and methodical

[1] This is said not to be advisable where it is desirable not to extract any of the tannin.

phraseology, is just the same as our own. "On a slow fire," he says, "set a tripod whose colour and texture show its long use. Fill it with clear snow-water. Boil it as long as would be sufficient to turn fish white and crayfish red. Throw it upon the delicate leaves of choice tea. Let it remain as long as the vapour rises in a cloud and leaves only a thin mist floating on the surface. At your ease drink this precious liquor, which will chase away the five causes of sorrow. We can taste and feel, but not describe, the state of repose produced by a liquor thus prepared." Tea, indeed, is a beverage the use of which is quite consistent with the temperance of the Chinese character.'[1]

Dr. Letheby writes:[2] 'We have yet to learn what are the special actions of these beverages,[3] and why it is that they have been used in all times and in all countries as a means of supplying some natural want which science is unable to discover—that everywhere the poor and the needy, the aged and the infirm, will make a sacrifice of even nutritious food for some such beverage as tea and coffee.' Sir Erasmus Wilson, F.R.S., observes:[4] 'Tea, then, must be regarded simply as a chemical agent, having a specific purpose, that of neutralising the acid of the stomach,[5] as we know it to be most grateful, and we find the lady of fashion sipping her tea at five o'clock, three hours after her lunch, because the small, sharp voice of the stomach calls for it, and because by its means she feels revived and refreshed.' 'Like all poor people, the Belgian begins with bread and potatoes, then proceeds to fatty substances, and so on up to the luxury of fresh meat. But even the poorest spend a considerable sum on coffee and chicory, which hold in Belgium the place that tea does in England.'[6]

'The "Indian Forester" publishes the diary of an expedition which recently ascended the Chindwin river in Upper Burmah. The writer describes a village called Kawya, on the river, where the people are wholly devoted to the cultivation

[1] Michael Donovan, M.R.I.A., Professor of Chemistry, *Cabinet Cyclopædia*, p. 64.

[2] Letheby on *Food*, p. 90.

[3] Tea and coffee.

[4] *Healthy Skin*, p. 125.

[5] In this light it is a most useful article of diet.

[6] *St. James's Gazette*, *How Belgian Workmen live*, March 9, 1888.

of tea, and which may be considered as the southern limit of the tea plant in this region. Before planting the ground is cleared of all undergrowth, but high trees, even those of the densest foliage, are left standing. The seedlings, which are usually raised indoors, are planted out in rows at the beginning of the rains, and the first pickings take place when the plant is three or four years old. When it grows too large it is cut down, and three or four new stems shoot out from the stool. The leaves are plucked and immediately steeped in boiling water for a short time; they are then taken out, strained, thoroughly kneaded with the hands, and pressed into bamboo baskets, when they are ready for market, and fetch locally four rupees per 100 lbs. This "pickled tea," as it is called by Europeans, *lepet* being the Burmese name, is floated down the river in baskets or hollow bamboos, which are carefully kept below the surface of the water to preserve the quality of their contents. *Lepet* is a favourite among the Burmese, who mix salt, sesamum oil, and other ingredients with it. To the ordinary European its taste is as bad as its smell, which is saying a good deal.'

That tea has any peculiarly wakeful effect, although generally supposed to, is much questioned now by some foreign medical authorities. A cup of tea at night has been accredited with the extraordinary power of keeping one awake all night.[1] I am afraid it is the poor mind, and the state of the body, which are in fault, not the tea. I tried for some time when in good health, and with nothing to keep me awake otherwise, the experiment of drinking tea at night, but I could not discover that it in any way tended to wakefulness. In fact, I found quite a contrary effect, for on composing myself to sleep I found rather that the tea had a soothing effect. Being a mild stimulant, taken in large quantity, it no doubt might help those to keep awake who wished to. 'The action of both tea and coffee, but particularly the former, upon the brain is well known, preventing sleep.'[2] Too great indulgence in tea or coffee undoubtedly has a most baneful effect.

[1] A doctor writes to me: 'It is entirely a question of constitution.'
[2] Dr. Edward Smith, F.R.S., *Practical Dietary*, p. 101.

Dr. Anstie writes:[1] 'A kind of chronic narcotism, the very existence of which is usually ignored, but which is in truth well marked and easy to identify, is that occasioned by habitual excess in tea and coffee. There are many points of difference in the action of these two substances, taken in poisonous excess, but one common feature is very constant, viz., the production of muscular tremor. . . . The paralysing influence of narcotic doses of tea is further displayed by the production of a particularly obstinate kind of dyspepsia, while coffee disorders the action of the heart to a distressing degree.' Dr. Anstie adds: 'I believe that a very much larger amount of illness is caused by intemperate indulgence in these narcotics than is commonly supposed.' The immoderate use of the most harmless things will cause ill effects. Some take tea in inordinate quantities; for instance, we read that Dr. Samuel Johnson would drink as many as twenty cups of tea in an evening. Mrs. Piozzi relates 'that she sometimes sat and made tea for him until four o'clock in the morning,' and Dr. Johnson describes himself as 'a hardened and shameless tea-drinker, who has for many years diluted his meals with only the infusion of this fascinating plant: whose kettle has scarcely time to cool: who with tea amuses the evening, with tea solaces the midnight, and with tea welcomes the morning.' This last phrase was thus parodied by Tyers: 'Te veniente die—te decedente.'[2]

Coffee, again, has always been a great resource of brain-workers for stimulating them while at their labours, but the result has ever been the same—eminently unsatisfactory to health. 'To keep myself awake,' said Charles Pongeus, 'I take up to ten cups of coffee a day, and I put a pinch of salt into the last to give it greater activity.' 'Michelet *worked hard* six hours, drinking coffee at intervals.' He thought it helped to sustain him; but Deschanel remarks that it had quite a contrary effect.[3] At this rate can one wonder at tea and coffee being found injurious or having a tendency to produce wakefulness?

[1] Dr. Anstie, *On Stimulants and Narcotics*, pp. 249, 250.
[2] Croker's *Johnson*, 8vo. edit. p. 105.
[3] Emile Deschanel, *Physiologie des Ecrivains et des Artistes*, p. 172.

Tea is a most convenient vehicle for taking brandy in. When brandy is ordered the required quantity may be put in a small cup of tea, and if ordered for a child it will be more readily taken in this way than any other. The extreme liking, as a rule, children have for tea *when well made* conduces in some measure, I think, perhaps, to help its easy digestion.

Tea made for children should be nicely made. The weak, watery, half-cold tea generally given to children is not only unpalatable, but is apt to cause the very thing it is necessary to avoid creating—viz., nausea. It is not intended that strong tea should be given to young children, but they know a nice-tasting cup of tea quite as well as their elders. Tea for children should not be allowed to stand for a *length of time* on a hob, trivet, or in front of the fire. It should be made quite fresh. *Never re-heat tea.* Can any drink be more disagreeable to the taste than railway tea? This clearly shows how necessary it is to make tea and drink it *quite fresh* for it to be nice, even let alone wholesome. 'Infusions of tea and coffee should be made with boiling water, but they should never afterwards be boiled, for the aromatic principle is very volatile and would be thus lost; besides which a decoction of tea or coffee is disagreeably bitter on account of the solution of the coarse forms of extractive matter. . . . Both tea and coffee exhilarate the nervous system, and by lessening waste enable the food to go further in its nutritive action.'[1]

Some people do not allow their children any sugar, and in giving them tea, by not putting sugar in, to some palates the tea is rendered very disagreeable. The parents argue: gout is in the family, sugar is bad for gout, therefore the children, although gout has not yet claimed them as victims, must not have sugar; but it has never been proved that sugar will of itself produce gout; and should a child be dieted before the appearance of the disease for which the dieting is necessary? Is not this rather like giving fever remedies before the appearance of a fever, and which may never attack? Too saccharine a diet for a child is obviously an error, but sugar in moderation is so unlikely to harm a healthy child that its prohibition

[1] Letheby on *Food*, pp. 89, 156.

seems unnecessary, and unlikely also to fulfil the end desired. Belonging myself to a family gouty for generations back, and believing sugar to be prejudicial to children coming from a stock with such an antecedent, I asked a celebrated physician, 'Ought I to give them sugar at all?' His reply was, 'Don't let them eat sugar by itself, especially lump sugar. A small quantity to make it agreeable to the taste in tea or coffee will not harm;[1] but let them avoid 'sweets,' bon-bons, sugared almonds, toffey, &c. More will depend, however, on what they do when they grow up than from eating a little sugar as children.' Medical writers one and all seem to advocate the use in moderation of sugar in the diet of children. 'The moderate use of sugar in the food of children is of essential value, and should only be eliminated from the diet in cases of disease.'[2]

Dr. Ellis writes:[3] 'It is erroneous to consider sugar non-nutritive. Of its utility to children we have the strongest proof in the amount in which it is present in the mother's milk. Sugar is an element of food assisting to keep up the animal temperature, and its moderate use cannot be reasonably objected to. But if any symptom of disordered digestion present itself it may be desirable to remove it altogether, since no question can be entertained as to its ready capability of entering into a state of fermentation.' Dr. Strange observes:[4] 'The action of sugar and its homologue starch is much the same as that of the oils. They are all heat-producers or savers, and therefore desirable in cold weather and under much exposure, and for children and old people, both of whom require a large quantity of heat-making material.'

Speaking of the rich, Dr. Routh says:[5] 'But it is chiefly by the sweets[6] and bonbons with which they are spoilt, as well as the starchy aliments with which they are fed, that the strumous

[1] 'Children are fond of sugar, and make up with it where they fail in fat; and there is no evidence whatever that sugar is harmful when taken at proper times.'—Goodhart's *Diseases of Children*, 2nd edit. p. 31.

[2] *The Lancet.*

[3] *Disease in Childhood*, pp. 157, 158.

[4] *Seven Sources of Health*, p. 121. [5] *Infant Feeding*, p. 500.

[6] I think, if only mothers could read the remarks on, and analysis and effect of, sweets in *Adulterations Detected in Food and Medicines*, Hassall, they would forbid their children such.

development is ensured. We have already seen the effect of an excess of saccharine food in the production of strumous ophthalmia. . . . A sugary diet leads to the production of worms, a source of much dyspeptic distress to children, sometimes of convulsions. . . . From the absence or great diminution of sugar, which assists in dissolving the carbonite and phosphate of lime, these ingredients are not taken up in sufficient quantities in the blood for the purposes of the economy.' Hence a tendency to rickets is established. Dr. Chambers says :[1] 'Sugar at the latter end of meals certainly generates an excess of organic acids, and is to be avoided. But yet, in moderation, it promotes (as observed by Blondlet) the flow of gastric juice.' Dr. Chambers adds : 'The children of gouty families should be brought up to a life of strict abstemiousness and muscular activity, "to scorn delights and live laborious days;" they must not compound for temperance in alcohol by indulgence in dainty meats, sweet pastry, soft beds, or idleness. At the same time I would not encourage them to aim at high athleticism, to glory too much in their strength. The result of this very often causes a reactionary depression at the period of middle life, which persons hereditarily healthy can resist, but which in the case of those with ancestral tendency to gout develops the disease.'

From the medical authorities which I have quoted it will appear that people must use their own judgment in either giving or withholding sugar from their children. It seems to me, in the case of perfectly healthy children, unwise to keep them from the moderate use of sugar. '*Sanis sunt omnia sana.*'[2] Cocoa is often given to children, but not always with a good effect, it being found on trial in many cases to be too rich when taken for a continuance. The cocoa paste, which only requires the addition of a little water or milk, is often best for children. Cocoas which have to be cooked, when carelessly done, upset the stomach. 'I have induced scores of persons to leave off cocoa in favour of tea and coffee properly made, and in no single instance have I learned that the change had occasioned any

[1] *Manual of Diet in Health and Disease*, pp. 281, 292.
[2] 'To the healthful everything is wholesome.'

return of the dyspeptic symptoms.'[1] An old physician told me once, 'If you make children eat or drink what their stomach revolts against, you will be sure to have the natural result—sickness, or nausea, or discomfort of some sort.' Coffee given to children should have no admixture of 'chicory.' This is 'of great importance now that it is proved that the addition of chicory conduces to the growth of hæmorrhoids.'[2] 'Coffee should be made from the freshly-roasted berry, and the less chicory there is mixed with it the better. Experiment has shown that even a moderately free use of this drug will, in some persons, bring on torpor, yawning, nausea, giddiness, and almost total inability to work ; consequently, it is scarcely ever likely to do good, and the taste for it at all is an acquired one. Good coffee needs no such aid and demands no cumbrous machinery in the shape of cafetières, being made best of all in the old-fashioned way by pouring the boiling water upon the coffee and putting the pot upon the fire to boil for a few seconds : a method followed, I have been informed, by a man so fastidious and so often obliged to study his stomach as the great Napoleon. Lastly, it does not require anything to clarify it, beyond pouring to and fro once or twice in the French fashion.'[3]

Milk for children's use should *always* be boiled. People speak of boiled or, as it is sometimes termed, 'scalded' milk, as being so unpalatable. This will not be found so if the milk is boiled and then poured into an earthenware pan, or an ordinary white kitchen-bowl, and be allowed to stand till quite cold and till a scum forms. Take this carefully off when the milk is required for use, but not till then, and strain the milk, when the scum is taken off, through a cullender. Milk for the morning use should be boiled overnight, and for the evening use should be boiled in the morning. It then has sufficient time to get quite cold. It is the drinking it half-warm which makes boiled milk disagreeable to the taste. When milk is boiled it should be put at once in the larder or in a clean-

[1] Dr. Milton, *The Hygiene of the Skin*, p. 57.
[2] *Journal of the Society of Arts*, June 3, 1887, p. 731.
[3] Dr. Milton, *The Hygiene of the Skin*, p. 53.

smelling place, as milk is quickly infected by any bad odour.[1]

If the vessel containing boiled milk is iced the milk will be more restored to its original flavour. A common practice is to boil milk by placing the milk, in a jug, in a saucepan of hot water on the fire. In fact, I had it done for a long time this way under the impression that it was equally well scalded as by boiling in a saucepan, and less liable to taste burnt. I find I was in error, as the following, from a discussion on Dr. Frankland's paper on 'Some of the Conditions affecting the Distribution of Micro-organisms in the Atmosphere,' will show.

'One very important point had been raised by Dr. Carpenter with regard to the killing of organisms by boiling. There were various modes of boiling, and many things which were called boiling were not boiling at all. A scientific man understood by the term that condition of a liquid in which it was passing into a state of gas in such a rapid manner that it caused ebullition, and at the ordinary pressure of the air this took place at the temperature of 212°. If organisms were exposed to this temperature in a moist condition, without exception, as far as they had been investigated, it was fatal to them if carried on for a period of half-an-hour. There was no reliable instance on record of any organism having endured that temperature for such a time without succumbing; as a matter of fact, a much less period was generally sufficient, but still, in order to be safe, it was better to continue the process for that time. It is frequently recommended that milk, water, and other liquids used for dietetic purposes, should for security's sake be subjected to boiling, but this should be carried out in a rational manner. Milk, for instance, must be really boiled, not, as was generally done, simply by putting it in a jug and placing the latter in a saucepan of boiling water, in which case the temperature of the milk would not approach that of boiling water. He had a case in his mind of a family affected with diphtheria, which was undoubtedly to be traced to the milk. The milk supplied was alleged to have been boiled; but when the matter was fully inquired into it was found that the cook had done it in

[1] See 'Feeding,' p. 142.

the way he had just described. She had, however, the audacity to say that the milk in the jug entered into such a rapid state of ebullition that she had frequently seen it spurt from the jug into the fire. He need hardly say that anybody acquainted with the physical properties of liquids would know that that was absolutely impossible.' [1]

If the saucepan milk is boiled in is first *wetted with cold water*, the milk will not so readily burn. Dr. Klein, in a lecture delivered at the Royal Institution, May 27, 1887,[2] was very urgent in insisting on the necessity of *always boiling milk*, and considered boiled milk is both rendered perfectly safe for drinking and as a possible conveyance of 'the microbe of scarlet fever' is rendered harmless. Dr. Klein said: 'Now the third question, as to the destruction of the contagium in the milk. This, I am glad to say, is very easily carried out. I have found that heating milk up to 85° C., or 185° Fahr.—that is, considerably under the boiling-point—is perfectly sufficient to completely destroy the vitality of the microbe of scarlet fever.'

Dr. Klein added: 'Considering the prominent position that milk occupies in every household with children, the possibility of infection with scarlet fever by raw milk deserves careful attention.'

The following is from a letter from Edward Seaton, M.D., Lecturer on Public Health, St. Thomas's Hospital:—[3]

'A milk epidemic of scarlet fever has come under the observation of Dr. Russell, the eminent Medical Officer of Health for the city of Glasgow. He adduces evidence on the vital point (namely, the possibility of milk being infective—*quâ* scarlet fever—without human agency) which will be considered of the highest value, not only because it is that of a very able expert, but because of its entirely independent character. "Dr. Russell has proved," says the "Lancet" in a leading article of the last number, "with sufficient certainty not only that the milk of a particular dairy was concerned in

[1] *Society of Arts Journal*, April 1, 1887.
[2] *The Times*, Saturday, May 28, 1887.
[3] *The Times*, Wednesday, June 6, 1888.

the causation of a large number of cases of scarlatina, but that a particular section of the milk supply—that received from certain cows—was responsible for the prevalence of this disease. While he was able to exclude the possibility that the milk had become infected by human beings employed in milking or in milk distribution, his attention was specially directed to some cows presenting appearances similar to those described as occurring in the Hendon cows."'

Professor Law, the chief of the Cattle Inspection Department in the United States, says of milk from diseased cows being a source of infection to human beings:[1] '. . . perhaps the most striking case in my experience, in a large public institution, where more than half the dairy cows were tuberculous, a much larger proportion of the human inmates were found to be the victims of this disease than in other similar institutions elsewhere,' and adds: 'Milk brought from a greater distance, and which has passed through the process of boiling or condensation,[2] is practically safe, as the germ is destroyed by the heat. It is the fresh milk and, above all, the warm milk that is dangerous.'

In the notice issued in the Metropolis by the Medical Board of Health, September 1887, in consequence of the general increase of scarlet fever, especial mention of the necessity for scalding children's milk is made. 'Cows' milk intended for infants should be scalded before given.'[3]

The opinion that it is advisable to 'scald' milk especially for children's use is becoming very general, although I think myself we old ones should be protected as well as the young. The doubt exists in some people's minds as to whether milk, when scalded and allowed to get cold, is not by the thick scum which forms, and which has to be taken off, deprived of a great deal of its nutritive properties. Those who have studied the question of scalded milk say that it is not. But this thick, leathery scum rising can be prevented to a great extent, if not altogether, by well stirring the milk occasionally when

[1] '*New York Herald*,' *Pall Mall Gazette*, August 21, 1888.
[2] See 'Feeding,' pp. 160–164.
[3] *The Daily News*, Thursday, September 1, 1887.

put in the pan after boiling, till it is cold. It cools in about ten to twenty minutes. If this is done it will be found the milk will have hardly any scum. Mr. Mattieu Williams, F.C.S., in his lectures on the Scientific Basis of Cookery, Society of Arts, 1884, says: 'The loss of albumen as scum is very trivial,' and he also remarks on the necessity of 'scalding' milk. 'The cookery of milk is very simple. The only notable change which occurs is the coagulation of the small quantity of albumen it contains. This is shown by the scum formed on the surface of boiled milk. There is, however, a special reason why the milk supplied to London and other large towns from sources unknown should all be boiled before using it. There is now no further reason to doubt that certain disease germs or species of microbia that disseminate disease are nourished by milk, increase and multiply therein, and may thus be introduced into the blood and produce very serious consequences. As these microbia are killed by subjecting them to a temperature of 212° (the boiling-point of milk is a little above this), there is little if any danger in milk that has been boiled.'

The power of infection from microbia in milk is now fully recognised as regards *cheese*, *cream*, *and butter*; it has apparently, however, been more or less overlooked. Some cheese (notably old Stilton) literally teems with life.[1] I believe, when this is so its wholesomeness is open to question. As to the destruction of micro-organisms in cream, I received the following reply to a letter I sent to an eminent authority on the subject of bacteria :—

'December 21, 1887.

'Madam,—In answer to your inquiry I beg to say that, though I have not yet made any actual experiments with cream, I think heating it up to 180° Fahrenheit, and keeping it at this temperature for ten minutes, will effectually sterilise cream; by this process its nutritive value will hereby not become impaired. 'Very truly yours,

'E. Klein.'

[1] See *Adulterations Detected in Food and Medicine*, Hassall, pp. 480-484.

That illness can be caused by infected cream there is no doubt. On June 9, 1875, a dinner party was given at a house in South Kensington, twelve guests sitting down to dinner with the host and the hostess, their eldest son and daughter. In the evening these sixteen persons, together with the other son and daughter, and some one hundred and fifty other guests, assembled in the drawing-rooms. On this day the seven servants of the house were reinforced by seven others. Between June 11 and 14 there fell ill of scarlatina, or sore-throat, four out of the seven of the family who were in the house on June 9, three of the seven servants, six of the twelve dinner guests, four of the evening guests, one of the occasional servants, and a lady who came to lunch next day (the 10th). Ample and exhaustive inquiry into the antecedent circumstances of scarlatina in the district gave no clue to the outbreak. There was but little scarlatina in the neighbourhood, and, except for the meeting at this particular house, no common centre of infection, or other common local circumstance, to account in any degree for the disease attacking these particular persons. The *only* circumstance that afforded any explanation of the attacks was the *cream* supply, which came exceptionally from a London dairy. Of the family and dinner guests who were afterwards taken ill, all had partaken of *cream* in one form or another, while of those who were not taken ill a majority had not used *cream* in any form.' [1]

Mr. Mattieu Williams, F.C.S., observes of butter: [2] 'Butter may possibly convey these germs, and I think this subject worthy of further investigation than it has received.' In an interesting address delivered at the Epidermological Society by the President, Dr. Thorne Thorne (November 9, 1887), on the Progress of Preventive Medicine during the Victorian Era, Dr. Thorne observed: [3] 'Then came Dr. Ballard's discovery of the communication of typhoid through the agency of a milk supply; frozen creams and ices were found to act as vehicles of the infection; intermittent water-services led to its distribu-

[1] *Reports of Medical Officers of Privy Council and Local Government Board*, 1876, vii. 72.

[2] *Scientific Basis of Cookery*, 1884.

[3] *The Times*, Thursday, November 10, 1887.

tion ; and the potency of the infection was found to be such that, even when present in potable water in quantities that were infinitesimal and altogether beyond the reach of discovery by chemistry or physics, it could, as in the Caterham epidemic, lead to widespread disaster.'

Dr. Thorne continued : 'The progress of our knowledge in the prevention of scarlet fever, diphtheria, phthisis, and cholera was considered, and especial prominence was given to Mr. Power's recent researches as to the connection which existed between scarlet fever in man and a corresponding disease in milch cows. There was much reason to believe that we were on the verge of important discoveries as to the dependence of disease in man on affections of the lower animals ; and that these might clear up many points of obscurity attaching to the origin of infection. In scarlet fever Dr. Klein had discovered a definite micro-organism common to man and the cow. Diphtheria was known to have certain relations to an allied animal disease, and many observers believed that phthisis in man had concern with the use as food of the flesh and milk of tuberculous animals of the bovine tribe.' [1]

'On the question of milk scarlatina, Professor Brown says that up to the end of the year ten different outbreaks of an eruptive disease on the teats of cows were found and investigated.' [2]

That it is possible for human beings to catch the diseases of animals, who can doubt ? Perhaps not all—as it is certain, also, some human diseases are not catching from one to the other. Why should it be supposed that animals have an immunity from affecting human beings with their diseases, known to be infectious, when it is proved they can and do affect other animals, healthy and previously well, who happen to come in contact with them when they are in a diseased condition ? I saw a little boy who caught a skin disease in his hands from stroking a dog affected with the same ; and when I was a girl a cow-man we had caught a disease of the lungs from attending

[1] See Letheby's *Lectures on Food*, pp. 239, 240, for facts as to eating meat of animals affected with pleuro-pneumonia causing carbuncle.

[2] *The Times*, Monday, February 13, 1888.

a cow said by the veterinary surgeon to be suffering from lung-disease. When dogs or cats are ill, children should not be allowed to keep them near them, nor should they be allowed to go stroking them and nursing them, thus inhaling probably poisonous breath.

'Last year Dr. Turner presented to the Local Government Board the results of investigations made by him on the relation between diphtheria in man and in the lower animals. These results prove its transmission from animals to man probable.

'In 1882, having found pigeons suffering from a disease in which the windpipe was covered with a membrane resembling that of croup, he communicated the same disease to other pigeons by inoculation with this membrane. Fowls were found suffering in the same manner, and diphtheria followed on the same farms.

'Since then other very surprising facts which have come under Dr. Turner's observation seem to establish a close connection between this ailment in fowls and diphtheria in human beings.

'Still further, chickens and pigs having been inoculated with diphtheritic virus were found to suffer from a disease in every point like that which might be termed "fowl diphtheria."

'Dr. Turner has seen swine and horses suffering from a disease similar to the above, but thus far nothing to justify the belief of its having been transmitted to man.

'Cats, however, in several parts of the country, and in a number of households, seem to have been a source of true diphtheria in man; and since attention has been called to it fresh facts of the kind are now being reported. Genuine diphtheria is believed to have been communicated to cats by inoculation with diphtheritic matter.

'The "Lancet" believes that these facts may form a clue to the origin of those isolated attacks which cannot be attributed either to personal communication or to other ordinarily assigned causes.

'We hardly need suggest that, in view of the above, pet cats and kittens should be kept out of the sick-room of

children affected with scarlet-fever, and, we may add, with diphtheria also. Indeed, when these epidemics are prevailing, children should be taught not to pet those of their neighbours. . . . . Of the transmission of glanders from animals to man there is no doubt.' [1]

Sympathy with suffering is a noble emotion, but in the case of a sick animal it can do no good for young children, susceptible to every poison, to go near an animal the emanations (breath, transpiration of skin, &c.) from which, perhaps, are simply poisonous. I have seen children taken to see a poor dying animal with the idea of exciting tender, humane emotions in the children, the harm to the children's health which might have ensued from remaining for a time in close contact—stroking and touching the animal—with a sick creature being entirely overlooked. I think myself the humanity of keeping an animal slowly dying (an object of contagion and infection, perhaps, to the human beings around) is more than doubtful. It may be an act of sentiment to let a faithful, affectionate animal end his days in one's home ; but the prudence of such an act when the animal is seriously ill is, I think, open to question, and I myself am assured that to destroy a dog, or cat, or other animal painlessly, who is enduring one long, protracted, hopeless agony, is more than merciful. People let dogs die (without knowing what their disease may be, for they do not even get a veterinary surgeon having a knowledge of the diseases of dogs to see them) in their houses, and the probable amount of infection the household is subjected to is unconsidered.

That painless destruction of life in animals where it is possible to be so effected is a duty, who would question ? Dogs can so easily and painlessly be destroyed at the Dogs' Home, Battersea, that no one need keep a poor suffering animal under the mistaken impression that it cannot be destroyed without pain. The charge is only 2*s.* 6*d.* 'During the latter part of last and the early part of the present year [2] I constructed at the Dogs' Home, Battersea, at the request of the committee of that institution, a lethal chamber for the painless extinction

[1] *British Medical Journal.* [2] 1883 and 1884.

of the life of the animals which have, of necessity, to be destroyed there. I put the process first into operation on Monday, May 15, by subjecting thirty-eight dogs to the fatal narcotic vapour. They all passed quickly into sleep, and from sleep into death. Since that time, up to the present time, a period of seven months, the lethal chamber has been regularly in use. From 200 to 250 dogs per week have been painlessly killed in it, or a total of nearly 7,000.'[1]

There is now no doubt existing in the minds of scientific men that animals can, and do, die of diseases closely allied to those affecting man,[2] and communicable to man.[3] I have seen, for instance, a monkey die of consumption with every symptom similar to that dire disease in man. 'Certain disorders assuredly are communicable throughout every species of life, as though to prove to the stubbornness of mankind that all nature is akin.'[4] Kindness to animals in their hour of need and suffering, and the lessening of pain to the lower creation, is a duty enjoined on all, but undoubtedly that kindness should be exercised with due regard to the welfare and safety of man, which is of primary importance.

'A little self-restraint, instilled by a better plan of education, a little more humanity, enforced by the teachers of religion, to instruct that man should not view himself as the owner of the earth which he temporarily inhabits; that man should not consider himself the proprietor of the lives which share the globe with him; that man should be actuated by genuine Christian love towards all animated nature, feeling kindly for the lives akin to his own, and acknowledging as fellow-sojourners the creatures by which he is surrounded—then, how much affliction might be eradicated from that which wickedness alone renders a "vale of tears"!'[5] Some hold, I know, that the skin diseases of animals are not communicable to man; this however, was disputed by the great dermatologist, the late Sir

[1] Benjamin Ward Richardson, M.D., F.R.S., *The Painless Extinction of Life in the Lower Animals.*

[2] See 'Feeding,' p. 271.

[3] Darwin, *Descent of Man*, 2nd edit. p. 73.

[4] Edward Mayhew, M.R.C.V.S., *The Illustrated Horse Doctor*, p. 244.

[5] *The Illustrated Horse Doctor*, pp. 141, 142.

Erasmus Wilson, F.R.S.; as also Sir Erasmus held that real leprosy is catching from one so afflicted, and that the isolation of the leprous is a necessity in these days as in past generations.[1] The melancholy fate of Father Damien would seem to point to the accuracy of this opinion. It is very curious, but, the necessity for a particular treatment being removed, the efficacy is questioned by those not fully acquainted with the needs of the case.

Leprosy having died out in England, the precautions taken by our ancestors are now questioned; and if there did not happen to be cases of it every now and then in Europe, brought over from the East, it would be looked upon as a disease now purely Eastern, and only affecting the darker races, the white man being exempt. However distressing and painful, an effort has to be made to check the fatal ravages of any terrible disease. If not at first, yet when any complaint assumes large proportions, the healthy have to take means for protecting themselves. 'If leprosy be communicable, as recent investigation and experience seem to affirm, it must be acknowledged that we should seek to limit as far as possible the chances of spreading this terrible disease.'[2] Probably, in a future age, the dog scare of a year or two ago,[3] and the compulsory vaccination of the present day, will excite wonder in a generation unacquainted with the horror these two most frightful diseases—hydrophobia and small-pox—have created in our minds, leading us to use 'desperate remedy for despeate disease.'[4] Cancer, again, is by some eminent physicians considered of a non-contagious, non-infectious nature. Many, however, hold that there is grave reason for doubting this. I myself think it is more than cruel, allowing children and

[1] For interesting information on the subject, see 'Leprosy: a Review of some Facts and Figures.' By Dr. P. S. Abraham. Paper read at the Epidermological Society of London, June 12, 1889—an account of which appeared in the *Times*, June 13, 1889 Most of the speakers at the meeting and those most qualified to give an opinion held the above view.

[2] Extract from speech of the Prince of Wales at the first meeting of the trustees of 'The Father Damien Memorial Fund.'—*The Times*, Tuesday, June 18, 1889.

[3] 1886, 1887.

[4] Burke.

young people to come in constant and close contact with anyone afflicted with this most terrible disease.

The following extract from a letter in the 'Lancet,' Nov. 26, 1887, is worthy of consideration, and due precaution for the safety of those in health in so awful a disease as cancer is certainly of paramount importance:—

'1. Some years ago a gentleman, who had spent many years in India, came under my care for cancer of the lip, for which he refused to submit to any operation. When he was confined to his bed a favourite little terrier was scarcely ever out of his room, and, as is the habit of such little dogs, frequently licked his master's lips. This dog died, before his master, of cancer of the tongue.

. . . . . .

'3. Since I have been in practice in this small town, five surgeons, all of whom had officiated at the North Devon Infirmary, have died of cancer. Such a mortality can hardly be conceived except on the supposition that the disease was communicated, at least to some of them, during their manipulations on patients suffering from cancer.

'I am, Sirs, yours faithfully,

'Richard Budd, M.D., F.R.C.P.

'Barnstaple, Nov. 21, 1887.'

I have been most distressed to see one dying of cancer in the throat in its most dreadful form, yet allowed to be kissed by and to have young people and children constantly quite close, no precautions as to proper disinfection of linen, towels, sheets, &c., being thought necessary either. And I would add a plea for the poor laundry-women, for a little extra care in sending them infected linen to wash. 'Oh, send it to the wash!' as if the linen in some way was innocuous to laundry people, no matter how contaminated. Linen too often, that people will not touch themselves, is sent to a laundress without a word of warning even.

As regards climate, in feeding children, in most instances it is better to follow the habits of whatever country

people are in. The manner in which the people of various countries live is invariably best suited to the climate and people. When living in France, I have found children, when old enough to take it, do best with a bowl of bouillon and bread for breakfast, and it is much the habit of the people of that country to take this for breakfast.

Dr. Gover writes :[1] 'There is ample and unexceptionable evidence, as Dr. Carpenter has said, that, where neither milk nor any of its preparations is in ordinary use, a regimen consisting of bread, fruits, and herbs is quite adequate to the wants of a population subsisting by severe and constant toil. This evidence is to be gleaned from the dietetic habits and physical condition of the Russian peasants ; of the greater portion of the population of Greece, and particularly of the Greek boatmen and sailors ; of the entire population of Japan ; of all the lower classes in China ; of the high-caste Hindoos ; of the labouring classes in Egypt ; and of numerous tribes, or classes, in America, as, for instance, the Indians of Mexico, the copper miners in Chili, and many of the Spaniards in South America. We may conclude, therefore, that the vegetable kingdom is perfectly capable of supplying the wants of man under a great variety of circumstances.

'The active, patient, indefatigable Chinese labourer subsists mainly upon vegetable produce ; he lives and works hard upon what an Englishman would starve upon, and he is accordingly able, in some parts of America and Australia, to run the European labourer very hard. I would submit that this and many other examples, that I have not now time to enumerate, tend to show the extent to which our requirements depend upon habit, and upon the degree to which we indulge in or control our appetites. The ancient Scotch are said to have developed a taste for shepherds, whom they preferred to their flocks, and we know that cannibalism is still practised in the Polynesian Islands, where Negroes are still in request. When we hear that the ancient Persians lived a good deal on watercress, we naturally connect in our minds their physical infe-

[1] R. M. Gover, M.R.C.P. Lond., *Dietaries in their Physiological, Practical, and Economic Aspects*, p. 580.

riority with the poverty of their diet; but, finding, on the other hand, that the Romans, in the best period of the Republic, largely sustained themselves on turnips, and that degeneracy came in as turnips went out, we are compelled to reconsider our opinion.

'Sir Anthony Carlisle (quoted by Dr. Pavy) states that the most northern races of mankind were found by him to be unacquainted with the taste of sweets, and their infants made wry faces, and sputtered out sugar with disgust; but the little urchins grinned with ecstasy at the sight of a bit of whale's blubber. On the other hand, the inhabitants of the tropics subsist largely upon fruits, vegetables, and other foods belonging to the group of carbo-hydrates, and they consume but little fat. In the one case the proportional amount of unoxidised carbon in the food is very large, and in the other it is comparatively small. This distribution of carbon is that which on physiological grounds might have been predicated as necessary, so that theory and experience are here in perfect harmony. Experience has also taught us much with regard to the different qualities of food in feeding animals. The groom knows that oats are more sustaining food than grass, and beans than oats. The farmer knows that turnips and cabbage are inferior in fattening properties to oil-cake and barley-meal, and he puts this knowledge into profitable practice, although he may be ignorant of the chemical explanation of his success. Again, every-day experience proves that the wants of the system increase, *pari passu*, with an increase in the amount of labour exacted, and that the fuel supplied must be apportioned to the work performed.'

Dr. Gover adds: 'The classification of foods which I have found most convenient is that of Mr. Church, which takes into account both the chemical composition of these compounds and the purpose which they serve in the body. Mr. Church divides foods into two great classes, viz., nutrients and food adjuncts. Nutrients consist of incombustible compounds and combustible compounds. The incombustible compounds are composed of water and mineral matters, as common salt and phosphate of lime. The combustible compounds

consist of compounds of carbon, as starch, sugar, and fat, and compounds of nitrogen, as fibrin, albumen, and casein. Food adjuncts are classified as follows :—Alcohol, volatile and essential oils, acids, and alkaloids, as caffein in coffee and tea, and theobromin in cocoa.

'The great importance of the mineral constituents of food is not sufficiently understood in the kitchen ; and those who are helpless, as school children, soldiers in barracks, lunatics in asylums, the poor in workhouses, and (may I not add) the rich in their mansions, are frequently deprived, through the ignorance of cooks, of those inorganic constituents which are as necessary to life as nitrogen itself. By way of illustration I will take boiled beef or mutton, which are common articles of diet, both in public institutions and private houses. In the preparation of this dish the object of the cook too frequently appears to be to abstract as large a proportion of the saline constituents as possible, instead of retaining them in the joint ; but, even where skill is not wanting, a portion of the nutritive salts will escape into the liquor in which the meat is cooked, and this liquor or broth is too frequently thrown away, or does not bear a proper proportion to the ration or portion of meat served out.'

In a discussion 'On Climate in relation to Food' at the Society of Arts [1] Dr. Gover said 'in tropical regions the inhabitants lived chiefly on carbo-hydrates, compounds in which the hydrogen and carbon were in such proportion that water was formed, while the oxidation of those bodies resulted in the elimination of carbonic acid. In the Arctic regions the people lived chiefly on hydrocarbons, in which there was a large quantity of unoxidised carbon, and the oxidation of that carbon and hydrogen, going on very actively, kept up the animal heat which was so necessary to their existence. If the inhabitants of tropical lands were to live on hydrocarbons their circulation would be overloaded, their livers would become enlarged, and fatal results would follow.'

Dr. Letheby says : [2] 'The water of a country may determine

[1] *Journal of the Society of Arts*, May 17, 1878.
[2] Letheby on *Food*, p. 86.

the diet of its inhabitants. The soft waters of the lakes of Scotland, for example, may have had something to do with the choice of brown meal, which contains so much saline matter ; and, but for the calcareous waters of Ireland, the potato could not have become a national food.' As soon as a child is old enough to be given a mixed diet for breakfast an egg lightly boiled or poached, ham, fish, or any of the usual breakfast dishes, are generally found light, easy of digestion, and nourishing; and with advantage may be given for dinner: a little fowl cut up and bread sauce (no pepper), potatoes and good gravy, or a little tender roast beef or mutton, or lamb when in season, finely cut up. Children's food, especially meat, should always be carefully cut up, as they do not always masticate it sufficiently and it assists digestion. Dr. Strange says :[1] 'From a year and a half to two years old is quite soon enough to begin to add animal flesh to the diet of children.' Dr. Semple writes:[2] 'As regards the management of a child and its dietary during these months of anxiety, a few words may be said. The milk which a young child receives is its true food, and upon it alone it can thrive. It alone will supply it with all that is necessary, not only for growth but for development ; therefore, as a rule, it may be dogmatically stated that no change in the diet should take place until the child is at least *two* years old.

'There is a strong temptation at this period, when a little one is able to express its wishes and to insist upon their fulfilment, to give it table food, to let it drink from its father's coffee-cup at the table, or to give it "just a taste of tea." Avoid this, and you will see your child thrive. Let the child's meal-times be as regular as before ; give it an extra quantity of food if it desires it in addition to the quart and a pint it has taken in early infancy in the twenty-four hours ; you may increase the amount of milk, if necessary, and at the age of *two* years, if the milk be fresh and good, you can give it pure, without dilution or addition. Make your food stronger—that is to say, use more of the farinaceous articles, which have been

[1] *The Seven Sources of Health*, p. 111.
[2] *The Mother's Guide*, pp. 59, 60.

previously well boiled and strained, in its thickening, but avoid the slice of bread, or even the bread and milk.'

I have given my children from eighteen months up to two years a quart of milk a day.[1] At breakfast the milk, having the addition of farinaceous food (Hill's, Robb's, or arrowroot). For dinner a sago pudding made with half a pint of milk[2] (nothing else). I found the child could eat the whole of this. For tea, milk and farinaceous food. Plain milk between,[3] or with the addition, if the child was delicate, of jelly (veal or chicken). The child would take besides a couple of biscuits or so (cracknels).[4] When a child has reached a suitable age giving it occasionally little pieces of digestible food, such as a very little piece of bread dipped in gravy, or a little piece of potato mashed up with gravy, or a bit of light pudding, besides affording great pleasure to the little one, will not harm. What is more delightful to a little child than having a piece off papa's or mamma's plate ?

A propos to giving children *old enough* little pieces, Dr. Routh writes:[5] 'Fortunately for themselves,[6] they are often spoilt; they keep asking for what they see on the table, and, besides the pap, pieces of meat, herring, cheese &c., which form the usual food of the parents, are given to them ; and so that which in the better ranks of life would be considered unwholesome, and therefore would be withheld, is the providential means of saving their lives, because the food is then not exclusively pap, and the phosphoric acid needed is obtained from other sources.' Good beef-tea and bread, mutton broth, chicken broth,[7] are most nourishing for young children.

An egg lightly boiled children will readily take. Curiously enough, however, eggs disagree very much with some constitutions. I have one little girl with whom eggs actually cause faintness, and even if given in minute quantities they cause extreme

[1] With no water; only two teaspoonfuls of lime-water in each bottle.

[2] See 'Feeding,' pp. 235, 236.

[3] *Ibid.*, pp. 150, 151.

[4] *Ibid.*, p. 296.

[5] *Infant Feeding*, p. 370.

[6] The children of the poor.

[7] See 'Feeding,' pp. 232, 233.

pallor. In such cases eggs should on no account be given. Eggs placed in boiling water and cooked this way abroad are considered more wholesome than putting the saucepan on the fire as in England. Mr. Mattieu Williams, F.R.C.S., recommends this manner of cooking eggs. He says :[1] 'By the ordinary method of the three minutes' immersion in continually boiling water the white becomes hard and indigestible before the yolk is fairly warmed, and half a minute too much or half a minute too little will nearly ruin the operation. The proper mode is to place the egg in boiling water, then remove the saucepan from the fire altogether and leave the egg in the water from ten minutes to a quarter of an hour. About half a pint for one egg, three quarters of a pint for two eggs, or a pint for four eggs, is the quantity demanded if the saucepan is well covered. The cold egg or eggs speedily reduce the temperature from 212° to near the cooking temperature, and before the egg is warmed throughout it is quite down to 160°, so that it matters little whether it now remains five or ten minutes longer in the water.'

'In making experiments with eggs,' adds Mr. Williams, 'I have discovered that the temperature of coagulation of the yolk is lower than that of the white, and thus, if the egg is kept in water at 160° for a long time, the yolk may become harder than the white, the centre having time to become nearly as warm as the outside. But for this, the egg might be kept in the water at about 160° for an hour or more.' Mr. Williams gives this advice : 'Coddle your eggs, never boil them.' Pope's[2] 'The vulgar boil, the learned roast, an egg' implies another manner of cooking eggs, with which we are now totally unfamiliar. When I was a little girl my great-grandfather, an old man of over ninety, and possessed of all his faculties, was alive, and I well remember his telling me that in his youth he was in some part of England where the eggs were roasted—'that they tasted wonderfully nice,' and that he believed that was the usual manner of cooking eggs at one time—in hot wood-ashes. This

[1] *The Scientific Basis of Cookery*, 1884.

[2] Pope's *Epistles of Horace*, Book II., line 85 ; see also Shakespeare, *As You Like It*, act 3, scene 2.

would show the force of the above lines from Pope, which otherwise are somewhat obscure.

The nutriment to be obtained from eggs is said to be very great. In a paper read at the Society of Arts, December 1887, on 'The Chemistry, Commerce, and Uses of Eggs of various Kinds,' by P. L. Simmonds, F.L.S., Mr. Simmonds remarks on eggs as food: 'Six large eggs will weigh about a pound. As a flesh-producer, one pound of eggs thus is equal to one pound of beef. About one-third of the weight of an egg is solid nutriment, which is more than can be said of meat. There are no bones and tough pieces that have to be laid aside. Practically, an egg is animal food, and yet there is none of the disagreeable work of the butcher necessary to obtain it.

'Eggs, at average prices, are amongst the cheapest and most nutritious articles of diet. Like milk, an egg is a complete food in itself, containing everything necessary for the development of a perfect animal. It is also easily digested, if not damaged in cooking. Indeed, there is no more concentrated and nourishing food than eggs. The albumen, oil, and saline matter are, as in milk, in the right proportion for sustaining animal life.

'The valuable or important salts are contained in the yolk, and hence this portion of the egg is the most useful in some forms of disease. A weakly person in whom nerve-force is deficient, and the blood impoverished, may take the yolk of eggs with advantage. The iron and phosphoric compounds are in a condition to be readily assimilated, and, although homœopathic in quantity, nevertheless exert a marked influence on the system. The yolks of eggs, containing, as they do, less albumen, are not so injuriously affected by heat as the whites, and a hard-boiled yolk may be usually eaten by invalids without inconvenience.

'A boiled egg, being easier of digestion than meat, supplies a means of graduating the amount of nourishment. The celebrated Guinod de Reynière, who consecrated his life to studying the delicacies of the table, affirms, in his "Almanach des Gourmands," that eggs can be served in more than six hundred ways, and a book is published in London by a French cook, which gives one hundred and fifty recipes for cooking eggs. The feeble man

who has regained strength by boiled eggs for several days will continue the same comforting food when presented in the form of an omelette, which is one of the principal food-preparations made with eggs.'

Mr. Simmonds adds : 'A raw egg beaten up in a glass of wine is recommended for vocalists for clearing their voice, and in cases of debility ; and a spirit of egg is sold which is said to be useful in impaired health or the infirmities of age, when vital energy is wanting and as a specific for soreness of the throat.

'The phosphorus in the egg is very good for all those who have brain-work to do. The sulphur in the yolk, as is well known, acts chemically on silver spoons, turning them black, forming a sulphide of silver that cannot be removed without taking off the surface of silver, thus rapidly wearing the spoon away.

'The white of egg forms an albuminous solution, useful in diarrhœa of phlegmatic origin. To make this, beat up the white of four eggs and add a quart of water slowly, remove the froth formed, add sugar, a little orange water. . . .

'Eggs are useful for many purposes besides food and hatching. The white of an egg has proved a most efficacious remedy for burns ; seven or eight successive applications of this substance soothe the pain and effectually exclude the air from the burn. This simple remedy seems preferable to collodion, or even cotton. Extraordinary stories are told of the healing properties of an oil which is easily made of the yolks of fowls' eggs. It is in general use among the peasants of Southern Russia as a means of curing cuts, bruises, and scratches. When, as sometimes by accident, sulphate of copper, or corrosive poisons generally, are swallowed, the white of one or two eggs will neutralise the poison, and change the effect to that of a dose of calomel. Raw eggs have at all times been considered an excellent remedy for debility, on account of the phosphorus contained in them, as well as a preventive of jaundice in its more malignant form. The yolk is sometimes used as a convenient medium for forming an emulsion of the thick turpentines with water. These mixtures are used as enemata.'

Mr. Simmonds further adds: '*Testing Eggs.*—The egg, whether to be used in culinary or pharmaceutical preparations, should be fresh. To determine this they should be examined by the light of a lamp. Fresh eggs are easily known by their transparency when held up to the light. By keeping they become cloudy, and when decidedly stale a distinct, dark, cloud-like appearance is discernible opposite some portion of the shell. A little instrument is sold as an egg-tester. It consists of a small square box, with a hole at the top to receive the egg, and another at one side to look into. By an arrangement of mirrors within, the state of the egg is seen when a strong light is thrown upon it, so as to be transmitted through. If the egg be fresh the image seen in the mirror is almost transparent, whilst if stale it is more or less dark.

'In a dark cellar under one of the markets in Paris, devoted to the sale of dairy produce, by the light of a candle the troublesome operation of examining eggs is carried on, for not a single egg enters into consumption there without having been thus examined. It is to be regretted that similar official scrutiny is not practised in London.

'A simple way of determining the freshness of an egg is by placing the egg in a hole in a piece of cardboard, and holding it between the eye and the light of a candle or gas-burner, and by its general transparency its quality can well be determined. A new-laid egg will have no void, but after two days it will shrink away from the larger extremity, and the egg gradually becomes cloudy in the centre. Another simple mode is by placing the egg against the closed eyelid, and if the end of the egg is void it will feel warm, whereas if the egg is new-laid it continues cold.

'The following is an old recipe for testing the age of eggs. Dissolve a quarter of a pound of common salt in a quart of water. An egg put in this solution on the day it is laid will sink to the bottom; one a day old will not reach quite to the bottom of the vessel; an egg three days old will swim in the liquid; while one more than three days old will swim on the surface.

'The specific gravity of a freshly laid egg is between 1·0784

and 1·0942. When exposed to the air it loses water, which is replaced by air, and loses about 0·0017 to 0·0018 per day in gravity. At the end of three weeks the specific gravity will not be over 1·05, and it is then nearly on the point of spoiling. When the specific gravity has fallen to 1·015 the egg shows signs of decay.

'A way to tell bad eggs is to put them in a pail of water, and if good they will lie on their sides ; if bad they will stand on their small ends, the large end always uppermost, unless they have been shaken considerably, when they will stand either end up. Therefore, a bad egg can be told by the way it rests in water—always end up, never on its side. An egg that lies flat is good to eat, and can be depended on.

'The flavour of eggs is much influenced by the nature of the package, for they imbibe foreign odours with the greatest readiness. Eggs brought in the same ship as oranges become impregnated with the scent and flavour of the fruit. If the cases in which they are packed are made of green wood, the eggs will be ruined. The straw in which they are packed should also be perfectly dry, or it will ferment and communicate a fusty smell to the eggs. . . .

'For home consumption the French peasantry have for ages preserved their eggs in a very simple fashion. They take a wooden case, or a large barrel, and pack them in thick layers of sawdust, fine sand, chalk, bran, cinders, or coal dust, so that they do not touch each other. In the Maritime Provinces the peasants use layers of ashes moistened with salt water. Both these processes are successful.' [1]

The following will be of interest to those who keep fowls : 'The standard yield and weight of eggs for the different varieties of domestic fowl is about as follows :—

'Light Brahmas and partridge Cochins, eggs 7 to the pound ; they lay, according to treatment and keeping, from 80 to 100 per annum, oftentimes more if kept well. Dark Brahmas, 8 to the pound, and about 70 per annum. Black, white, and

[1] *To keep eggs fresh.*—A friend writes to me : 'The practice of covering eggs, *immediately* after they are laid, with butter or oil, in order to keep them fresh, is so universally known and adopted that I need scarcely have mentioned it.'

buff Cochins, 8 to the pound ; 100 is a large yield per annum. Plymouth Rocks, 8 to the pound, lay 100 per annum. Houdans, 8 to the pound, lay 150 per annum ; non-sitters. La Fleche, 7 to the pound, lay 130 per annum ; non-sitters. Black Spanish, 7 to the pound, lay 150 per annum. Dominiques, 9 to the pound, lay 130 per annum. Game fowl, 9 to the pound, lay 130 per annum. Crevecœurs, 7 to the pound, lay 150 per annum. Leghorns, 9 to the pound, lay from 150 to 200 per annum. Hamburgs, 9 to the pound, lay 170 per annum. Polish, 9 to the pound, lay 150 per annum. Bantams, 16 to the pound, lay 60 per annum. Turkeys, eggs 5 to the pound, lay from 30 to 60 per annum. Ducks' eggs vary greatly with different species, but from 5 to 6 to the pound, and from 14 to 28 per annum, according to age and keeping. Geese, 4 to the pound, lay 20 per annum. Guinea fowls, 11 to the pound, lay 60 per annum. Large eggs have generally a thicker shell than small ones.'

Fried sole, boiled or fried whiting, boiled fresh haddock, are light and nutritious, and are more digestible for very young children than the richer kinds of fish, such as salmon, turbot, &c. Custard, bread crumb, sago, rice, and for older children suet puddings, with fruit or plain, with the addition of treacle,[1] are most wholesome.

Dr. Chambers writes of treacle :[2] 'Treacle is the waste which drains off from the mould in which sugar is refined. It contains . . . salts, so that it sometimes acts as a purgative.' This I have found so. Dr. Chambers adds : 'Golden Drop is prepared by filtering this stuff through charcoal ; it should be clear and light in colour, and is then a wholesome article.' Rich pastry and puddings with rich sauces, although they may not harm given occasionally, are not well indulged in too often. Pigeon pies are especially dangerous to health when kept too long. I have known on several occasions very serious diarrhœa to follow on eating pigeon pie which had been kept. Pastry not pricked before being put in the oven is likely to cause diarrhœa and sickness.

[1] See 'Feeding,' p. 236.

[2] *Manual of Diet in Health and Disease*, p. 47.

Christmas Day and Good Friday might well be nicknamed 'Indigestion Days.' Children allowed to freely indulge in badly made plum-pudding and heavy mince-pies, doughy hot-spiced buns (in moderation, and if well made, they do not harm), are afterwards generally the victims of indigestion. Cross-buns should be cut in half, toasted, and buttered. They are much lighter toasted than merely warmed by placing in the oven. Very often the day after Christmas Day and the day after Good Friday are most uncomfortable days to young children—older children are not so easily upset—allowed to eat as much as they please of heavy plum-pudding, indigestible, doughy, spiced buns, or coarse, tough salt-fish ; the poor children feel afterwards heavy, sick, and suffer sometimes acutely from indigestion. It has been the custom in England so long to have plum-pudding and mince-pies—which every one believes they can make perfectly—at Christmas, and hot cross-buns and salt fish on Good Friday, that the indigestible nature of these popular edibles is quite lost sight of. Dr. Abernethy called Christmas Day and Good Friday 'stomach penance days.' I think, in many cases, it would be far better if people did not make plum-puddings and mince-meat at home. An excellent place, of worldwide celebrity, for good plum-pudding and well-made mince-meat is Buzzard's in Oxford Street.

Vegetables of all kinds should form part of the daily food for children,[1] but they should be perfectly fresh. It is a common idea that stale vegetables, as also overripe fruit, do not harm. That they are injurious is a fact recognised by the Medical Board of Health. In their notice issued (September 1887 [2]) they lay stress on the necessity of avoiding *stale vegetables and overripe fruit.* 'Fruit which is unripe or overripe, and fish, meat, or vegetables which are stale or unsound, should not be eaten.' Asparagus cut the day before it is required for table, and put in a warm frame 'to swell,' will be found to disagree. Cucumbers and broccoli are sometimes treated in the same manner and with a similar result, as I found when I lived in the country. Stale cabbage will

[1] See 'Feeding,' p. 248.

[2] *The Daily News,* Thursday, September 1, 1887.

ferment in the stomach, and that is the reason of its, with many persons, causing flatulence. I know several who say they cannot eat cabbage on that account, but I think that originally the cause probably arose from stale cabbage having been eaten, and if quite fresh cabbage were eaten it would not so affect. Celery uncooked is apt to be difficult of digestion. Uncooked watercresses also disagree with some; cooked, however, they seldom if ever do so, and when well cooked they make a nice vegetable, somewhat resembling spinach, which is very wholesome.

It is very curious, but watercresses are popularly supposed to be most salutary, and are even credited with an especially beneficial effect in affections of the skin. For a long time I doubted their good effect (when eaten uncooked), where there was any trouble of the skin, on noticing the redness which seemed to be produced by eating them in large quantity. After long observation I came to the conclusion that watercresses should not be accredited with anti-scorbutic properties. I find my views confirmed by an old French writer, Retz,[1] who says: 'Of the various herbs whose juices have obtained the reputation of being salutary in diseases of the skin there is one which I snatch eagerly from its position, as being in a high degree pernicious in these diseases (skin): the plant to which I refer is the watercress. It is inflammatory in its action on the blood, astringent to the bowels—in other words, it constipates and inflames. How then has it obtained the reputation which it possesses? Ought it not rather to be despised for its mischievous effects?' This opinion is shared by French people generally, few eating watercresses uncooked. They are often, however, used as a garnish, in the same way that we use parsley. Where there is any tendency to skin-disease or eruption of any kind, French doctors always counsel not eating watercresses. Many medical men also think there is no doubt, when watercresses are imperfectly washed and then eaten raw, there is a certain amount of danger to health.

Dr. Tidy thinks the effect of eating imperfectly washed,

[1] Retz, 3rd edit., 1790.

uncooked watercress may be very serious, and has remarked that the manner of growing such is open to censure. Dr. Tidy observes :[1] 'I have seen watercresses and celery grown on sewage ground, having a quantity of dried sewage matter deposited on the stems. I have, with more than a cook's patience, tried to wash this matter off, but the tenacity with which it sticks upon the surface of the vegetable when once dry is perfectly astounding. Be it remembered that watercress and celery are eaten uncooked.'

Of the value of potatoes as an antiscorbutic few are aware. Dr. Chevasse says :[2] 'The potato ought to be the staple vegetable, it being most wholesome, and essentially necessary for health ; it is moreover the finest of our antiscorbutics.' Few ever think of the great value of potatoes as an article of diet. Their use in Ireland proves their value. Unfortunately few English and fewer Scotch cook potatoes well, although in both countries they are a national article of every-day diet. There is an immense difference between well-cooked and badly-cooked potatoes. The nutritive properties of the potato are also affected by the manner of cooking. Some authorities hold that the potato, to retain its full power of nourishment, should be baked with the 'jacket' on, and that cooked thus it is easier of digestion. It is certainly, with the addition of a little butter and salt, more palatable than when cooked in the ordinary manner.

Mr. Mattieu Williams, F.C.S., writes :[3] 'Another result of my own researches, viz., the determination of the difference between baked potatoes and boiled or steamed potatoes, and between potatoes boiled in their jackets and potatoes peeled before boiling : I find potash in the water in which potatoes have been boiled. It is evident that some of the soluble potash salts of the juice of the potato passes out by exosmosis into the water. By baking them, or frying them, this is entirely prevented. We all know that there is a difference between a baked and a boiled potato. I attribute it mainly to this. As regards the great question of jackets or no jackets, I can

[1] *The Treatment of Sewage*, by Dr. C. Meymott Tidy, p. 24.
[2] *Counsel to a Mother*, p. 197.
[3] *The Scientific Basis of Cookery*, 1884.

only speak theoretically at present. I suppose that the natural envelope does resist the outgoing of some of the saline juices, but have not yet proved it analytically. The highest of all practical authorities on this subject, the Irish peasant, has very firmly decided for himself. I have never seen raw potatoes in a state of nakedness in Ireland, and suspect that natural appetite has discovered that there is something in the full-dressed potato that is demanded in the system, just as it teaches the sailor to crave for potash food.' In England the potato is seldom if at all used for food for little children ; I have, however, seen it used with an excellent result for children commencing spoon-food, giving baked potato with a little gravy occasionally for dinner. With all their squalor and semi-starvation the Irish peasants remain strong and hardy, and there is no question that in many instances they subsist almost entirely on potatoes.

'In Ireland potatoes and buttermilk are the principal diet—even in times of plenty. . . . They go well with meat and fish, and are considerably helped with a little dripping or butter ; but the great adjunct is milk. . . . All succulent vegetables are endowed with anti-scorbutic powers, but potatoes are especially renowned for this property.'[1] 'Potatoes ought for a child to be well mashed ; if they be not, they are apt to cause convulsions.'[2] There is a variety of ways in which the potato can be served—fried (chips and ribbons) potato balls, with the addition of a little white fish for flavouring, and rolled in bread crumbs. Potatoes in England are hardly ever used except for dinner, and then only plain-boiled; but they make so nice and so wholesome an addition to the breakfast that it is a pity they are not more often seen on the table for that most necessary meal—especially where there are children.

Stewed prunes or French plums are often given with the idea of their having an aperient effect. It is more than doubtful, however, if they have this effect, and if the stones are swallowed they may (if they do not pass) have a very dangerous result. I have known the stones of prunes to cause serious discom-

[1] Letheby on *Food*, pp. 24, 25.
[2] Dr. Chevasse, *Counsel to a Mother*, p. 88.

fort and diarrhœa when swallowed by children, and the part eaten which consists of the skin is occasionally found of an indigestible nature. Dried currants are also unwholesome. 'Cakes made of unsplit currants are especially to be avoided, as they are apt to produce pain and purgative effects in the most healthy.'[1][2] 'Many a time have I been called to a child in violent and long-continued convulsions; and at length, after giving enema after enema, a large quantity of undigested currants have been dislodged, and instantly the convulsions, as if by magic, had ceased.'[3]

Unripe fruit is very dangerous for children to eat, and it should be remembered for them, 'In the morning fruit is golden, in the afternoon silvern, and in the evening leaden.' With some constitutions particular kinds of fruit will disagree, and with some even all kinds of fruit have a tendency that way. Where children have a distaste to fruit it is not well to insist on their eating it, under the impression that it will benefit them to overcome their prejudice. Instinct is ever the best guide to follow as to choice of food, and where there is a marked dislike to any article of food it is of no advantage to try and overcome what in reality nature gives warning will not be suitable to the constitution. . . . Most fruits, especially those which are soft and watery, rapidly suffer decay and fermentation . . . the changes which succulent fruits undergo, and the frequent presence of much acid or acid-salt in them, renders them liable to cause, especially when unripe or overripe, diarrhœa and other derangements of the digestive tract. Irritation and even fatal inflammation of the intestine have resulted from the indigestible skins of certain fruits, as plums.'[4] Abroad fruit is seldom given to children without

[1] Dr. Chambers, *Manual of Diet*, p. 48.

[2] Birthday cakes *covered with icing* are sometimes very injurious. 'That deadly poisons . . . should be daily used for the mere sake of imparting colour to articles of such general consumption as sugar confectionery—articles consumed chiefly by children, who, from their delicate organisation, are much more susceptible than adults—is both surprising and lamentable.'—Hassall, *Adulterations Detected in Food and Medicine*, p. 488.

[3] Dr. Chevasse, *Counsel to a Mother*, p. 100.

[4] Professor A. H. Church, M.A., *Food*, p. 113.

being cooked. French people are very fond of dried fruits, which they esteem very wholesome. 'Fruits which contain much sugar, as dates, figs, and grapes or raisins, are very nutritious, especially when they are dried. In tropical countries they are largely used for food; the date, for example, is, next to bread, the staple food of the Arab.'[1]

It is exceedingly injurious to children to constantly eat sweets. The pretty, nice-tasting, apparently harmless sweets sometimes cause great mischief, and are at all times of no benefit when constantly indulged in, being *ruinous alike to teeth and stomach.* Dr. Chambers writes:[2] 'The gorging themselves with sweetstuff at the confectioners', as practised habitually by schoolboys, and often by girls when they get a chance, lays the foundation not only for indigestion in after-years, which is its least evil, but also for a habit of indulgence which is a curse through life. A schoolmaster who should effectually check this without needless restriction of liberty, and make greediness unfashionable among his pupils, I would rank far above the most finished scholar in Europe. An important step towards it is to give the boys enough to eat at regular meal-times.' I think one great check to outdoor feeding of pastry and sweets would be having food pleasant to the taste, and savoury, on the school table.[3] How can a boy who half an hour before his dinner has eaten chocolate, toffey, buns, or jam tarts, have an appetite for that meal; or how can that meal do him good? 'In a public education boys early learn temperance, and if the parents and friends would give them less money upon their usual visits it would be much to their advantage, since it may justly be said that a great part of their disorders arise from surfeit—*plus occidit gula quam gladius* (gluttony kills more than the sword).'[4]

When children have been taken sight-seeing, or to any place of amusement—such as a pantomine—where they have been subject to fatigue, both bodily and mental, for several hours, or if they have come off a long journey, it is well to give

[1] Letheby on *Food*, p. 27.
[2] Dr. Chambers, *Manual of Diet in Health and Disease*, p. 154.
[3] See 'Feeding,' pp. 245–248. [4] Goldsmith's *Essays*.

them something more substantial than a bread-and-butter tea, but light and easy of digestion. It is curious how often the feeding of children on arrival at school is overlooked. People will themselves, on coming off a long journey, as soon as possible after take a sufficiency of food ; yet I have known of children arriving at school after a journey of several hours kept without food for hours, and then only given a supper of bread and butter and a glass of milk : not that I wish to call in question the nutritive properties of bread and butter.

Many check their children in eating bread and butter. The nourishment afforded, however, by good bread and butter is very great. Dr. Routh remarks : 'It is, indeed, a matter of popular observation that many children grow fat upon bread and butter. They appear to thrive on it when other means fail.'[1] Brown bread and butter is especially wholesome for children, and those who have a tendency to indigestion are often much benefited by its use.

The following passage occurs in Dr. Prout's clinical work on 'The Nature and Treatment of Stomach and Renal Diseases,' fifth edition, page 43 :—

'Bread, therefore, made with undressed flour, or even with an extra quantity of bran, is the best form in which farinaceous matters can be usually taken in most of the varieties of dyspepsia accompanied by obstinate constipation. This is a remedy the efficacy of which has long been known and admitted ; yet, strange to say, the generality of mankind choose to consult their taste rather than their reason, and, by officiously separating what nature has beneficently combined, entail upon themselves much discomfort and misery.'

When a child has been kept a long time on milk food the change to other kinds of food should be made gradually.[2] Children from three years of age do not require more than three good meals a day.[3] 'Three good meals a day are sufficient, but four are more advisable . . . Breakfast at eight, dinner at one, tea at five, and supper at eight appears the best distribution. By supper is meant such a meal as growing lads

[1] *Infant Feeding*, p. 428. [2] See 'Feeding,' p. 82.
[3] See Letheby's *Lectures on Food*, p. 151.

and girls positively need. They require either soup and potatoes, and bread and butter, or some one hot dish of meat or fish, and the drink should be either warm milk or cocoa to about half-a-pint of fluid; aliment enough is needed to improve the circulation at the extremities and obviate chilblains. Boys and girls may retire to bed within an hour of their supper, which, instead of making them dream, will secure good and refreshing sleep. The greatest dangers at this age arise certainly from defective nutrition.'[1] 'As far as period is concerned the same law that applies to adults is equally suited to them. Three meals a day—an interval of four hours between each. I speak of children out of arms, not of infants.'[2] I remember a conversation I once had with the late Sir Erasmus Wilson regarding meals, and he told me his 'old master,' as he termed him, the late Mr. Richard Quain, F.R.S., said 'two good meals and a third lighter one is all that is necessary for healthy existence. The only question to decide is, which should be the light meal? The man having hard work, either brain or manual, to do should have a good breakfast, a light lunch, and a substantial late dinner, or, as the working man designates it, "supper." The man having little work to do, and that distributed over the day, and ending the day perhaps with theatre, ball, or opera, should have moderate breakfast, good lunch, and light dinner. The busy man, after the fatigues and exhaustion of the day, requires to renew his powers by a sufficiency of food and by repose, and, having little or nothing to do in the evening, the day's work being over, can rest himself. The less occupied man, continuing the strain on his faculties into the evening, perhaps night, will not require so large a meal in the evening, as the having a heavy repast would tend to produce somnolency, and would hinder his giving attention to anything requiring an effort of mind.'

'Thus,' as Sir Erasmus quaintly observed, 'man requires really only two good and one "skirmishing" meal a day. The real question is the place of the "skirmishing" meal.' Numerous

[1] Quain's *Dictionary of Medicine*, vol. ii. p. 1150. Also see Pavey on *Food*, p. 466, who says the same.

[2] Sir Erasmus Wilson, F.R.S., *Healthy Skin*, p. 125.

meals during the day, or great quantities of food, are not necessary to longevity or keeping in health. It is quite possible to become used to little food and yet remain perfectly healthy.[1] On one of the monuments in Canterbury Cathedral, in memory of a Dr. Wotton, who died in the year 1566, it is recorded that 'his diet was sparing, which he never took but once a day; his health so strong that he was seldom affected with any disease.'

That eating so little was a matter of choice and did not arise from necessity, and did not interfere with work, one concludes from the mention that Dr. Wotton held high offices till his death at the advanced age of seventy. He was, we are told, a learned and clever man, and one who had travelled much. 'Nicholas Wotton, son of Sir Thomas Wotton, Knt. (by Anne Belnappe), Doctor of Laws, first Dean of this Church, and also Dean of the Metropolitical Church of St. Peter's, York; a Privy Councillor to Henry VIII. and Edward VI., Queen Mary and Queen Elizabeth; he was twice sent as ambassador to Charles VI., once to Philip King of Spain, once to Francis I. King of France, twice to Henry II. his son, once to Mary Queen of Hungary and Governess of the Netherlands, and twice to William Duke of Cleves. He was one of the Plenipotentiaries at the renewal of peace between the English, French, and Scotch; between Guines and Ardes in the year 1546, and also at Chateau-Cambresis in 1549; and lastly at Edinburgh in Scotland 1560.' The tombstone further records that 'his mind was wholly devoted to books and learning, intent on the studies of Art, Physics, Laws, Divinity, and richly stored with a knowledge of the Latin, Italian, French, and Low Dutch languages.' No doubt a sedentary life requires less food than a life of continued outdoor employment. That many learned men have kept to a meagre diet in all ages we have many testimonies of, and that their health has also remained good we hear as well; proving that a sufficiency of food is all that is necessary for life and health. That Dr. Wotton was not rendered feeble in health by the smallness of his meals we gather from: 'his constitution

[1] See Letheby's *Lectures on Food*, pp. 150, 151.

was firm.' That the taking of one meal a day was a singularity and attracted notice one infers from its being thus mentioned. Another curious epitaph, which I will refer to elsewhere,[1] also struck me at Canterbury Cathedral. Giving food such as biscuits, cake, bread and jam, &c., between the regular meals not only interferes with children taking their food, but tends as well to impair the digestion. At suitable times—as at tea, for instance—jam, marmalade, honey,[2] cake, biscuits, will by giving variety be beneficial.

Some will not allow their children to eat biscuits, being under the impression that they are indigestible ; there appears to be no ground for this supposition. 'When biscuits are lightened by means of egg and sugar, with a little butter, they are much more digestible, and they are still more so when they are vesiculated and puffed up by means of a small quantity of carbonate of ammonia, as in the case of cracknels and Victoria biscuits.'[3] I have seen a child of eighteen months eat three or four cracknels in the day, and was told by a doctor they were most nourishing. Wine is not good as an ordinary beverage for children, even if freely diluted with water.

The practice of giving children wine or beer with their dinner not only helps to spoil the digestion, but overheats the blood and otherwise harms young children, and should not be given unless ordered by a medical man. Where a child is weak a little *light* port-wine, with the addition of cold water, given in the morning about eleven o'clock, is sometimes found beneficial ; but it requires discretion in giving wine to young children, and it is always best given under medical direction. It never does to tamper with the sensitive, delicate stomach of a child. The addition of sugar to wine and water often renders it more palatable to little children. A couple of tablespoonfuls (or even one only) of light port-wine in a claret glass filled up with cold water is quite sufficient for a young child. Some doctors advise giving wine to young children in weak beef-tea or jelly rather than with water or undiluted, or for older

[1] See 'Remarks on the Hair, Teeth, &c.,' p. 529.
[2] For honey as a fattener see Letheby, *Lectures on Food*, p. 135.
[3] Letheby on *Food*, p. 152.

children beaten up with an egg (the yoke and white) and a little milk.

Toast-water nicely made is very wholsesome. A slice of bread well browned—not burnt, however—boiling water poured over it, allowed to stand a little time, strained (if the bread is allowed to remain in too long, it will ferment), and drunk cold, is not only harmless, but many children prefer it for their dinner to any other drink. The fruit syrups are nice and refreshing mixed with water, especially in warm weather. A member of the Society of Arts writes : 'Amongst other popular beverages is one which is little known in this country, but if once tried it will be found to combine almost all the desirable qualities in itself, as a light drink which can be freely used by all. To make this, boil from 1 lb. to 2 lbs. of apples in water until they are dissolved, or rather until they form a soup with the water ; add boiling water to make up a gallon, and from ½ lb. to ¾ lb. of sugar ; when nearly cool add a little yeast, and when the fermentation is well advanced strain and bottle, tying the corks tightly down. It will be ready for use in two days, and remains in its best condition about a week, so that a weekly "brew" will keep up a continuous supply. The quantity of apples and sugar may be varied to suit individual tastes. The process of manufacture resembles that of the well-known ginger-beer, but the result is essentially different, the flavour, when properly made, being more like champagne, without the intoxicating effects of the latter, and it only needs to be generally known to be fully appreciated.'

Milk agrees with some children at dinner ; with others it is found to be too heavy. Weak beef-tea is given as a drink by some, but has been found in some instances to be over heating when taken for a continuance and in large quantity with heavy meals. In nine cases out of ten, water, 'nature's beverage' is best. In feeding children, as in other things, personal observation is the best, and no fixed rule can be laid down.

Children should be urged at all times to eat their food quietly and *not too fast* ; and after dinner or any large meal they should be made to sit quietly for half an hour before

beginning lessons; not with their hands folded, however, doing nothing: a few toys on a table, or a pleasant book, will while away the time agreeably, and will promote digestion by keeping the mind occupied, so that the restless movements of inoccupation are avoided. The practice at some schools (girls') is to go for a long walk *directly* dinner is over. It is not wise, however. 'After dinner rest,' said Dr. Abernethy. 'Dr. Harwood, Professor of Anatomy in the University of Cambridge, having fed two pointers at the same time, had one taken out and kept in exercise for two hours. On its return both animals were killed: in that which had remained at home and at rest the meal was entirely digested; in the other the process of digestion had not so much as commenced.'[1] 'It is a law of the animal economy that no two actions requiring a large expenditure of nervous force can be carried on at the same time. Now exercise, properly effected, is such an action as I am now considering . . . digestion absorbs the powers of the system so completely that it is a common thing to find it succeeded by lassitude and drowsiness. It is evident, therefore, that if exercise be taken the instant the meal is swallowed the latter must remain an undigested load in the stomach until the moment arrives for rest, and then the function will be exceedingly imperfect if performed at all.'[2] All medical men seem agreed as to the continued want of proper rest after a heavy meal such as dinner ultimately, if not at first, causing indigestion to result. Dr. Kitchener writes:[3]

'Healthy children are the happy possessors of a digestion like an ostrich, but their digestion should not be over-taxed in youth lest it be found that in middle life and in old age their digestion is then that of a dyspeptic.' One hears sometimes some unthinking person say, 'It's very well to be particular, but after all one never hears of anyone dying from want of rest after meals.' The best refutations of this untenable argument are the following, and if it is urged that one of the deaths occurred in an old person, not a child, the

[1] Erasmus Wilson, *Healthy Skin*, p. 159.
[2] *Ibid.*, pp. 158, 159.
[3] *Peptic Precepts.*

Chinese proverb 'Death strikes all with the same dart' will apply.

'On Saturday an inquest was held by Mr. Langham, City Coroner, at the Bank of England, on the body of Charles Rose, aged 52, comptroller of the Stock Department at the Bank. The evidence showed that the deceased, who had hitherto enjoyed good health, left his home, 136, Adelaide Road, N.W., about nine o'clock to go to the Bank. He ate a very hearty breakfast, and as he was late he had to run to catch his train. When he got to the Bank he complained of pains in his stomach, and vomited a good deal. Some medicine was procured from a neighbouring chemist's shop, which the deceased drank, and then said he felt better, but subsequently he was found lying dead on the floor of his private room in the Stock Department. Mr. T. R. Fendick, surgeon, deposed to making a post-mortem examination of the body. Death was due to syncope brought on by the deceased eating a hearty meal and then hurrying to catch his train. A verdict in accordance with the medical evidence was recorded.' [1]

'On Saturday, at the St. Pancras Coroner's Court, Dr. Danford Thomas held an inquest concerning the death of Edward Reardon, aged 16, a postal telegraph worker, living at 67 Allcroft Road, Haverstock Hill. On Wednesday evening last the deceased, with his brother and a friend, Alfred Secker, agreed to run round a block of buildings at Bartholomew and Lawford Roads, Kentish Town, "against time." The deceased had finished his third and was going his fourth round when he was missed by his comrades, and was afterwards found lying insensible outside the Duke of Cambridge Tavern. He was carried into a neighbouring shop, but life was found to be extinct. Dr. Polton deposed that he had made a post-mortem examination and found that death had resulted from syncope from excessive exertion and the overloaded condition of the stomach. He had no doubt the over-exertion after a hearty meal had caused the heart's action to cease. A verdict of "Death from misadventure" was returned.' [2]

[1] *The Times*, Monday, November 28, 1887.
[2] *The Daily News*, Monday, September 17, 1888.

There should be a little supervision over the helping of children. Many children get to quite dread 'the smart parlour-maid's' helping : the deluge of vinegar, the avalanche of pepper, the dab-down of vegetables with the general 'I'm in a hurry' air, and no regard whatever for the likes and dislikes of the poor little ones, perhaps obliged to swallow what they dislike, or obliged to eat more than they wish of something they don't care about. I am quite sorry for children sometimes, when I see them plentifully helped to things they don't like, and awaiting the dreadful approach of the cruet-stand. Children's food drenched with vinegar, and their vegetables peppered till they burn again, are rendered most unwholesome. The 'smart parlour-maid's' idea is to get over the waiting with as much celerity as possible, but this should not be done with no regard to the feelings of poor children. Many are afraid to speak to their servants, and so will rather let their children endure 'only a little trifling discomfort,' as they call it. It may be 'only a little trifling discomfort' to them, as they don't endure the said 'trifling discomfort.' 'He jests at scars that never felt a wound.'[1] Those who cannot speak for themselves demand the help of those who are responsible for their happiness and comfort ; and comfort, after all, in many cases depends on trifles, and, in the case of health, when one's food is not relished it does not benefit. No care and attention should be spared in attending to children's meals. It is unwise letting a child become used only to its nurse, so that if she leaves the child is much distressed, or if she has a holiday everyone in the house is disturbed.

A mother should see that her baby will take its food from her as well as the nurse, as, if the latter should fall ill or have to leave suddenly, it is very trying and causes much worry if the baby will only feed from the nurse. I saw a case once in which the nurse, having been a length of time with the family and never having been able to take a long holiday, was given a fortnight's holiday to go to her home in the country, with the result that she had to be telegraphed for, as the baby so pined for her, would not take its food, and no one could manage it. I

[1] Shakespeare.

suppose, if it had been a case of 'mort' [1] with the nurse, poor baby would have had to succumb to circumstances, and it was the knowledge that the nurse could be got back at once which made all the efforts unsuccessful.

Never keep a scolding for a child's meals, as so many do, nagging all the time they are eating. Remember, 'bread eaten in sorrow' is no nourishment. 'Better is a dry morsel, and quietness therewith, than an house full of sacrifices with strife.' [2]

[1] 'Dead.'

[2] Prov. xvii. 1.

CHAPTER III.

REPOSE.

A CERTAIN amount of natural repose is necessary to life, and to young infants and children sleep is not only of importance, but is also the most necessary part of their existence. Nothing can take the place of, or do the same good as, quiet, reposeful sleep. Even in nature, repose at regular intervals seems a universal law. The very flowers close in the evening at the same time each day, and the animals and birds, obeying the instinct of nature, which tells them repose is necessary, go to sleep when tired, and have in each twenty-four hours some time for rest and sleep. From the earliest period of life, children should be habituated to going to sleep regularly. Infants should from the first be put to bed always at the same time, and it is best to accustom infants to sleep by themselves. An infant can be used to sleeping alone in its own little bed if the practice is begun from an early period, and it is far healthier.

People have a great habit, when a young baby is restless or seems disinclined to sleep, of taking it into their bed to sleep; but it is an exceedingly dangerous as well as an injurious practice,[1] and a child, once accustomed to being taken into bed with anyone to sleep, will not sleep quietly by itself. When an infant sleeps by itself in its own cot there is no risk of suffocation. In several instances infants have been smothered by being taken into a grown person's bed. Tired out, perhaps, after the fatigues of the day, a mother or nurse has taken her infant into her bed with the best intentions, and has in the oblivion of sleep most disastrously and unwittingly

[1] This does not apply to the newly-born. See 'Feeding,' p. 112.

killed the child by overlying or suffocating it. Dr. Semple writes :[1] 'An infant should *never* sleep in the same bed with its mother, unless under the sanction of the doctor, and then for reasons of which he is the better judge ; it should have, if the mother keeps it in her own room, its own crib or cradle next to hers.'[2]

The following, from 'The Times,' Friday, December 30, 1887, attests to the immense destruction of infant life by suffocation in bed :– 'Last evening the Deputy Coroner for Central Middlesex, Dr. Wynn Westcott, held two inquests on children who had been suffocated in bed. The Coroner observed that the enormous destruction of infant life by this means was becoming a most serious matter, and it was remarkable how much it increased at Christmas time. On the previous day he had held three inquests on children who had lost their lives in this way, and, although the mothers would not admit any neglect or misconduct, the jury could form their own conclusions. He observed that Mr. Carter, one of the Surrey coroners, held no less than five inquests on the previous day on children who had been suffocated in bed, and that most of the metropolitan coroners had had similar cases. There must be, he was convinced, at least great neglect in some of these cases. If children were placed in cots by the bedside they would not run the risk of being overlaid. He thought the only remedy would be for juries in future to take more serious notice of these cases of infant suffocation. The jury concurred, but in the present cases returned verdicts of "Accidental death."'

'Within this week the Manchester Deputy Coroner has had to inquire into the death of four infants, all of whom had been "overlaid" in bed by their parents. He calculates that upon an average there are a hundred such cases every year in Manchester ; in one year he knew of a hundred and twenty-four cases.'[3]

[1] *The Mother's Guide*, p. 42.

[2] 'A child should sleep in a cot, or bed, by itself, but in the same room with its parent or nurse, since they are apt to show any disorder by night vagaries, delirious talking, restlessness, or sleep-walking.'— Quain's *Dictionary of Medicine*, vol. ii. p. 1150.

[3] *The Daily News*, Friday, September 14, 1888.

If an infant's bed is warm, soft, and cosy, there will be no trouble about its sleeping by itself. In fact, after a time, on being put into its little cot, it will nestle down and go to sleep quite quietly. It is, as a rule, the want of sufficient warmth in infants' cots which makes them so restless and sleep so badly at night. The nurse puts the cot beside her, and if it is winter, being away from the fire, the child, having but little warmth in itself, gets quite cold. I have seen infants get icy cold at night. The fire going out, the temperature towards morning becomes much lowered. 'A warm bed makes a sleepy child.' A very hard bed is by many esteemed healthy, however disagreeable; but health is never gained at the expense of bodily discomfort. If grown people, after sleeping on a hard bed, are conscious of a feeling of stiffness and tiredness, equally children, after sleeping on a very hard bed, feel the same, although perhaps they may not be quite so sensible of their feelings of discomfort, and may not complain. Children also, having undergone little or no mental exhaustion, are not so prone to sleeplessness and restlessness as grown people. A comfortable, easy-feeling bed, however, not only conduces to reposeful, quiet sleep, but to healthy sleep, by giving thorough rest to the wearied body. With young infants heat is so necessary that a soft bed is essential.

I do not advocate feather beds, which, so far from being comfortable, generally become lumpy and the reverse; but wool mattresses are very suitable.[1] Abroad they generally use mattresses made of chips of wood, and also of prepared dried seaweed, for infants' mattresses; but these, although of great value in warm climates, are not necessary and not easily obtainable in colder countries. Wool pillows, or horsehair, are also much better than down or feather pillows for infants and very young children, who have always a great tendency to their heads perspiring. 'A horsehair bolster is preferable to a pillow, and a paper pillow to a feather pillow; a feather pillow, en-

[1] 'The best bed for this age is an ordinary iron bedstead, with firm and level wool-and-hair mattresses; not spring beds, which do not adapt themselves so well to light bodies or keep them uniformly warm.'—Quain's *Dictionary of Medicine*, vol. ii. p. 1150.

wrapping the neck and head, heats the upper part of the spinal cord undesirably.'[1] I have seen infants put to sleep on feather pillows awake daily with the pillow-case saturated with perspiration. In the Biblical days goats' hair was used for pillows. 'A pillow of goat's hair' is mentioned 1 Sam. xix. 13. Too high a pillow is injurious; still, the pillow should be sufficiently raised. No child should lie with its head quite flat and on a level with its body, and the pillow should be the full size of the cot, otherwise a child, in turning over, may get its head during sleep close by the side and against the cot, in a most uncomfortable position.

Making a child lie always in one position when put to bed prevents its having a thoroughly refreshing repose of body. The turning about of the body in bed has a decidedly reposeful effect, and should on no account be checked with children. The bed-clothes for infants' and children's beds should always combine lightness with warmth. For cold climates light, wadded, or eider-down quilts[2] are serviceable. Weight is not warmth. Some pile on a lot of heavy bed-clothes, but, the lighter the bed-clothes, so that they supply a proper amount of heat, the better. Young infants in a cold country are better sleeping in blankets.

'Little children often suffer from a want of discrimination in this matter. The warmest and softest of crib blankets are bought to cover them, while an old thin one is considered good enough to lie under the little bodies that so easily get chilled.'[3]

An infant's bed should never smell sour; if it does, it proves want of care. Even in warm climates flannel is necessary as a covering. In England blankets are always used. Abroad, however, coverings made of light flannel are often used for infants for the summer. Children and infants' mattresses require picking to pieces and re-making occasionally. Infants' mattresses, where wool is used, require looking to

[1] Quain's *Dictionary of Medicine*, vol. ii. p. 1152.

[2] Many are under the impression eider-down quilts do not wash, but if covered with cretonne they do.

[3] *British Medical Journal*, 1887.

more especially in this respect. It is astonishing to me how people will let their mattresses go for years and years without cleaning or picking to pieces ; yet the whole perspiration of the body goes into the mattress,[1] and it cannot possibly be wholesome lying on a bed for years without re-making.

The habit of what nurses call 'getting baby off to sleep,' that is, getting an infant to sleep in the arms, singing to, and rocking, and walking about with it, is a great mistake. An infant should be put, warmly covered over, in its cot, and the practice should be persevered with—not, of course, using roughness—when it will be found the child will not only go to sleep quietly by itself in its own bed, but after a time it will like best being put to sleep in this way. I have seen children who would not go to sleep without being 'put to sleep,' having been used to this manner of going to sleep ; and I have seen others who did not care to go to sleep unless laid quietly on their right side [2] in their own cot. Of the two methods of putting children to sleep, I would counsel all mothers and nurses to try the latter, because it will save them much trouble and inconvenience walking about. Having to sing and rock a child in one's arms for an hour or two—and children got off to sleep in this way are often very troublesome and exacting—is an undesirable finish to a long and fatiguing day, and *in every respect* it is better for the child to go to sleep in its cot. I can, from personal experience, strongly advocate teaching infants and children to go to sleep in their cots without rocking, singing to, &c. Of course, when I advocate a child's being put in its cot to go to sleep I do not by any means wish to lay down a hard-and-fast rule on the subject. Some children will go to sleep quietly without trouble in their nurses' arms when it is bed-time, and can then be laid down without rousing them. When a child is put to sleep in arms it should be covered up with a flannel square or small blanket. Roughness should not be used in putting either infants or children to sleep, and it is

[1] 'An adult in health exhales by the lungs and skin in the twenty-four hours three pints, at least, of moisture, loaded with matter ready to putrefy.'—Quain's *Dictionary of Medicine*, vol. ii. p. 1045.

[2] See 'Feeding,' p. 238.

very wrong to frighten young children with the idea of making them go to sleep.

To frighten young children at night by telling them something will happen to them or something will come to them is very cruel as well as wrong. Children are much better and more easily managed by kindness and gentleness, and it is quite easy to be firm with a child without being angry or severe. Judicious firmness is very necessary, but it does not imply crossness or roughness. What can be more trying to a young child than to be hustled down in bed or in the arms with a slap and a shake? A child may be nervous or timid by nature, and, if so, it is not only very trying to the child, but is likely to be hurtful. I have known children so frightened, to make them go to sleep, on the 'Susan Nipper'[1] principle, that they have grown up quite nervous. Children, if tired and if in good health, will go to sleep without any trouble, but they must be brought up in a proper manner to go to sleep. The last look and word should always be kind. The mother's last kiss at night is likely to be remembered in after-life.

> When by my bed I saw my mother kneel,
> And with her blessing took her nightly kiss—
> Whatever time destroys, he cannot this—
> E'en now that tender kiss I feel.[2]

Undisturbed repose of mind is essential for sleep to have the effect designed by Nature, viz., the perfect rest of the body, thus renewing and reinvigorating all the powers of life; a quiet, tranquil mind is one of the greatest promoters of health, comfort, and sleep. One has only to observe the haggard, worn look of those who sleep badly, and how irritable their nervous system becomes, to be assured that good sound sleep is necessary to life. 'Sleep is provided for the restoration of the nervous system, and in its most healthy form is of a light character and easily disturbed: the brain, immediately upon awakening, entering upon the full tide of its functions. The reason is obvious, and shows the infinite wisdom of that

[1] Charles Dickens, *Dombey and Son*, p. 19.
[2] Washington Allston.

Creative Power which has surrounded us with wonders. During sleep man is in a defenceless state, and if it were not easily disturbed he would not be aware of the approach of danger, nor in an instant capable of taking the necessary precautionary measures of escape or defence. This is easily seen by watching the heavy slumber of an oppressed brain, and the sudden wakening, not to the energy of action, but to dulness and stupidity of perception. The repose of the brain is often incomplete, and then, though the organ be wholly or partially abstracted from the influence of the will, it nevertheless continues a certain kind of action without the guidance and direction of the judgment : unrefreshing sleep is the result, and its subject rises in the morning wearied with enfeebled powers of the body, and with greatly diminished capacity for the manifestation of mind.' [1]

Children should never go to bed unhappy. Painful emotions oppress the brain and produce a disturbed sleep. Very often children's restlessness at night is caused by scolding just before being put to bed. Can any sight be more piteous than the hot, flushed face, the little heaving chest, and the occasional long-drawn sob of a child put to bed violently crying? Nurses scold and render children miserable often for a most trivial thing, and then come the cruel words : 'Go to bed, you naughty, wicked, bad child! Don't you keep awake, or I'll give you something to remember!' Fear and fatigue combine to produce sleep, but it is not refreshing rest, as going to sleep cheerful, happy, and composed in mind would be. No mother should keep, however useful, a nurse who is in the habit of scolding and making her children cry, or who puts them to bed crying and unhappy. Half the children have their tempers ruined and their health injured by the cruel treatment of unkind nurses. Harsh and exacting in the most trivial matters, although outwardly in their mistress's presence all suavity, and with not the slightest consideration for the natural weakness of childhood, too many nurses are not fit to be with children.

[1] Newnham, *Essay on Superstition.*

The love of control and dominancy is inherent in human nature, but it is only a mean nature which will oppress or be inconsiderate to the weak and helpless. When a nurse is constantly harsh with children it is more than useless merely reproving, for when she has full liberty and is not under observation then will she probably not only recommence her system of exaction, but will increase her roughness and moroseness by reason of having been checked, and the poor child or children will be only the more sufferers for the, perhaps, slight cessation of unkindness. Long-continued severity may become endurable by use, but sudden violence is oppressive and overpowering. It will be like Don Quixote redressing the wrongs of the peasant, and merely taking his master's word that he would deal justly by the lad, yet not remaining on the spot to see right done: all Don Quixote's good intentions were useless. His master only treated the boy worse after Don Quixote's departure than he had done before. 'The countryman followed him [1] with his eyes till he saw him quite clear of the wood; then, turning to Andrew, said, "Come hither, child; I must pay what I owe you, according to the order of that redresser of wrongs." "And, adad," said Andrew, "you had best not neglect the orders of that worthy knight, who (blessings on his heart!) is equally valiant and upright; for, odds bobs! if you do not pay me he will return and be as good as his word." "In faith, I am of the same opinion," replied the peasant; "but, out of my infinite regard for you, I am desirous of increasing the debt, that the payment may be doubled." So saying, he laid hold of his arm, and, tying him again to the tree, flogged him so severely that he had like to have died on the spot.' [2]

'Send your little child to bed happy; whatever cares press, give it a warm good-night kiss as it goes to its pillow. The memory of this in the stormy years which fate may have in store for the little one will be like Bethlehem's star to the bewildered shepherds. "My father—my mother—loved me." Fate cannot take away that blessed heart-balm. Lips parched

[1] *Don Quixote.* [2] *Ibid.* p. 27.

with the world's fever will become dewy again at this thrill of youthful memories. Kiss your little child before it goes to sleep.'[1]

> And the little ones gather around me
> To bid me 'good night' and be kissed;
> Oh, the little white arms that encircle
> My neck in a tender embrace;
> Oh, the smiles that are halos of Heaven,
> Shedding sunshine of love on my face![2]

To go to sleep with a feeling of terror would be bad and distressing for anyone, but it is more especially so for the young, who have not the power of reasoning their fears away. To raise in a child's mind a feeling of horror and a fear of darkness is essentially wrong, and likely to have a very injurious effect. Many poor children are terrified to be in a room without a light. This is a matter of use; and it is cruel —having once created a fear of darkness in a child's mind—to laugh at a child's alarm, which is the natural consequence of fear.

In some children the nerves are very weak, and they are more to be pitied than ridiculed or scolded, and should be treated tenderly. Children, if they have not in some way learnt to fear the darkness, will not have a dread of it. I have seen poor children so afraid of going to sleep in the dark that it has been positive cruelty making them do so. Lying shivering and cold with fear, how is it possible to go to sleep comfortably? If once a fear of darkness has been established in a child's mind, it is very difficult to remove, but it may be done with patience, kindness, and gentle persuasion, and the removal of all cause for fear. The feeling that there is nothing to harm in the darkness must be substituted in the mind for the feeling that the darkness is associated with something which may happen of an unknown and dreadful nature. Fear is always unreasoning, and an unknown evil which may possibly happen is always fraught with terror to the mind; we always dread the unknown. When the mind can grasp something tangible the alarm is never so great as when something of a mysterious nature is feared. As anticipation affords the most exquisite

[1] Rev. Charles Bullock, *Our Own Fireside.*
[2] Charles Dickens, *The Children.*

pleasure to mankind, so is it also their greatest torture. What is called 'night terrors' is a recognised malady, and demands proper medical treatment. It is thus described by Dr. West :—[1]

'It happens sometimes that a child, who has gone to bed apparently well, and has slept soundly for a short time, awakes suddenly in great terror and with a loud and piercing cry. The child will be found sitting up in its bed, crying out, as if in an agony of fear, "Oh, dear! oh, dear! take it away! Father! Mother!" while terror is depicted in its countenance, and it does not recognise its parents—who, alarmed by the shriek, have come into its room—but seems wholly occupied with the fearful impression that has aroused it from sleep. By degrees consciousness returns, the child now clings to its mother or its nurse, sometimes wants to be taken up and carried about the room, and by degrees, sometimes in ten minutes, sometimes in half-an-hour, it grows quiet and again falls asleep. As the terror abates the child, in some instances, grows quiet at once, but frequently it bursts into a fit of passionate weeping, and sobs itself to rest in its mother's arms.' Dr. West further adds:[2] 'Two attacks do not generally occur in the same night. They are always more or less associated with the impression of some object which occasions alarm—as a cat or dog, which is fancied to be on the bed ; and this illusion continues even after the child has recognised those who are around it. The condition is not one of delirium, for the child has no other hallucinations ; but the attack may return night after night with precisely the same characters. The previous sleep sometimes seems sound, and, though often uneasy, yet talking in the sleep does not usually occur, and after the child has been pacified it generally sleeps heavily--perhaps till morning, or till a second, usually slighter, attack comes on ; but this scarcely ever occurs until after sleep has again lasted for an hour or longer.'

Dr. West, after remarking on the *great necessity* for careful medical treatment, says :[3] 'At the same time, too, it is right that the child should not be left in the dark or alone ; the

[1] *Diseases of Infancy and Childhood*, p. 128.
[2] *Ibid.* pp. 129, 131. [3] *Ibid.* p. 131.

affection resembles night-mare, and in childhood dream-images seem to mingle with the waking impressions much more than in adult age. A light burning brightly in the room, and a familiar face meeting the child's eye at once on waking, will do much towards breaking the spell and towards allaying its fears. Harshness in such cases is quite out of place, and few pieces of cruelty can be greater than forcing a timid little child, in whom threatenings of these attacks have occurred, to go to bed in the dark, or to lie there without a candle, while its active imagination conjures up before its eyes out of the bed-curtains, or other objects in the room, the outlines of all sorts of terrific forms.' Having a bright light in a room for a child subject to 'night terrors' does not do away with the necessity for a child being in some measure shaded so as to have the eyes perfectly rested during sleep.[1] A curtain on one side of the bed, shading the light, or a lamp with a green shade, or a screen, answer the purpose perfectly.

It is well, when a child is subject to nervousness, or shows terror at being alone at night, for someone to sit in the room, or in one adjoining, with the door leading into the room well open; also to sleep in the room at night. But the value of this (sitting close to the child in the evening) will be done away with if the person has to go far for her supper. I know of a case where a little child had a fit through finding her nurse gone when she awoke. The nurse was absent nearly an hour, talking in the kitchen, far away from the child (who was in the dark), and the poor child was therefore unable to get any response to her piteous cries until the next-door neighbour sent in to know what was the matter with the little girl, she had been screaming so long. Generally it is the sense of loneliness which so oppresses children, and so even a light in the room is not enough.

Night-lights put in children's rooms should be put out of reach; also sleeping-rooms, school-rooms, and nurseries in which young children may be left alone should have a high fender or good fire-guard. Matches are not well left in reach either; children, seeing older people strike them so easily and

[1] See 'Repose,' p. 313.

without harm, are often impelled to do the same if they can get hold of the match-box.

Many fatal accidents have happened to young children through carelessness in leaving matches so that they could find them; also through fires being left insufficiently guarded. Too much care cannot be exercised as regards fire, lamps, candles, matches, &c., and children should be warned of their dangerous nature.

It is very harmful to children's eyes to sleep in a room where there is a strong light. Nature arranges that the time man has for repose should be dark, but we seldom follow the guiding of Nature. People say an infant's eyes are not injured by bright light at night, so that many infants are put to sleep with a strong light burning. That the practice is most unwise anyone acquainted with the surgery of the eye will acknowledge. In fact, it is thought by some, who have made the sight a study, that the excessive light during sleep that infants are often subjected to since the introduction of gas materially affects the sight afterwards. Dr. Chevasse writes :[1] 'An infant should not be allowed to look at the glare either of a fire or of a lighted candle, as the glare tends to weaken the sight, and sometimes brings on an inflammation of the eyes.'

Nurses say they must do their needle-work in the evening, having no time in the day for it, which is very reasonable; but, although they may need a good light, that is no reason for having the light so placed that the child gets the full glare from it. I have seen a nurse with her lamp, *without any shade*, facing the baby's cot.

It is harmful to children sleeping where gas is kept burning all night. That the burning of gas in a room has a distinct and very powerful effect on the air, rendering it more or less vitiated, most are aware. It is a manifest pity that people are so persuaded that gas gives the best and cheapest light. Lamps give an equally good and cheap light, and a more soft and pleasant one for the sight.

'The lighting committee of East Molesey recently[2] presented the following report, which has been adopted : "Your

[1] *Advice to a Mother*, p. 60. [2] 1887.

committee, in presenting their second annual report on the subject of lighting lamps with oil, have pleasure to inform you that it has been a great success, and given general satisfaction. Fifteen new lamps have been erected during the year in various parts of the parish, much to the comfort of the parishioners, and for which they have expressed their thanks. We have now 127 lamps burning from sunset to sunrise. The illuminating power is much greater than we ever had when burning gas ; the lights are steady and bright even on the stormiest and coldest nights." '

The late Dr. Letheby, in a ' Report on the Coal Gas supplied to the City of London,' remarked on the destructive effects of gas lighting, and said : ' Enormous damage has been done to the binding of the books in the libraries of the Athenæum Club, the London Institution, and the Royal College of Surgeons. In the first-named, wherever the books had been exposed to the atmosphere containing the vapours of burnt gas, they were as rotten as tinder ; indeed, it often happened that the covers gave way in attempting to remove a book from its place on the shelf.'

If books are so powerfully affected by the continuous burning of gas, surely the delicate organisation of infants and young children must be materially affected, although it may not be outwardly visible. Dr. Taafe, in an address delivered (1886) at the opening of the Section of Public Medicine, observed :[1] ' It is to be hoped that the day is not far distant when we shall be able to have our rooms lighted by the electric light, with all the advantages of breathing air free from the deleterious products of combustion of gas, and having the walls and ceilings of our rooms free from the blackness of smoke ; but until this happy time arrives we ought to take advantage of any means we can command to remedy, as far as possible, the evils arising from the burning of gas in our homes.'

Paraffin lamps are especially dangerous to burn where there are children. The great number of accidents, mostly of a fatal character, resulting from their use, would deter persons

[1] *The Times*, Wednesday, September 29, 1886.

from using them, one would think, or at all events not without great care and precaution ; but, alas ! it is one of the failings of human nature to be heedless. It has long been the opinion of many that the sale of paraffin should be publicly stopped. The extremely explosive nature of paraffin is well known ; still people go on using it with a carelessness and recklessness truly appalling. The following is only one of many very shocking accidents resulting from the use of paraffin where there were children :—

'A serious explosion, resulting in loss of life, occurred at the private residence of Mr. John Carpenter, situated at 19, Surrey Grove, Kinglake Road, Old Kent Road. About 8 o'clock on Saturday night several children were left in a room where a paraffin lamp was burning on a table. Fortunately three of the children went out to play, leaving their sister, Eliza Williams, aged 13 years, sitting at the table. Immediately after the oil in the lamp exploded, and the spirit, which became ignited, set the girl's dress alight, when a shocking scene took place. The poor burning child was enveloped in a mass of fire and her clothing was all consumed. Mr. Carpenter, who had only left a few minutes before the fatal disaster, was sent for, and he removed his step-daughter to St. Thomas's Hospital, where she was at once attended by Mr. Stabb, one of the house surgeons, who found that the child had sustained extensive burns on her thighs, abdomen, and other parts of her body. She died yesterday afternoon from shock to the system consequent upon the burns.' [1]

Children should always be warned of touching or lifting lamps about. I have seen children lift spirit lamps about most carelessly, being under the impression that there is not the same danger with a spirit lamp as other lamps. But this proves sometimes a fatal error, as the following will show :—

'On Wednesday night a boy aged five years, named Frederick Ayres, whose parents live in Scrutton Street, Finsbury, was burnt to death. The boy's mother lit a spirit lamp and placed it on the mantelshelf. During her absence the

[1] *The Times*, Monday, April 16, 1888.

boy, in attempting to take it down, fell and broke the lamp. The burning spirit ran all over the floor and set the room on fire, as well as the deceased's clothing. Before assistance arrived every particle of clothing was burnt off the child's body, which was terribly charred.'[1]

Another reckless act is looking for an escape of gas with a lighted candle. Despite the numerous and most melancholy accidents arising from escapes of gas being looked for with lighted candles, people will go on trying gas by a lighted candle. At least, if people will risk their own lives, they should consider the lives of young children, and should remove them from a room where an escape of gas is being looked for with a light. I have seen a whole family of children with their governess sitting calmly in a room where a man was looking for a gas escape with a lighted candle, and I have quite lately seen the whole front of a house blown out through the same cause. People say: 'Oh, the gas man ought to know what he's about.' He ought, but does he always? I think one's belief in those who try for gas escapes has been considerably weakened of late, and the number of fearful accidents are truly dreadful.

'An explosion of gas occurred shortly after ten o'clock yesterday morning in the front office of the basement of 2, Temple Gardens. A gasfitter was endeavouring to find the source of an escape of gas, and was entering the room with a light, when a loud explosion occurred, which blew out the window. A charwoman who was there at the time was so shaken and bruised by the force of the explosion and the falling *débris* that she had to be removed to the hospital.'[2]

'*Explosion of Gas.*—A serious explosion of gas was caused at eight o'clock yesterday morning through the foolish practice of seeking for an escape of gas with a light, at Chalwood, Anerley Road, Penge, at the private residence of Mrs. Todd. The ground-floor of the house and the furniture in three large rooms were completely wrecked as the result of the explosion, while Mrs. Todd was blown a considerable distance,

[1] *The Times*, Friday, November 4, 1887.
[2] *Pall Mall Gazette*, December 28, 1887.

and was very badly burnt on the face, arms, and hands. Maud Kaye, aged sixteen, was also burnt.'[1]

'*Gas Explosion.*—The common practice of seeking for an escape of gas with a light caused a serious explosion yesterday morning at 39 Cologne Street, Battersea, at the private house of Mr. W. Royal. The entire house of ten rooms, and the contents, were severely damaged by the explosion and the fire which followed, and Mr. William Royal, who was blown a considerable distance, was seriously burnt.'[2]

'*Gas Explosion at Battersea.*– The dangerous practice of seeking for an escape of gas with a light was repeated late on Saturday at the Clock House Tavern, 141 Battersea Park Road, in the occupation of Mr. T. H. Russell. In the result two rooms on the first floor were severely damaged by the force of the explosion, and Lionel England, aged twenty-nine years, was severely burned on the hands and face, and Richard Kemble, aged forty years, also suffered by burning.'[3]

'*Explosion.*—Notwithstanding the repeated cautions as to the absurdity of "seeking for an escape of gas with a light," it was again resorted to yesterday at 20 High Street, Marylebone, in the occupancy of the London Corn and Forage Company. The mischief happened in the shop, and extended itself to the front room on the first floor, occupied by Mr. James Hoadley, aged thirty-four years, the manager, who did not escape injury by burning. The damage attending the explosion was fortunately confined to the parts of the building indicated.'[4]

And thus it goes on, each accident resulting in either loss of life or serious injury.

Children should have as much air as possible without draught while sleeping. The curtains to an infant's cot should be so arranged that they only protect from draught, and do not exclude a free supply of air.[5] The practice of having curtains to infants' cots is honoured by the

[1] *The Times*, Wednesday, March 14, 1888.
[2] *Ibid.* Monday, July 23, 1888.
[3] *The Daily News*, Monday, August 6, 1888.
[4] *Ibid.* Thursday, September 20, 1888.
[5] See 'Repose,' p. 333.

length of time they have been in use. Their utility is, however, doubted by some, and their going out with four-post bedsteads is thought would have been a benefit. I think, myself, curtains to an infant's cot are useful in two ways—as a protection from draught if the cot is placed near a door or window, and as a shade from light while the child is sleeping; but only one side of the curtain should be drawn. *An infant's curtains should never be drawn close all round.* I was very much struck with some infant cradles I saw in the South Kensington Museum, Early Seventeenth Century (1641–1691), made of wood on rockers, and covered over the head with a square piece of wood in place of curtains. They are exactly similar in shape to the rocking cradles, in basket work, of a later date. The idea of its being necessary to have a covering over an infant's head one thus sees dates from a very early time. Our grandfathers and grandmothers tried to exclude the air as much as possible during sleep. The benefit they derived from their manner of sleeping surrounded with curtains carefully drawn we now question, and the prevailing idea of the present day is to get as much air as possible during sleep. This idea is now carried out nearly everywhere as to grown people. It is only infants' cots which remain exactly as they were, without alteration.

One practice which would be well altered is covering an infant's head over during sleep with a flannel square. Sometimes, in moving the head, an infant's face gets quite covered over with the flannel, and the child is nearly smothered; if a strong child it will cry out, but if it is weakly the little amount of breath may become so much exhausted that death may ensue. I have heard of several instances of infants dying through the flannel square getting quite over the face during sleep. Babies are looked upon, I fear, in the light of moles—requiring little or no air. In fact, the way in which infants are covered over, it is no wonder there are so many cases of suffocation. If people are afraid of an infant having its head uncovered during sleep, why not put on a cap?[1] They were much used at one time, especially at night, and in

[1] See *Colds, Chills, and Rheumatism*, p. 401.

some respects it is a pity they have gone out of fashion. I have seen some little caps—used as nightcaps—in use a hundred years ago. They seemed admirably adapted for the purpose. They were made of fine, soft Indian muslin, with a little frill of lace, and ribbons to tie under the chin.

'The French cots are now coming much into use in England; they are made of iron with a netted hammock-like bed. In some respects they are better than the kind in general use. For one thing, they are more secure and steady, and not so easily knocked over, and higher from the ground, which is another advantage. For older children the perforated iron cots are nice. With the cots with bars round, young children are sometimes apt to get their arms through, causing pain and discomfort. I think it is well to cover (round the head [1]) children's cots which have bars, as during sleep they often give themselves some hard knocks by falling over against the iron during sleep. A piece of chintz or cretonne looks bright and nice, but *avoid green*. The covering should come inside the bars. Where swing cots are used, care should be observed in seeing that they do not over-swing, and as soon as children are old enough to stand up and lean over the side their use should be discontinued. Melancholy accidents have occurred through children over-balancing themselves and falling out. With the old-fashioned rocking-cradles there was less danger, as they were usually kept on the ground, and if by accident a child did fall out it had so little distance to fall that it was hardly harmed; but, now that swing-cots are raised from the ground, the distance is not only considerable, but if placed near the fire and a child falls on the fender, or even if only on the floor, it may not only be seriously injured, but fatally. Even with the other kind of cot it is sometimes advisable to have an extra iron railing or two put round so as to prevent a fall. It is easily done when the cot is square, and the same height all round. At the four corners is placed an upright bar, put on the places where the brass knobs are—on these, all round, are placed iron bars, which are fastened on with the brass knobs.

[1] But only just round the head, so as not to exclude the air.

Children are so fond of leaning over their cot when old enough to stand that it is well to take precautions to prevent their falling, as a fall may prove a more serious matter than supposed. For children who walk in their sleep a netting (fisherman's netting made with an open mesh) placed over the cot is advisable. This does not in any way interfere with a free current of air, and if properly fastened gives perfect security. They sell cot-nets at the Army and Navy Stores, 117 Victoria Street, London. They are about 2*s.* 6*d.* each. *A propos* to falls, it is very doubtful if a gate at the top of nursery stairs is an advantage. People are so apt to trust to its being always well looked after, and kept shut, that they are sometimes less careful with young children, and children just beginning to crawl will get out of a room without being observed, and, finding the gate open, they try to get down-stairs, the result being a severe fall. When a child has had a fall no pains should be spared in seeing that no injury of any moment has been sustained.

Deformities in after-life have in some instances resulted entirely from carelessness in not at once attending to a severe fall in childhood. If a child has had a bad fall, and there seems no injury, still a thorough examination should be made by an experienced physician, who may perhaps be able to give advice, which may prevent future harm resulting. Bars are most necessary to have placed on nursery windows. Leaning against railway-carriage doors and ordinary carriage doors having a spring handle is very dangerous. Swings require also to be used with care. The old-fashioned swing—a piece of wood for a seat, and two stout cords fastened to trees or wooden supports—is best. The basket and box swings are excessively dangerous.

'Yesterday Mr. Carttar, West Kent Coroner, held an inquest in the Board-room of the Kent Waterworks Company, Mill Lane, Deptford, on the body of Norah Anna Morris, aged eight years and eight months, daughter of Mr. William Morris, C.E., the resident engineer to the company. The jury having viewed the body, which was that of a fine, handsome child, it was identified by the father, who said the

child had had no illness till within the last few weeks. She had a fall from a swing, and had spoken of several falls at school, but there was nothing to arouse his suspicions that anything was wrong. Subsequently she lost her appetite, became drowsy, and vomited, and was attended by two doctors and a physician called in. At one time she rallied, but had a relapse, and died on Sunday afternoon last. Mr. Alexander Dickson, secretary to the water company, said that on July 10 last he was on a visit to Mr. Morris, and was walking in the garden, where Norah and another girl were enjoying themselves swinging under a large tree in a box swing. He had passed them, when he heard a scream, and on turning round found the girl now deceased lying on her back on the gravel path, having fallen in consequence of the bottom of the box giving way. The other girl held on by the ropes and escaped. He ran to the spot, and saw the deceased picked up by Miss Beckett, the governess. The girl complained of her back, and he asked her whether he should carry her into the house, but she said she could walk there, and did so. An hour afterwards she came out and resumed play, and on being questioned said she felt no pain. After that she went to school, which broke up on July 26, and he knew she was able to play with her brother in the garden up to August 9. Dr. Dashwood attributed death to inflammation of the brain, and after some deliberation in private the jury returned a verdict of "Death from inflammation of the brain, from an accidental fall from a swing."' [1]

Children are so liable to catch cold through being uncovered during the night that a quite loose flannel covering over the nightdress is always necessary for infants and young children. Dr. Pope writes : [2] 'But it is at night time that the protective influence of flannel is so valuable. During sleep, the nervous system quiescent, the circulation slow, the senses numbed and at rest, the body is less able to resist changes of temperature, chills, and other evils. Then, flannel clothing is

[1] *The Times*, Monday, September 8, 1884.

[2] *Clothing and its Materials*, by Joseph J. Pope, Staff-Surgeon, Army (retired).

the best guardian of our health and comfort. Further, let me add a word on behalf of babies and young children, who are also unable to resist the external influences of cold. They should always be more warmly clad than adults. The notion that is still held of the possibility of "hardening children" by exposure and cold bathing cannot too soon be abandoned. It is cruel, wrong, and often fatal. The younger the animal, the less power has it of resisting cold. John Hunter's rules should be written in every nursery: "For rearing children healthily," he says, "there must be plenty of sleep, plenty of milk, and plenty of flannel."'

Some doctors recommend for delicate infants and children nightdresses made of very fine white (Saxony) flannel instead of linen or calico. There is no doubt that flannel helps the body to retain its heat better than linen or calico. 'Dr. Hammond's experiments are very decisive on this point. He found that a vessel of water, temperature 150° Fahr., cooled down to 140° Fahr., if left uncovered, in 5 min. 11 sec. If, however, the vessel were covered with linen shirting, it lost the 10 degrees of heat in 7 min. 24 sec., with cotton shirting in 9 min. 42 sec., with white flannel in 12 min. 35 sec.'[1] An over-flannel should always be made of a thin flannel—*white, not red.* There are some nice light flannels now of a mixture of silk and flannel, which do not shrink or thicken in washing, yet allow of free transpiration.[2] It should be made to come, if a nightdress is worn, to the knees if not to the ankles, and to tie loosely round the throat and with loose sleeves. In Germany, in some parts, the whole of the bedclothes are tied down to the mattress with a tape and button. Dr. Semple writes: 'Of course there is no trouble about keeping a young babe warm, and as the child grows older it is well to adopt some means that will ensure its being kept covered, and not to depend upon the nurse waking in the "small hours," when nervous depression, lowered vitality, a nude child, and excessive cold will exert their combined influence.'[3]

[1] *Ency. Brit.* (new edit.).
[2] See 'Colds, Chills, and Rheumatism,' p. 403.
[3] *The Mother's Guide*, p. 24.

If mothers would get up in the middle of the night and see how their children are covered over they would not only be astonished, but would wonder how it is colds are not the rule with their children ; and here they would find the explanation of many an obscure attack of bronchitis, croup, &c. As regards infants, it is a great mistake to tightly swathe and bandage the body during sleep. A great deal of indigestion is caused to young infants by tight bandaging, especially at night. Hiccough is often in young babies the result of too tight bandaging. Infants often wake up with hiccough, or, if fed immediately after waking, have hiccough, and the cause is invariably the tightness of the swathe or band wound round the body. The popular theory that a baby is doing well when it has the hiccough is a great fallacy. Nurses sometimes say 'a baby is thriving' when it has the hiccough constantly, whereas it has in reality indigestion, poor little soul !

Tight-bandaging of infants at night is especially harmful. It stands to reason that it must be very injurious to compress the stomach and digestive organs, especially during sleep, when all portions of the body should be untrammelled. Children are likely to be more upright, stronger in the back, and more muscular and vigorous, who are not tightly bandaged as infants. My own experience has proved this clearly to my mind, three of my children, swathed in the usual fashion as infants, not being nearly so strong in the back, or so upright, now they are grown up, as those not swathed. A broad flannel band lightly fastened round the body of an infant is useful in preventing cold and chill in the stomach and bowels. Tightly fastened, by preventing proper circulation, it is deprived in a great measure, if not quite, of its usefulness. The flannel band should be merely a strip of flannel torn off. It is much better not bound, although it may not appear so neat. Dr. Semple writes : [1] 'In this changeable climate it is certainly well to use a small and thin flannel binder for at least some months, for the one essential point in the management of infants is to keep them comfortably warm, especially about the body, as they are not possessed at that early period of the

[1] *The Mother's Guide*, p. 3.

heat-making qualities of older children.' The stiff, white swathes commonly used for infants are (especially tightly wound round the body as they usually are) promoters of indigestion, and the idea that by their stiffness they tend to make a baby straight is quite a delusion. Some poor infants are fastened so tightly, they cannot breathe with comfort, especially after being fed, which distends the stomach. I have unfastened a little infant, and shall never forget the gasping sigh of relief when undone. Dr. Semple adds :[1] 'It is most important that the infant's clothes should be light in weight, warm and loose ; especially should looseness be attended to as regards the abdomen, for no doubt many infants are forced to vomit after suckling from the pressure of tight bands and clothing.' A baby should always be put to rest at night washed, freshly clothed, and smelling as sweet as possible. The habit some people have of drying the under-linen of an infant and using the same things several times is not good, and is often the entire cause of infants being so painfully chafed. The heat of the child's body brings out all the *acridity*, which has been only dried, and still remains in linen which has been wetted by an infant, and is often the sole cause of infants becoming painfully excoriated. Sores, inflamed skin, and various other evils are caused also by infants lying continually and for a length of time in wet linen. The smell from linen and flannels merely dried and then put on infants is often most offensive. Some nurseries smell most unpleasantly from this cause—drying of infants' wet linen—and the faint, disagreeable odour is undoubtedly *most injurious*.

Dr. Routh writes :[2] 'There are some practices kept up in most nurseries which are very detrimental. One is the *drying of napkins* by the fire. Indeed, nursery-guards with a double rim round them are made and sold with this very object. Independently of the dampness thereby induced, as they are often not washed at all, and in many cases only rinsed out in water, the urinous odour given out is intensely unwholesome and offensive. Not only is ammonia emitted, but, perhaps, cyanate of ammonia, a poison, and so an atmosphere may be

[1] *The Mother's Guide*, p. 3. [2] *Infant Feeding*, pp, 471, 472.

generated which will prove highly injurious. All soiled napkins should be removed at once to a distance, so that the air should in no way be contaminated.' No soiled linen should ever be kept in the nursery. There is generally a box-room or spare-room, which may conveniently be used for such.

I think the practice Dr. Routh so strongly condemns cannot be too rigidly abstained from. I am sorry to see it is a practice much on the increase amongst the rich, who certainly cannot plead the excuse of the poor—want of means for large laundry expenses. A few shillings saved in necessary washing of linen may mean pounds in medical fees. People cannot be too particular in keeping the rooms, where infants and young children are, quite sweet and well ventilated. Where a number of infants are congregated together for long periods, still more care is needed. 'Dr. Payne, of Wimbledon, in his report to the Obstetrical Society in 1871, states from his experience : "A nursery of three or four children never does well. The air of the room becomes foul, and they all droop and fall away in flesh, even with the best food, attendance, and cleanliness."'[1] The children of the poor live out of doors ; it is too often the children of the rich who are kept two, three, four, and five in one room nearly all day.

Where there are several children and a baby, the latter should be kept apart, if possible ; in these days of nursery governesses this is quite practicable. Those who cannot have a separate living and sleeping-room for a baby should be most careful in keeping the room *well ventilated*, and the room should be thoroughly aired immediately after the night. According to some recent statistics and enquiries, 'the death-rate in young children was nearly four times as great in one-roomed as in four-roomed houses.'[2]

It is the foulness of the atmosphere, caused by a number being congregated together, which is so dangerous to health. 'It is this organic foulness which we have mainly to fear in overcrowded places. It was the organic foulness rather than

[1] *Infant Feeding*, p. 35.
[2] *Philosophical Transactions for* 1887. In Series B.

the carbonic acid which killed the victims of the Black Hole of Calcutta, and which caused symptoms of blood-poisoning in those who survived.

'Since we breathe some sixteen times in a minute, and inspire about a pint of air every time we draw our breath, it is evident that the amount of air we require per diem is prodigiously great, and that the purity of the air we breathe is a matter of prime importance.' [1]

Macintosh should never be put just under or on an infant when it is put to bed; and it should not be used fastened round an infant's body unless there is especial occasion, when it should be removed as soon as possible. Macintosh excludes the air and helps to weaken the body, and is in every way most injurious in its effect where constantly used. Instances are not wanting in which the total exclusion of air from the body has produced death. To remain in a healthy condition *no part* of the body should have the air altogether excluded, and when any part of the body is wrapped up so that free transpiration is prevented it not only weakens the part, but it produces injury.

If people would not wrap up the lower parts of infants and young babies as they do in macintosh and thick flannels, they would not only be more healthy, but they would walk sooner, and the muscles would be stronger. 'The importance of the cutaneous surface as a respiratory organ cannot be overrated.' [2]

Dr. Semple says: [3] 'Avoid, if possible, using waterproof or rubber-sheeting in the diapers for habitual use—it will act on a child as *rubber* boots on a man, causing an excessive secretion of perspiration, and keeping the parts soaked in it. Another important point is never to allow soda or indigo blue to be used in the diapers, as they both greatly irritate the skin.'

An excellent plan for avoiding the use of a waterproof sheet in the infant's bed is—make some quilted pads to put under the infant. Get some swan's-down diaper, cut it the

[1] G. V. Poore, M.D., *Climate in relation to Health*, pp. 1, 4.
[2] Dr. Carpenter's *Physiology*.
[3] *The Mother's Guide*, p. 32.

size required,[1] and put inside a layer of wadding, the swan's down being on each side; quilt both sides with large quilting, and stitch (turning in) all round. These wash without taking to pieces, and are most useful to put under. Some put macintosh between, but it is a mistake, and the waterproof sheet would be preferable, as a blanket could be put over it, and it would thus come less in contact with the child's body. 'What the eye does not see, the heart does not grieve for' is not always a judicious way of looking at things. When an infant wakes in the night the bed-linen, if wet—any other wet linen too—should be changed; the child will then go comfortably to sleep again when fed. Many infants cry and lie awake a long time because they are given a bottle of food in their bed,[2] but are not otherwise made comfortable; and as soon as the food is finished the poor little things are sensible of the discomfort of their bed. It is very sad to hear a baby constantly wailing and crying in the night.

> An infant crying in the night,
> An infant crying for the light,
> And with no language but a cry.[3]

And in most cases it is easily prevented, and only occurs through carelessness, want of thought, or laziness. 'Such a cross baby!' 'baby is so cross to-day.' These are common expressions, and are used relative to quite infants even.

It should be borne in mind that anger belongs to more developed human beings, and that a baby, until it gets old enough to understand, is simply devoid of passion, and is without the power of repressing its feelings. When an infant or young baby cries continually it means discomfort of some kind, and it should be remembered that to cry violently is its only means of expressing its discomfort. How often would babies never be attended to, only they cry? There is no such thing as 'a cross baby.' It would be well if mothers would remember *a baby never cries without a cause.* Faulty management renders a baby irritable. If an infant is crying continually, and for lengthened periods, the cause should be

[1] Seventeen inches square.
[2] See 'Feeding,' pp. 132–238. [3] Tennyson.

carefully searched for. That which is often attributed to temper is in reality the expressing of pain. The cruel way in which nurses walk along with their little charge crying itself nearly into fits, they meanwhile talking unconcernedly to someone, and taking no notice whatever of the poor child crying itself sick, cannot be too strongly spoken against.

The habit which is so prevalent of putting pins in various portions of an infant's clothing is highly dangerous. When an infant cries incessantly and apparently for no reason (where pins are habitually used people are apt to get careless in their use), the cause may possibly arise from a pin pricking. English people are too much addicted to the use of pins in dressing infants, and often 'tout epinglé' [1] is well applied to an infant when dressed. In infants' night clothing especially pins should not be used. Cold feet are sometimes the cause of infants and children sleeping badly at night. Some infants and children suffer much from cold feet in the winter. Where there is a tendency to cold feet, woollen boots should be kept on an infant's feet at night, or, if they are very cold, they should be wrapped in a warmed flannel.[2] If woollen boots are kept on, it should be seen they are not tied too tightly. For older children a stone bottle filled with hot water and covered over with flannel is useful. Stone bottles are safer than indiarubber, which are liable to burst if long in use or defective. The restlessness of young children at night is sometimes owing to cold feet.

Sleeping cordials are most pernicious. An infant or child properly fed and tended, and given plenty of fresh air, will sleep perfectly without any ; and even if an infant is a little restless, and does not sleep so well during the period of teething, a small amount of sleep naturally gained is better than the longest sleep artificially induced. It is simply ruinous to an infant's health to constantly give what are called 'soothing syrups,' many of which contain opium. 'The effect of opium on infants is very marked and pernicious. A case is mentioned in which an infant of some months of age, suffering from diarrhœa, was ordered one drop of laudanum every three

[1] 'All pinned.'

[2] See 'Repose,' p. 338.

hours. After the first drop the diarrhœa ceased. After the second convulsions came on. After the third the child died. ("Presse Médicale Belge," July 1875.) 'I myself,' says Dr. Routh, 'have seen a baby killed outright by the administration of two drops only of laudanum.'[1]

Gin, whiskey, and brandy are sometimes given by ignorant persons to infants, with the idea of producing sleep. I have even seen beer given. The practice cannot, however, be too strongly condemned, as constantly giving any kind of spirit to infants is not only most injurious, but will, according to some authorities, stunt the growth of children. I myself saw, as an experiment, spirits given for a length of time to some puppies, with the result that they did not grow to the ordinary size, but remained tiny dwarfed creatures. When an infant is very restless and irritable, and seems disinclined to sleep, a tepid bath given before putting to bed will often soothe and calm the nervous system, and so conduce to sleep. During teething a warm bath at night when a child is very restless has often a calming effect. Dr. Goodhart observes:[2] 'The mother worries at the unusual wakefulness. Put the child into a warm bath for a few minutes, and with fresh linen, and a comfortable cot, it will probably soon be at rest.'

Weakly, delicate infants are sometimes benefited by the use of a few drops of brandy, given occasionally in a little milk. It should not, however, be given except when required, as when a baby has a stomach-ache or indigestion. Fifteen to twenty drops is amply sufficient for an infant or young baby. More should not be given except with medical advice. When brandy is given it should be given very carefully. Holding an infant's nose tightly, and then pouring the whole teaspoonful of milk containing the brandy down the throat, is not only an exceedingly dangerous way of giving it, but is as well very cruel. I have seen infants nearly choked by having a spoonful of something poured down the throat in this way. Infants, as a rule, like the taste of brandy and milk.

Dr. Routh, in speaking of wine-whey, observes of brandy:[3]

[1] *Infant Feeding*, p. 246. [2] *Diseases of Children*, p. 15, 2nd ed.
[3] *Infant Feeding*, p. 436.

'Occasionally brandy may be substituted for the wine, ten to fifteen drops in a teaspoonful of water or milk, sweetened. Brandy, so given, is often found more useful when a tendency to sickness exists, because it is freer from acid.' I have been directed to give twenty drops of brandy to a very delicate, feeble infant, and with much benefit. When an infant has stomach-ache, or colic, fifteen or twenty drops of brandy in a teaspoonful of milk will often afford immediate relief. Also putting a hot flannel on the stomach and wrapping the child in a warmed blanket is of benefit. I have seen an infant, crying bitterly, after being given brandy, and being well warmed by wrapping in a blanket, applying hot flannel to the stomach and feet, fall into a calm slumber and awake free from pain. The child should be nursed till it falls asleep, and should not be put in a cold bed. When a baby is in pain there is no place like the mother's or nurse's arms for comforting it. Nurses are under the impression that spirits assist in generating heat, and for this reason give such continually; but this is a mistaken idea. Spirits lessen the temperature.

'Life and warmth are so closely connected together in scientific as well as in popular notions that perhaps the most striking evidence of diminished vitality is the lessened capacity to generate heat, and we have this evidence in the case of alcohol. MM. Dumeril and Demarquay published in 1848 their observation that intoxicated dogs exhibited a great loss of temperature; and Dr. Boecker and Dr. Hammond find in their own persons the same result from even moderate doses of spirits. This accords with and explains the experience of Dr. Rae, that alcoholic drinks give no satisfaction to Arctic voyagers, and of Dr. Hayes (surgeon and commander in the United States second Grinnell Expedition), that they actually lessen the power of resisting cold.[1] Dr. Chambers remarks:[2] 'The warming of the stomach which dram-drinkers speak of with such gusto is, in fact, a fallacious sensation arising out of insensibility to external influences. The sensation of cold is diminished by ardent spirits, but so also unhappily is the power

[1] *American Journal of the Medical Sciences*, 1857, p. 117.
[2] *Manual of Diet in Health and Disease*, p. 198.

of resisting its deleterious influence, and the temperature of the body is lowered by even moderate doses.' I have seen a little dog, after taking a quantity of whiskey, of which it was very fond, actually shiver with cold. Fat increases heat, which is probably why some American doctors recommend the use of suet in infants' milk for cold climates.[1] Dr. Poore says: [2] 'The great trouble in the Arctic regions is to keep up the animal heat, and this is only to be done—(1) by the adoption of every kind of artificial protection against cold, and (2) by the supply of sufficient food, which is often no easy matter. Food in abundance is most important, as without it the temperature of the body cannot be maintained. The Esquimaux will consume ten pounds of animal food per diem. Food is the fuel which we put into the internal furnaces of our bodies. In a week or two the lambing season will begin, and many of us will wonder how the delicate younglings manage to support so much cold and exposure; but the farmer will tell us that, provided there be food enough for his ewes, and, by consequence, milk enough for the lambs, he has no fear of snow and cold, at least in moderation.'

It is a great pity nurses do not understand better the influence of food in keeping up the temperature of the body,[3] and the necessity for plenty of milk for infants.

An old expedient for obtaining sleep has again come into fashion—the 'hop pillow.' Being merely a pillow, it is by ignorant persons looked upon as harmless, nay, will even be said to be beneficial by those knowing nothing of the result when constantly used for infants. For grown people, unable to sleep, I say nothing as to the merits or demerits of the 'hop pillow,' but in the case of infants I say decidedly, don't use a 'hop pillow.' Nature designs that an infant should wake up during the night to be fed. You narcotise the child at night so that it sleeps many more hours than it would naturally; do you consider the amount of nourishment (which cannot be made up during the day) the child is deprived of? Because they are cheap, and it is not supposed to be quite the same as

[1] See 'Feeding,' p. 189.

[2] *Climate in relation to Health*, p. 12.

[3] P. 404.

ordinary narcotics, these pillows are bought by people, not considering them as affecting infants injuriously; but mothers should be warned against allowing anything of the kind to be used.

Never narcotise an infant under any form if you value the child's health or life. If you would hesitate to give chloroform, opium, laudanum, why not before using any other powerful narcotic? People say, 'Put an infant to sleep on a "hop pillow"—it will not harm—and have an alarum to wake you in two or three hours; you get your undisturbed rest, and can awake the baby and feed it.' Be assured a baby awakened, and at your time, does not derive the benefit from its food that it would if it awakened of its own accord, when it felt the natural pangs of hunger; and anything which continually enters the system of an infant, of a narcotising nature, cannot fail to be injurious, even although the injury may not be apparent to an unpractised eye. It is best to accustom a baby from the first to a certain amount of noise during sleep. Where everything is kept absolutely still when an infant is asleep, if there is any sudden noise the child is apt to wake in alarm. Of course it is not meant that an infant is not to be kept in a quiet room while asleep, only that it is a mistake to use a baby to *absolute quiet* during day sleep, so that if there is the slightest sound the child wakes in a fright. Sleep, unless the child is a particularly light sleeper, is not interrupted by slight noises in the room. In fact, where a child is accustomed from infancy to certain sounds, it does not heed them. See a young baby calmly asleep in a cradle beside a piano-organ, playing loudly all the time, and surrounded as well by all the noises of the streets. In fact, one can use children to anything, and most habits of life are the result of custom.

The Morning Sleep.

Every child, up to at least the age of three years, should have a morning sleep *indoors*. A morning sleep is not only very beneficial to young children, but is, in fact, necessary when they are up early, and greatly contributes to health by preventing over-fatigue. A certain time should be set apart in

the morning for a quiet sleep. An hour is sufficient, but the child should not be awakened if it sleeps longer. "Un sommeil pas fini n'a point de rafraîchissement pour un enfant.' [1] Our own English Doctor Chevasse reiterates this. He says: [2] 'Sleep must not on any account whatever be interfered with; it is of more importance than even food itself. It is cruel,' Dr. Chevasse continues, 'to disturb a babe while asleep. Sleep is the greatest nourisher, comforter, and sustainer in the world, and should in every way be encouraged. A child who sleeps well, provided it be not from soothing syrups, is almost sure to thrive well, while one who sleeps badly often dwindles away, even into the grave. Sleep is more fattening and health-giving than even food itself. The best place in the day-time for him to sleep,' Dr. Chevasse adds, 'is not on the nurse's lap, nor on a feather-bed, but on a horse-hair mattress in his cot or crib, shaded from the light and from draughty currents, but not from the air of the room. . . . . While a child is asleep he ought not to be disturbed by loud talking or by a glare of light falling on his eyes. . . . While asleep in the day he should not be covered with heaps of clothes. A child's blanket in the winter and a sheet in the summer is, during his mid-day sleep, all the covering, except the clothes he has on, that he requires.'

Dr. Chevasse gives another good piece of advice. 'Whenever a child awakes from his sleep and is removed from one room to another either a square of flannel or a shawl should be thrown over him.' To gain a good, refreshing sleep, the body should always be recumbent. Unless a child is so placed that it can get a quiet, comfortable repose, the body being placed in a proper attitude for sleep, the rest is of little value. When a child is fatigued it will sleep in almost any position: but, to be really benefited by its sleep, a child should be placed in its own bed and should be covered over. The practice of letting children sleep out of doors, without having a quiet, restful, morning sleep, is harmful. Nothing can be

[1] 'A sleep not finished is no refreshment to a child.' *La Jeune Mère*, M. le Docteur Brochard.

[2] *Counsel to a Mother*, p. 52.

worse in every respect than the way in which so many people let children sleep in their perambulators out of doors, their poor little heads most uncomfortably placed, and their poor little bodies jolted about in the most reckless manner. Grown people would think it a great hardship if they were compelled to go to sleep every day, when tired, in a hansom cab, driven along with no regard to the jolting they might receive. Yet poor little children, wearied, and often sadly needing a quiet, reposeful sleep, are allowed to go to sleep in a perambulator in any sort of position out of doors, exposed often to the direct rays of a summer sun, at the hottest part of the day, and often insufficiently sheltered from either sun or wind. They are wheeled along while asleep in the most careless way, not a thought being given either to the discomfort experienced or the probable injury inflicted.

The child whose father earns his living by grinding a piano organ, and who is taken about with the organ, excites much compassion, but in some respects is better off than the rich man's child. The poor man's child when tired is laid flat in its cradle with its wearied little head on a pillow, with a covering over sufficient to protect from sun and wind. The rich man's child—heir perhaps to thousands—when sleepy, is often not even put in a comfortable position, but is allowed to fall asleep with its head anyhow, and placed in such a way that nine times out of ten the spine is not only in a very bad position, but has also a continuous and great strain on it. When doctors are inquiring into 'the cause of the increasing prevalence of spinal complaint amongst the wealthy' the injury caused by the perambulators with little support for the back, and going to sleep jolting about in this position (the upright), might with advantage be considered. How far it is prejudicial to health putting an infant of a few weeks in a perambulator in the winter might also have a passing thought. I myself believe it to be most injurious in more ways than one. A nurse I spoke to a little while ago told me a baby she had charge of at six weeks old was much too heavy for her to carry out of doors. Poor, heavy baby! Certainly many babies when full-dressed for taking out of doors are

much like the 'French Princess,' almost too heavy to be carried. The long clothes of many infants are really quite a load in themselves. It is a pity when infants are so over-dressed, and the utility is doubtful.

I am perfectly convinced, from long observation, that with many infants putting them so early into a perambulator does much harm. Often the cause of infants dying soon after the month is owing to chill, caught by exposure to cold. The poor infant is coddled up and has great warmth during the month. When the monthly nurse leaves, the poor little thing is at once subjected to every sort of treatment, not with any ill-natured intent, only from want of thought as to the tender nature of a baby. Put immediately in a cold perambulator, because it would be such fatigue to carry. 'It cannot feel cold, for it has such a beautiful cover, worked by mamma.' But, alas! loving work won't keep the heat in the poor mites. Bathed in a room without a fire, for 'baby must not be brought up delicate.' Displayed to admiring friends in a state of nature, perhaps hardly dry. 'It's such a darling, such a little cherub.' Yes, and it soon proves its cherubic nature by taking an early departure from this trying world. I think that to put an infant with so little natural warmth in itself into a perambulator, when only a few weeks old, during the winter, or autumn, or spring, each of which is sometimes bitterly cold in England, is likely to cause chill, and is little short of courting illness. I have seen infants rendered very ill by being put in a perambulator at too early an age. The white, pallid appearance of infants when in a perambulator during cold weather arises often from defective circulation, caused by cold. A baby should be carried for the first few months of life.

Dr. Semple writes :[1] 'How often have we seen, in the bitter days of mid-winter, the nurses who are in charge of the infants collected together in a public park or square, discussing some interesting piece of gossip, while the baby-carriage, with its tender little occupant, stands by the half-hour braving the cold winds. That is the reason why I object to baby-

[1] *The Mother's Guide* p 28.

carriages in winter, for if the nurse were obliged to carry the child matters would undoubtedly wear a different complexion. I have no doubt that many an apparently unaccountable case of inflammation of the throat, bronchitis, or pneumonia, and many a sudden death from congestion of the lungs in a child —the idol of its mother—would be explained, could the trees and branches tell the tale.' Dr. Ellis says: [1] 'It is by no means improbable that many infants and delicate children have their powers of life depressed, and their existence consequently shortened, simply from exposure to the air—in other words, merely from cold.'

French doctors are quite against putting *little infants* into perambulators, and it is never done abroad. Speaking against putting children too soon into perambulators, a French medical writer ('Annales d'Hygiène') says : '*An infant* when carried lies against the chest and stomach of its mother or nurse. Here it obtains artificial warmth ; but if the temperature of the child's body is lowered by the absence of this heat while out, as by placing in a perambulator, the extremities, and in time all the body, get chilled ; the circulation and temperature being thus lowered, the child may become a victim to congestion of the lungs, bronchitis, croup, or to any of the diseases brought on by want of warmth and cold.' He continues : 'One of the great causes of deformities and weakness of the back is not, as is often said, "too much nursing," but the reverse, "too little nursing" ; and school finishes what the treatment in childhood begins. Compelled to sit nearly all day in one set position at lessons, the back has one continuous strain on it, and to procure ease the poor child stoops and lolls, and thus ends with a weak back or a crooked spine.' Some keep an infant always on its back, under the impression that this tends to make a straight back ; this, however, medical men dispute. 'The erect or semi-erect position is as necessary for a child as the recumbent. In a weak child the latter may produce passive congestion of all the lower parts of the body.' [2] I have seen abroad children kept for several months lying flat on the back ;

[1] *Disease in Childhood*, p. 37.
[2] Dr. Routh, *Infant Feeding*, p. 480.

but I could not see that it was in any way more beneficial to the back than the alternate recumbent and semi-upright position of infants nursed in England. Movement or exercise of the body, such as that gained by jumping in the arms, especially as the infant grows older, is necessary for health. It does much good to an infant to allow it to lie occasionally on a bed, quite free, so that it may kick about and thus gain strength in its limbs by exercising itself. Because I mention the advisability of laying an infant down for a little time during the day, it must not be thought that I advocate that continual laying down of young infants in the perambulator out, and indoors in the cot, which is so much the rule now. Mons. le Docteur Hervieux,[1] 'On the Abuse of the Horizontal Position at the Hospice des Enfants Trouvés, and its Influence on the Mortality of Infants,' says: 'Each child has so little exercise in the shape of moving about that in many cases it results in death, and death from this cause alone.'

The late Mr. Richard Quain, F.R.S.,[2] was of opinion that 'the want of sufficient nursing in babyhood often produces a tendency to pneumonia.'[3] An old doctor, very celebrated in his day for his skill in the treatment of infantile maladies, once told me: 'No baby ever thrives that is not coddled, nursed well, coaxed, kissed, loved, cuddled, comforted, sung to, dandled, talked to, and kept warm.' Dr. Semple also says:[4] 'Mothers should bear in mind that many a child pines away for want of the warmth afforded by contact with the body of its healthy nurse or mother. Nature requires this coddling of the young; and when art steps in to make unfashionable what it demands the battle that is fought can end but in one way. This has been truthfully asserted as one of the many causes of the enormous mortality amongst foundlings and illegitimate children.'

Why do nurses never let children run about out of doors in fine, dry weather? There they sit strapped in the perambulator all the time they are out, whereas, when able to walk,

[1] *Union Médicale*, November 2 and 23, 1852; *Journal de Phys.*, 1870; and *Gazette Médicale de Paris*, 1873.

[2] Article on 'Infant Nursing,' *British Medical Journal*.

[3] See also Routh's *Infant Feeding*, p. 51.

[4] *The Mother's Guide*, p. 24.

the immense good which would be done to the muscles by walking and running in the fresh air is never thought of. Perambulators lined with cloth are much warmer for children. At a proper age there is nothing more suitable than a perambulator. By the use of such a child is able to have plenty of fresh air without fatigue. In fact, perambulators are so universal now that one wonders how our great grandmothers did with no little 'baby-carriages.'

Dr. Routh is of opinion: [1] 'If the child be warmly clad, the advantage of the perambulator far outbalances its disadvantages. In very cold weather a warm bottle and a rug can be placed in the carriage, and so the child may be kept warm. This is often not possible when a short-coated child is carried. The legs are exposed and often become cold, nor does the use of the perambulator necessarily preclude moderate walking exercise.' Dr. Tanner tells us: 'The maxim which says "Keep the head cool, and the feet warm" should be borne in mind.' Also, 'Of all predisposing causes of disease, there is probably none more powerful than cold.'

The pillow used in a perambulator should be kept for it, as if a cot pillow is used it may, if the day is damp, become so, and will not be fit to use for the child at night unless dried, which may be forgotten to be done. The practice of taking a tender, perhaps delicate, infant to a photographer's, undressing it in a cold room, and keeping it quite naked, in order to get it photographed, cannot be too strongly condemned. If people want a photograph of their infant naked, they should, in kindness to the child, have the photographer to their house. People say: 'But baby is only stripped a few minutes and can't harm, as we wrap it in a shawl directly afterwards.' But is it considered—the laying the child on a cold sofa, the draughtiness of the studio, and the time taking several proofs? Another cruel practice is tossing a naked baby up in the air; besides being very dangerous. Fathers are very fond of this senseless proceeding, and do not consider the injury to the nervous system caused by throwing up a young baby, who feels each moment that it is going to fall.

[1] *Infant Feeding*, p. 478

Nothing delights a baby more than carrying it round the room comfortably held in the arms, and singing to it. I have seen a child so pleased that it would of itself lay its little head on the shoulder, and would make a humming noise all the time the singing went on, and the look of contentment on its little face was truly delightful to see. It would also shake itself and give little cries to go on again.

Habitually putting children to bed directly after dinner is liable to cause dyspepsia. Dr. Chambers says :[1] 'Sleep after dinner retards digestion, and allows the distended stomach to act injuriously on the circulation of the brain.' In some instances, however, where children have perhaps recovered from some illness, a sleep in the afternoon may be found beneficial. It is always quite possible for people to let their children have a quiet morning sleep, and if the value of it for young children were only realised there would be few with a conscientious regard for the welfare of their children who would be unwilling to try it.

> Tired nature's sweet restorer,
> Balmy sleep.[2]

In the summer from one o'clock till two, and in the winter from eleven till twelve, are suitable hours for the morning sleep. By this arrangement children in the summer are out the best hours of the day, and are indoors the hottest part ; and in the winter they also have the advantage of the best hours for outdoor exercise. If it is arranged for the nurse to have a little light lunch and her dinner according to the time of the child's morning sleep, these hours will be found convenient. Young infants, after the fatigue of being bathed and dressed, should be fed and allowed to sleep. Dr. Strange writes :[3] 'Very young children, it is to be observed, absolutely require rest after food ; indeed, it is impossible to prevent their falling asleep as soon as the appetite is satisfied.'

[1] *Manual of Diet in Health and Disease*, p. 125.
[2] Young.
[3] *Seven Sources of Health*, p. 231.

CHAPTER IV.

FRESH AIR AND EXERCISE.

THAT fresh air is necessary to, and vitiated air is inimical to health, all are agreed. Yet numbers act every day as if this might be reversed and might be written thus : 'Vitiated air is good for, and pure air is not necessary to, health.' All rooms which children occupy should be *well ventilated.* In small rooms, or in rooms in which there are several children, and in night nurseries, a brick removed from the wall, and replaced by a ventilator, is not only an excellent manner of ventilation, but is essential. A piece of perforated zinc, placed in the top of a window, is also very good. In fact, very often a ventilator which can be shut is kept so, and, like the Irishman's sedan chair, it is a case of—'Faith, if it wasn't for the look of the thing, one might as well be without it.' For children to be in good health it is necessary that they should not sleep in, or be allowed to remain long in, a room without *good ventilation.* A number sleeping in one room should be avoided. When children are put to bed at night, if there is no fire, the register of the stove in the room should be left open.

In the winter time registers are generally left open on account of fires ; but in the summer, sometimes owing to ornaments being placed in the stoves, and the fear of soot falling and spoiling them, registers are often kept shut, so that in the summer, if there is not a ventilator in the sleeping-room, a portion of the window, if the door is kept shut and there are no holes pierced in it, should be left open at night. A great deal of foul air escapes by the chimney when the register is open ; but if every escape for impure air is closed,

and several sleep in a room, the atmosphere must become more or less full of unwholesome air,[1] which will be dangerous to health, and even to life.

The following, which I cut out of the 'Times,' will show how dangerous it is for several to sleep in a small room insufficiently ventilated: 'At the adjourned inquest held on the bodies of the two children, Harriet and Albert Wilkes, who died somewhat suddenly at Chiswick on the 26th of last month, it was proved by the medical evidence that there was no trace of poison to be found on analysis, and that the deaths were due to asphyxia from the impure air of the room (8 ft. by 9 ft.) in which the mother and six children slept. The jury returned their verdict accordingly.' As a number of inquests have lately proved, breathing foul air, caused by a number in a room imperfectly ventilated, is fatal to life.

'Last evening some disclosures were made at an inquest held by Mr. A. Braxton Hicks, the Mid-Surrey coroner, at Battersea. The inquiry was relative to the death of Amelia Branson, aged eight months, who lived with her parents at 3, Tritton Street, Battersea. The mother stated that her husband was manager of a large business in New North Road, Hoxton, down to two years ago, when he had the misfortune to lose his situation. Since then he had been earning a precarious livelihood as a commercial traveller, his wages last week amounting to only 9*s.*, out of which he had to support witness and three children, and pay 2*s.* 6*d.* rent. He kept 1*s.* 6*d.* to get his own meals with for a week. Witness had not broken her fast that day. Their abode consisted of a room 9 ft. by 7 ft.; they had no bedstead, but had to sleep on a mattress on the floor in a corner. They had not yet been to the relieving officer, as they wished to avoid doing so if possible. On Monday night they went to bed at the usual time, witness, her husband, and two children sleeping together, and a child seven years old lying at the foot of the bed. Next morning witness found the baby dead. Dr. M'Manus, who was called in, said the family had been lying on a heap of rags,

[1] See 'Repose,' p. 325.

and the atmosphere clearly denoted that the room was overcrowded. The child died from gradual suffocation. The coroner commented in strong terms upon the unsanitary conditions under which these unfortunate people had been living, and said it was a very sad state of affairs. The jury found that the child died through breathing impure air, and a collection was made in aid of the family, the coroner heading the list, and directing his officer, Mr. Saxby, to see that the money was judiciously spent.' [1]

But we must not run away with the idea that it is the poor only who sleep in rooms badly ventilated, and too many in a room. I have seen night nurseries where a nurse and four, and even six, children slept; others, in which two nurses and three or four children slept, and the ventilation in which was only from the register (generally shut), and the door would certainly be shut at night too. In fact, the way in which most people try to exclude all air from a sleeping-room at night is most injurious to health. It is a great mistake to allow children to sleep in too hot a room. The danger of putting anything into a room to warm it, such as a brazier of coals, charcoal, or wood, unless there is free ventilation, is very great. Many deaths occur abroad through this, and even in England there are fatal accidents from this cause.

'*Suffocated by Carbonic Acid Gas.*—An inquest was held yesterday at Petton Farm, near Baschurch, Salop, on the body of a boy, aged ten, son of Mr. George Key, farmer. The evidence proved that Mrs. Key put the boy and his little sister to bed in a room just papered and painted, and, there being no grate, she placed a bucket of burning wood ashes in it to warm the room, and then closed the door. The next morning the little girl was found lying against the door unconscious, and the boy was in bed quite dead. Restoratives having been administered, the girl revived. After hearing medical evidence, the jury found that deceased was suffocated by carbonic acid gas.' [2]

[1] *The Morning Post*, Thursday, September 6, 1888.
[2] *Pall Mall Gazette.*

Gas stoves should never be used in children's rooms. Dr. Chevasse remarks :[1] 'Stoves—gas-stoves especially—are not desirable ; they give a stuffy, close feeling, which is most unpleasant ; while an open fire-place encourages ventilation, and thus makes the air pure and fresh, and is most agreeable.'

The effect of fires as purifying the air has been recognised from a very early age up to the present time. 'Acron, of Agrigentum, is said to have been the first who caused great fires to be made, and aromatics to be thrown into them to purify the air, by which means he put a stop to the plague at Athens 429 B.C.'[2]

'The great plague of London, 1664. Fires were kept up night and day to purify the air for three days.'[3] And in the last great visitation of cholera abroad large fires were lighted in the streets of Marseilles, and various towns in Spain, in order to purify the air.

Children's sleeping-rooms are better without fires at night, unless the weather is cold or very damp. If fires are put in children's sleeping-rooms, they should be lighted early, not just as they are going to bed. For very delicate children, or those subject to croup or bronchitis, fires are advisable in the bedroom in cold weather. Dr. Strange writes[4] there is a 'foolish prejudice in this country against fires in bed-rooms, which arises from the erroneous notion that they relax the system and render it more susceptible of cold.'

Dr. Chevasse writes :[5] 'I would give a word of caution. In winter, children from the warm day nursery, going to a fireless and cold night nursery, often suffer much, if they do not get some lung mischief.'

It is the lungs which are sensitive to the chilly atmosphere, and it is of no use covering the body with bed clothes to prevent this. Young infants require more heat than older

[1] *Counsel to a Mother*, p. 147.
[2] B. Vincent, *Haydn's Dictionary of Dates*, p. 52.
[3] *Ibid.*, p. 645.
[4] *Seven Sources of Health*, p. 47.
[5] *Advice to a Mother*, p. 118.

children, and so a fire all night is necessary,[1] or, at all events, a portion of the night. Children, after passing the night in a hot, badly ventilated room, sometimes feel sick and heavy in the morning, and look white and delicate from the same cause. If the air children or infants breathe is vitiated, their appearance will soon show it. It is very sad, sometimes, to see the children of wealthy parents, brought up with care and attention—no expense being spared—and often, not naturally delicate, they yet present a sickly appearance, and look pale and wanting in vigour, in great contrast to the rosy children of even very poor country people; the very wealth surrounding them being at the root of their weak health, for if they were the children of poor people they would be in the fresh air all day, but, being the children of people with means, they are but little out, and too often are kept in hot, close, stuffy rooms nearly all day, thus enfeebling and rendering them delicate. Dr. Chevasse writes:[2] 'A nursery is usually kept too hot. The temperature in the winter time ought *not to exceed* 60° Fahr.'

Dr. Ellis also says:[3] 'It is proper that a certain standard of temperature should be maintained in both nurseries, and from 60° to 65° of Fahrenheit's thermometer will be found a pleasant and suitable degree of heat. It is of much consequence to avoid overheating these rooms; but it is also important that they should not be too cold. All extreme fluctuations of temperature are to be avoided as far as possible, and an intelligent nurse will soon learn to accomplish this point without difficulty.' Dr. Routh, too, says:[4] 'The temperature of a nursery should not be under 65° when the children are very young, and it may be one or two degrees above that. When they have reached the age of one, 60° is sufficient.' Dr. Semple remarks:[5] 'Every nursery should have a thermometer placed in a conspicuous place, not near a door or a window, nor, again,

[1] What is called 'Compressed Coal,' or 'Sunderland Block Fuel,' sold at the Army and Navy Stores, is useful for keeping a fire alight without requiring replenishing all night. It requires the addition of other coal, however.

[2] *Advice to a Mother*, p. 118.

[3] *Disease in Childhood*, p. 246.

[4] *Infant Feeding*, p. 472.

[5] *Mother's Guide*, p. 24.

near the heater ; the nurse should always keep the temperature of the room about 60° or 65° Fahr.'

It cannot be too strongly impressed on nurses and all who have charge of children that the proper changing of the air in rooms *during the day* by opening the window and door, and so causing a free current of fresh air, is most necessary to health. It is not wise leaving bed-room windows open—especially children's—far into the evening. Dr. Strange writes :[1] 'What shall be said of the stupid practice of leaving the windows of sleeping-rooms open in cold, damp weather, far into the evening or night ? Every purpose of ventilation is frustrated by such a proceeding. The comparatively warm air which has been admitted during the day is expelled by the colder and denser air which enters after, or even before sunset; and the inmates proceed from the warm and over-dried air of the sitting-room, the temperature of which in the evening often reaches to 70°, to pass several hours in a room not above 35° or 40°, filled with moisture and the evil emanations which are borne in along with the night air ! '

Many have an objection to children going out before breakfast, but there is no doubt that in the summer time it not only does not harm, but, on the contrary, does good. 'The cold air getting on the stomach' idea is often quite a popular delusion. It is not intended naturally that children are to be out a long time before breakfast, but in the country, where there is a garden, or at the seaside, a little while out in the soft summer air on a fine morning before breakfast, sharpens the appetite, and benefits. It is a great good for children to get out of the room they have been passing the night in a little time before breakfast. Even after the morning sleep the room should be *thoroughly aired.* Children's beds should always be exposed to the fresh air after they have been left. Nothing is worse than to turn all the bed-clothes up after the night and to make beds without spreading sheets, blankets, pillows, mattresses, and night garments out to air. Beds always contain, after being left, a certain amount of gaseous evaporation, which takes place during sleep, from the body. Fresh air

[1] *Seven Sources of Health*, p. 48.

being so necessary to health, it stands to reason that outdoor exercise is most necessary for children of all ages.

> Better to hunt in fields for health unbought
> Than fee the doctor for a nauseous draught.
> The wise for cure on exercise depend:
> God never made his work for man to mend.[1]

Even infants, when old enough, should be taken out daily, unless the weather is very inclement. When used to going out in all weathers—and in a variable climate like that of England this is a great consideration—children are likely to be stronger and less liable to take cold. Of course with delicate children caution must be exercised as to their going out when the weather is unpropitious. It is a mistake to take a young infant out *too soon*, especially if it is delicate or the weather is damp or cold; but as soon as it is old enough the fresh outdoor air will strengthen and contribute to health. Great care should be taken to see that an infant is wrapped up quite warmly on first going out. The veil placed over the face should be of such a texture that the air can pass freely through. A net or light Shetland veil, if it is winter, are most suitable. The common practice of putting a handkerchief over an infant's face is a foolish one; put because of the lace border, it is often most unsuitable as a covering for the face. The prevailing custom of covering over an infant's face so that it is almost suffocated, and is only breathing its own breath over and over again, is most injurious. If the weather is too unfavourable to take an infant out, if it is taken into another room for a short time it will greatly benefit. Nothing is of so much service to a baby as plenty of fresh air. Children should not be kept out too long when the sun is very powerful. Sometimes you may see a nurse walking along with a sunshade so held that it is no protection to the infant she is carrying.[2] A judicious regard as to the season of the year[3] and the state of the weather should at all times be paid by those having the care of young children.

The life of children in a city is often rendered, in some

[1] Dryden. [2] See 'Sea Air,' p. 354. [3] See 'Repose,' p. 339.

respects, somewhat irksome. The studied walk and the absence of all freedom in walking make life in a city more trying to the health of children than life in the country or at the seaside, and less conducive to robust health. All town children should be given as much fresh outdoor air without over-fatigue as possible. In all cities and towns some open space is accessible, and easily reached by little people. Children are so willing to walk that their small amount of strength should always be thought of, and they should not be allowed to walk too far.

It is a great mistake to walk too fast with young children. Older people walking with children should always accommodate their pace to the little folks' steps. So many forget that children cannot walk as quickly as grown people. Every day one sees poor little children being pulled and dragged along. The children of the poor are really better off in this respect, especially the children of country people, whom you may see for hours standing and playing outside their doors, thus getting fresh air without fatigue, whereas the children of people better off, and who can afford to keep someone to mind their children, are often over-exerted in walking, and are sometimes taken distances quite beyond their strength. It is a great error to suppose that it does not signify whether a child is happy or not when out ; on the contrary, children's outdoor exercise should be made as agreeable as possible, and they should not be constantly scolded, worried, and irritated while out. Exercise, to be beneficial, should be agreeable.

Although habituated to everything promoting ease, yet will sportsmen rise early, and will undergo the greatest and most laborious exercise all day, and will return home so far from feeling exhausted, or more than naturally tired, that they will often affirm that they feel more exhilarated, and even better than when they started. Pleasantly occupied all day, the fresh air and exercise have been not only beneficial, but a thorough refreshment. And it is the same with children ; let them be happy out, and the air and exercise will do them good ; make them miserable, and no good results. Children old enough to do so are better walking by themselves without

the hand being held, walking at their own pace. By alternately running and walking, the sense of fatigue is less than if one monotonous pace is kept up. In crowded streets this is not possible, but, where it can safely be done, it is best for children to run about by themselves. The benefit derived from fresh air and exercise being so great, no effort should be spared by parents or those having charge of children in giving them all the advantages possible as regards what is so necessary for healthy development.

CHAPTER V.

SEA-AIR

SEA-AIR ranks second to none of the various things which afford benefit to the health of the human race. Thousands of distressed, sickly creatures—infants, young children, and old people—of all kinds, and not only those bodily ill, but some mentally so ; and others, again, overworked in cities, overstrained and exhausted, and needing total change of air and scene, have sought the aid of the glorious, ever-changing, ever-fresh ocean, and have derived benefit not to be gauged even by those who are best able to estimate in some measure the good results which are produced by sea-air. In some cases, however, sea-air disagrees, a prolonged residence at the sea causing headache ; and in some places where there is a peculiarity in the water diarrhœa will ensue. Some seaside places will also agree better with some than others, some constitutions requiring a bracing and others a milder air. Happily the instances in which sea-air disagrees are rare, in the majority of cases benefit being derived. A great mistake, however, is to suppose that children must be without any peculiarity whatever of constitution, and that young children cannot experience any unpleasant sensations from sea-air, or have the same feelings as grown people. Children, on the contrary, if they have any peculiarity of constitution which makes them likely to be affected in an unfavourable manner by sea-air, or any particular kind of sea-air, will be affected irrespective of age. Many say, if sea-air disagrees at first, those who are affected so unpleasantly are more benefited afterwards, and by remaining, and, as it were, facing the

enemy, they are ultimately conquerors. I am very doubtful myself of these agreeable theories. Some even go so far as to say that it is always a sign that one will be a gainer in health by sea-air appearing to upset at first. Invariably, however, I have found, if sea-air, or any particular sea-air (for it is well known some sea-air is too strong for delicate persons to bear), absolutely disagrees, although persevered with, the constitution of the person or child remaining unaltered, time works no change.

I once knew an old lady (80) who told me she could not stay at the seaside, as sea-air disagreed with her as much then as when a girl. Where it is really seen that children do not improve, but, on the contrary, that they deteriorate in health, when at the seaside, and suffer from signs of disturbance to the system, it will rarely benefit to persevere in trying to overcome nature's warnings. Some constitutions are more benefited by country than sea air. This is entirely a matter of observation, and must be determined by experience. Many are under the impression that change of air is unnecessary for healthy children; this is quite erroneous. All children are beneficially affected by change of air, whether to the country or seaside. For children at school change of air and scene are in a more especial manner necessary. 'Change of air is not more valuable as a remedy in the cure of disease and its consequences than as a preventive of disease, more especially in childhood and youth.'[1]

Change implies something totally different to what we are used to. Town people like to go to the country or sea, and those living there prefer to come to the metropolis, and what we do every day we like to have a complete opposite to when we have a change. Like the railway signalman whose duties were arduous, extending sometimes to very long and even late hours; after a Bank Holiday, on returning to his work he was asked by a friend how he had spent 'his holiday,' when he replied, 'Well, you see I daun't get much sleep, I'm up early and to bed late, and my waark wants a deal o' think-in' and doin', which is tirin', so I feels sometimes I should

[1] Sir James Clark, *Cyclopædia of Practical Medicine*, p. 1149.

like to have a raal good long sleep, a reg'lar refresher, so I spent my holiday in bed ; that ere's the way I spent my time, and real nice it were too.' This, no doubt, afforded the poor overworked man the greatest change, combining, as it did, rest of body and repose of mind.

Dr. Chambers remarks :[1] 'In choosing a place of education for children it is desirable that the climate should be decidedly different from that enjoyed at home during the holidays. Denizens of the stagnating, oft-breathed atmosphere of a metropolis will do well to select a country school ; dwellers on the high ground of central England will find what suits them best on the coast ; while both the seasiders and country folks may venture, without risk of deterioration, to secure for their growing families the many advantages of instruction in a town.' Age is of no consequence as regards the effect of sea-air. Quite infants often derive such an amount of good from it that it is difficult sometimes to realise sea-air having so great an influence on such little creatures. I have seen tiny, puny, little infants take to the sea, and it has so strengthened them that they have become, in a short time, quite strong and robust. When an infant continues very weak and feeble, where it is practicable an effort should be made to send or take it to the sea, even if only for a short time, as often sea-air will accomplish what other means have failed in doing. I have seen an infant almost bloodless to look at—so pallid—after a few weeks at the seaside become so changed that the only wonder was how it could ever have been so feeble. There is no doubt that often where there is any natural weakness in infants or children their constitution is greatly improved by the saline nature of sea-air.

The late Dr. Hufeland of Berlin observed :[2] 'Since the sea is the habitation of innumerable organic beings who live and die there, it becomes impregnated with a quantity of subtile and volatile animal particles of which chemistry knows nothing, but which extraordinarily increase the stimulating power of sea-water. The smell of the sea already manifests

[1] *Manual of Diet in Health and Disease*, p. 210.
[2] Quoted in the *Journal für Kinderkrankheiten*, 1870.

their presence, and the whole of the neighbouring atmosphere receives from it a peculiar quality which is exhibited in the characteristic appearance of organic nature in marine districts ; in the strength and freshness of their inhabitants, in the peculiarities of the diseases of the latter, and finally in the healing power of the sea-breezes over certain complaints, especially of the lungs : nay, modern experiments, especially those of the excellent Hermbstädt, have shown that even the muriatic acid of sea-water is volatilised and mingles with the air, so that we may with justice affirm that on the sea-coast not only the water but the air is salt, and acts as an especial stimulus on the frame. These volatile particles—the life which the sea maintains outwardly as well as inwardly—the perpetual agitation of the water and shock of the waves, with the electric and magnetic currents produced by that shock—lastly, the modification of the atmosphere around a sea station—these form a whole in which we may well seek for the reason of those surprising advantages which are sometimes derived from sea-bathing.' [1]

If an infant is very weak when brought to the sea, care should be taken that it is not exposed immediately to rough winds ; if it is cold or inclement on arrival, it will probably be best to keep it indoors till the weather is more genial, and it becomes used to the change of air. Also, if a child is convalescent from an illness, it is not well to go out walking about at once if the weather is boisterous. Very often when people take children to the seaside they let them do there what they would not think of allowing them to do at home. Because it is the sea they are allowed to stand and sit in thorough draughts, and to do the most imprudent things.

Residents at the sea often say visitors do with impunity what they would be afraid to venture on. A popular idea is that no one ever catches cold from salt water. The consequence is, children are sometimes allowed to get wet through with sea-water, and are then allowed to sit about in their damp clothes on the cold stones on the beach or on the sands, under the impression that they will not catch a chill. The

[1] See 'Sea Bathing,' p. 396.

day is perhaps bitterly cold and windy, but it's the seaside, so they won't catch cold (?), and, being unused to keeping damp clothes on, and also to so different a mode of existence, the result with the poor children is perhaps a severe cold, bronchitis if the chest is delicate, pleurisy or inflammation of the lungs, or croup. I have seen many severe illnesses resulting from want of prudence at the seaside in the matter of paddling, bathing, and sitting on the sands.

People will point to sailors and other hardy persons, and will quite overlook the fact that natives of the seaside become inured sometimes from their cradle to many things which cannot be done immediately on arrival by strangers without causing some harm to them. Children brought up like hot-house plants are similar as to delicacy, and cannot be roughly *translated* without any care or preparation from a close, in-door, enervated life to the hardy, outdoor, bracing existence of those whose state is similar to that of wild plants, without being sensible of the total change of life. Change of all kinds should be made gradually, and where there is an entire change of air, as at the sea, care should be exercised. It is easy to lock the stable-door when the steed is gone, but it is best with young children to be guarded before evils are developed which may be very difficult of cure.

The letting children paddle for hours in the cold sea-water directly they arrive is often productive of illness. The poor children, delighted with anything so novel, are only too ready to paddle, however cold the water may be. They get thoroughly wet, all their under-things being saturated. Then they walk in a cold east wind, perhaps some distance it may be, to the house : is it any wonder if a cold or chill is the result ?

Another popular delusion is that the sun does not harm, and does not bear such a power, at the sea as inland. It is true, on the sea-shore the sun, however hot, is generally tempered by a pleasant breeze ; but if people who are unused to being exposed to the sun sit for a long time directly in the sun, without any shelter from its powerful rays, they will experience the same ill effects they would inland. I have myself seen two cases of sunstroke in young children, and one case in

quite an infant, and have heard of several others caused by exposure to the full glare of a mid-day sun at the seaside without due protection.

Dr. Routh says :[1] 'But here I must lay great stress upon *protection of the head.* I believe even in the north, but certainly in southern England, exposure to the sun is a frequent cause of cerebral disease, even though the heat borne may not amount to a "coup de soleil."[2] This is especially the case with very young infants, in whom it should be remembered that the opening in the fontanelle[3] has not yet been closed. I have seen indiscretion in this respect often give rise to cerebral congestion—in some cases to water on the brain, convulsions, or permanent idiocy.'

Dr. Ellis writes :[4] 'In every instance care should be taken to protect a child from the sun's rays when very intense : in such cases the hours before and after mid-day are alone suitable for its exercise in the open air.'

Dr. Poore also writes :[5] 'When the direct rays of the sun fall upon the head and the nape of the neck, it occasionally happens that the heat-regulating machine of the body is paralysed, and then we get what is known as sunstroke or heat apoplexy.

'Heat increases the action of the skin, but is said to lessen the activity of the heart and kidneys, to lessen the digestive power, and to lower the nervous energy of the body.'

During the hot part of the day, and when the sun is very powerful, there is no doubt children are better indoors. It is quite sad to see the numbers of poor little children at the various seaside places during the summer exposed without the slightest protection to the full power of the broiling sun. Hot, tired, almost sick, from the effect of the sun and the glare, trying to amuse themselves (when old enough to run about), the poor little things derive no benefit whatever from being out, and would be far better lying quietly down in their

[1] *Infant Feeding*, p. 477.
[2] Sunstroke. [3] A vacancy in the infant cranium, skull, or head.
[4] *Disease in Childhood*, p. 80.
[5] *Climate in relation to Health*, p. 12.

bed in the cool of a shaded room. Many who accustom their children to a morning sleep when at their own home do not continue it when at the seaside; the parents argue the children must have as much air as possible now they are at the sea, and the consequence is, the children are kept out all the morning, no matter how hot it is and how much fatigued they are. Used to a rest in the morning and at the hottest part of the day, when they are likely to be most exhausted, and when a rest is most beneficial, children are much injured by being deprived of their morning sleep. With the unusual exertion gone through (of digging, running about, &c.), and the effect of being kept out an unusually long time in a hot sun, children are often thoroughly exhausted, more harm than good being the result. Half the irritability of children which is put down to temper is in reality the effect of being overdone.

At the seaside the wailing sometimes of children is very distressing to hear. 'Bobbie want go byes. Bobbie want go byes in own bye-bye bed. Bobbie tired. Bobbie so hot. Bobbie so tired.' 'But Bobbie can't, because Bobbie must get nice sea air to make him strong.' And so it went on till poor, unfortunate Bobbie sobbed himself, with his soothing thumb in his mouth—evidently a kindly comfort in many woes—to sleep in the perambulator with his weary little head lying on the hard narrow side. Now, what good could be expected from poor Bobbie going to sleep like this, protected from the full rays of a glaring sun by a white holland cover, which was no shade whatever, passes comprehension. People should use discretion in keeping children out, and the ordinary habits of life should not be interfered with.

It should always be seen that spades are the proper length. Injury is sometimes caused to young children by continually stooping with a spade too short. Children should have shady straw hats, porous and light, in the summer at the sea. These allow of free circulation of air to the head. When children sit on the beach or sands, if they are delicate, it is a wise precaution to put a shawl, or some old wrap, under them. Children's dress at the seaside is not sufficiently looked to, and

this is one cause of severe colds. For places where the winds are keen, serge or light flannel dresses and suits are best.

'During these chilly evenings at seaside places the little ones are to be seen in thin cotton or muslin frocks, with sun bonnets of similar texture, while the north wind, or the east wind, or a keen blast of both combined, has sent the adults back to their lodgings in search of warm wraps. Because children never complain of cold, they are supposed not to feel it, or be injuriously affected by it. The average child never acknowledges that it is tired, sleepy, hot, or cold. It is inexperienced in physical sensations, and, though feeling uncomfortable in some vague way, it cannot put a name to the precise cause. Each change of temperature should be noted in the interests of a child, and some suitable change made in its dress. The seeds of consumption are often sown in the little frame by neglect in just such matters as these, trivial as they may appear.'[1]

It is very dangerous for children to walk or play too near the edge of cliffs, harbours, or under piers. The steps of the latter are often dangerously slippery. Children never see danger.

> A simple child that lightly draws its breath,
> And feels its life in every limb,
> What should it know of death?[2]

It is very unwise, as well, leaving perambulators, with children in, close to the edge of cliffs and unprotected places. A sudden gust of wind, and over goes the perambulator, and then of what avail is regret? I have lately seen no less than three of the heavy perambulators, with very light wheels, overturned.

If sea-air agrees with children, and their usual habits of life, as regards rest, &c., are observed, they will, no doubt, be gainers from a sojourn at the sea; but if their whole course of life is upset, and they are exposed to chill, the good they will derive may be put down as *infinitesimal*.

[1] *British Medical Journal*, 1888.

[2] Wordsworth.

CHAPTER VI.

WATER.

FRESH, pure water is absolutely necessary, not to health only, but even to life. Too much care cannot be exercised in having the water quite pure which is given to children to drink. Where there are filters they should be looked to regularly by some careful, responsible person ; so many are very careless as regards the *proper cleaning* of filters. If they are not kept quite clean they are of more harm than good. I have seen filters kept so dirty that they actually caused the water to be contaminated, instead of purifying it as was supposed. A medical correspondent for one of the daily papers writes :[1]

'"The drains" are apt to be the first objects of suspicion when a sudden and mysterious outbreak of fever puzzles the family medical man. Like other things, however, drains may suffer from unjust imputations, as is shown by a sad but instructive little story told by Dr. Blyth, the Marylebone medical officer of health. In this case five out of thirteen persons in a family in Devonshire Street were seized within two days with fever and sickness, terminating in some instances in delirium. After much investigation it was discovered that the sufferers had all been accustomed to drink water from an uncleansed filter, the charcoal in which was loaded with organic matter that had undergone fermentation in consequence of the hot weather The moral is that, though a filter is a very good thing in a household, a filter which is not frequently cleansed is infinitely worse than no filter at all.'

In all cases where there is a doubt it is better to boil all

[1] *The Daily News*, Wednesday, August 10, 1887.

water for drinking before use. Water in a strange place should always be boiled. Sometimes in the hurry of arrival water is neither boiled nor filtered, the filter, perhaps, not being fit for use, and this neglect leads to serious, sometimes fatal, consequences. It is not always the great quantity of water which is drunk which is the cause of illness, a very small amount of impure water swallowed having been found to have an equally bad effect. If water is boiled over night for the next day's use, and is put in an earthenware pan, and in the morning is put in the filter, it will not have that vapid, flat taste usually accompanying boiled water, but the filter must be a charcoal filter. It is, no doubt, the being filtered through charcoal which removes the vapid taste, as will be seen from the following :—

'Ships are now fitted with apparatus for distilling sea-water, but the fresh water thus procured is insipid ; if, however, it be filtered through charcoal it is "aërated," and assumes the refreshing taste of spring water.'[1] The charcoal of a filter should be well cleaned with diluted Condy's Fluid at least once a week ; and if a brush is used it will help to cleanse the charcoal from impurities. 'The fluid should be allowed to percolate through the foul filter until it comes out of a distinct pink colour.'[2] 'The charcoal (of filters) must be washed in Condy's Fluid to keep up the filtering action.'[3][4] 'Water containing sewage to any appreciable extent gives off a fœtid smell just before the boiling temperature, and may easily be detected in this way. The boiling temperature renders it safe from germs capable of communicating infectious disease, but it does not make it clean or wholesome.'[5]

Water merely warmed will not be rendered safe for drinking. A test of organic matter in water is to put some Condy's Fluid to a tumblerful of water, which will give it a faint pink hue. 'Into a tall glass of the water to be tested is poured a quantity of the fluid,[6] just sufficient to impart to the whole a

[1] *The Popular Educator*, vol. ii. p. 236.
[2] Dr. Parkes's *Practical Hygiene*, 1883.
[3] C. A. Straton, Medical Officer, Wilton. [4] See 'Feeding,' p. 130.
[5] Dr. Chambers, *Manual of Diet in Health and Disease*, pp. 80, 81.
[6] Condy's.

uniform pink colour. If the water be highly impregnated with organic matter, that colour will rapidly change to a dirty brick-red, and after a time a dingy sediment will be produced, the water becoming nearly colourless. If, on the contrary, the water be almost pure, many days may elapse before the beautiful pink colour fades away.'[1] Dr. Chambers gives another way of testing water for organic matter. 'The readiest test,' he says,[2] 'of the presence of unoxidised organic matter is to put a drop of "Condy's Patent Ozonised Water for Toilet Purposes" in a tumbler of water. If the purple-lake hue thus communicated remain for a quarter of an hour, the liquid is safe; if it vanishes, there is more organic matter than there should be.'

Mr. Mattieu Williams, F.C.S., F.R.A.S., writes:[3] 'The boiling of water is curiously misunderstood in most kitchens. When water is heated in a glass vessel over a flame, where the action may be watched, bubbles are first seen growing on the sides of the glass, gradually detaching themselves and rising to the surface. These are merely bubbles of air that was dissolved in the water. After this other and larger bubbles form on the bottom, just above the flame. At first they are flat and continually collapsing. Presently they become hemispherical, but still they collapse; then they become more and more nearly spherical, and afterwards quite spherical; afterwards they detach themselves and start upwards, but perish in the attempt, by collapsing somewhere on the way; at last they reach the surface, and break there, ejecting themselves as steam into the air. Now the water boils, and a thermometer dipped into it registers 212°. After this it matters not whether the boiling is very violent or only the gentlest simmering: no further rise of the thermometer is perceptible, showing that the simmering temperature and the "galloping" temperature are the same. The temperature of water cannot be raised above a fixed boiling-point, because every ounce of steam carries off nearly 1,000° of heat, *i.e.*, it requires so much to expand it as steam.'

[1] Thomas Twining, *Familiar Lessons on Food and Nutrition*, pp. 114, 115. [2] *Manual of Diet in Health and Disease*, p. 81.
[3] *Scientific Basis of Cookery*.

Some hold that by boiling water you destroy the acids and alter the action of the salts therein, and that water so treated is not of such value to the system as that unboiled. 'Boiling appears to drive off not only the free carbonic acid, but also the supplementary acid of the soluble bicarbonate, which, being thus reduced to the insoluble carbonate, occasions a milky appearance, and is thrown down in the form of a precipitate. This largely constitutes the "fur" that attaches itself to the insides of kettles and kitchen boilers.'[1] 'Drinking-water must always contain air dissolved in it. This air consists of three gases—nitrogen, oxygen, and carbonic acid gas.'[2] Boiling is so decidedly a remedy for the destruction of any noxious matter in water that one must waive one's objections to boiled water in face of its being of such utility. So many medical men of eminence recommend toast-water for children's use that the want of unboiled water cannot be regarded by them in the light of a necessity for healthy life. Many filter or boil all water but 'well-water.' Believing this to be as pure as supposed costs dear sometimes, as wells have been found, on having the water analysed, to be strongly impregnated by the percolations of sewage matter into them. 'In country districts people generally depend for their water supply upon their own shallow wells, or upon a well provided for each row of cottages, or upon surface-fed springs, or even on a pond, all of which are liable to fail occasionally, and are always subject to contamination with surface drainage. How many an analyst who has examined such water has reported "Minute trace of nitrates; probably from surface contamination!" More than half the fever and general unhealthiness of English villages comes of a vilely contaminated water supply.'[3]

The cleaning of cisterns is as essential as any other cleaning considered necessary in a house; but, although houses often undergo much scouring, brushing up, and looking to in the matter of 'cleaning' while the family are absent and during the 'spring clean,' yet the poor cistern is too often forgotten,

[1] Thomas Twining, *Familiar Lessons on Food and Nutrition*, p. 104.
[2] Professor A. H. Church, M.A. Oxon., *Food*, p. 11.
[3] *The Daily News*, Monday, September 26, 1887.

and, because 'out of sight, out of mind,' is seldom or never cleaned. I have known people inhabit a house for years without ever giving a thought to the cistern needing cleaning. A medical correspondent of one of the daily newspapers gives a timely hint to families returning home to houses that have been practically uninhabited during their holiday. He has, he says, 'seen more than one outbreak of sore-throat in families occasioned, in his belief, by their coming home to inhale air that has crept into the house through drain-traps from which the water has evaporated. He recommends that upon entering the house after it has been wholly or in part shut up windows and doors should be thrown open, and water-taps turned on. He might have added a caution as to the water-cistern itself. These pernicious receptacles are not yet wholly abolished, and after stagnating for a month or six weeks the water in them and in the leaden pipes is wholly unfit for use, and should always be drawn off before drinking be ventured on. A draught of cistern water and an hour or two's inhalation of the polluted air that may undoubtedly find its way up out of disused drains may neutralise all the good derived from the summer's holiday.' [1]

Many persons are also under the impression that water impregnated with iron is most strengthening and beneficial to *everyone* for drinking. In some instances, however, I have seen well-water with iron in it disagree. 'Iron is sometimes spoken of as an impurity, which is a recommendation rather than otherwise of a water, because iron is given by us as a tonic. But I cannot agree with that opinion. We do not give iron to healthy persons, for if we did we should often find what I have observed in some who habitually use iron-stained water, viz., deficient nutrition, dyspepsia, and obstinate anæmia. And when we give iron to the sick we give it as a drug and not as a drink, and only in short courses; and, moreover, we do not order it to be used in cookery. I should strongly advise iron springs and streams to be avoided.' [2]

'With reference to waters, having had much to do with

[1] *The Daily News*, Tuesday, September 6, 1887.
[2] Dr. Chambers, *Manual of Diet in Health and Disease*, p. 81.

the analysis of deep-well waters in London, I say some of them are more than doubtful, from the large amount of chlorides, sulphates, nitrates, and carbonates of sodium, potassium, calcium, and magnesium. . . . They are almost medicinal in their action.' [1]

One thing that has always struck me as very odd is, people will be careful as regards the water they drink, and yet will take no precaution as to ice—in fact, will in summer take without question in drinks—claret cup, champagne, hock, Moselle, and iced water—any sort of ice. I believe some kinds of ice are most impure. I have myself seen in winter ice taken from water which would in summer on no account be used for drinking. Londoners, and I am afraid it is so with the world in general, are too apathetic as to many things which nearly concern their welfare; so long as a thing is not visible, *eh bien!* it's all quite right. I was astonished one day a few winters back,[2] in passing the canal at Paddington—too notorious the previous summer for its impure, unwholesome condition—to see a number of carts of quite respectable tradespeople drawn up, and the men busily engaged in collecting the ice into their carts. On enquiry I was told they were taking the ice for the purposes of their trade. Imagine such ice being swallowed! And, even if only used for the supposed preservation of fish, to those acquainted with this water the idea is revolting. Truly, 'what the eye does not see, the heart does not grieve for.'

It is a general belief amongst many persons that when water is frozen the extreme cold kills any organism contained in the water, and so renders it perfectly safe.

'There prevails a notion—to call it a superstition might seem discourteous—that if a body of impure water is exposed to a temperature below the freezing-point (32° Fahrenheit) the ice formed will be absolutely pure or very nearly so, whilst the impurities will be found collected in that portion which remains liquid. What may have been the origin of this sup-

[1] Albert J. Bernays, St. Thomas's Hospital, Medical and Surgical School, February 16, 1887; *Journal of the Society of Arts*, February 25, 1887.

[2] 1887.

position it might be very difficult to ascertain. But we find men of high standing giving it their sanction. Professor Tyndall is reported to have said that he could get no purer water than pure melted ice. In the first volume of Miller's "Chemistry" we read: "Indeed, water in the act of freezing becomes completely separated from everything which it held in solution."

'But there is one form of solid or suspended impurity possible in ice which is of especial importance—pathogenic or disease-germs. No degree of cold with which we are acquainted can destroy these minute beings, though it may temporarily suspend their activity. Water from the clearest ice may swarm with them, though no want of transparency is perceptible in either. But it may be asked, "Is there more risk of finding such microbia in ice than in water?" We must say "Yes." Water may be, and often is, obtained from deep wells, which has never been exposed to the atmosphere, and which contains no organic matter to serve for the nourishment of germs. But ice can only be obtained naturally from waters which have been spread out to the air, and into which consequently dust and dirt of various kinds must have fallen. So impure is the air that a prominent sanitarian even speaks of "previous sewage contamination" in the rain! It would, of course, be possible to conduct the water from some deep well into a freezing machine, all the internal parts of which should be artificially sterilised. But such ice is not to be had. All that can be done, therefore, for the present is to obtain ice only from the purest lakes or streams, far apart from human dwellings, and into which no sewage can possibly have found its way.

'Thus, then, we see that water cannot be freed from its organic impurities by any freezing process. But what of foreign matter which is suspended in a solid form and not dissolved at all? Here, surely, every man and woman in the world blessed with eyesight can make answer. Who has not seen in a frozen pool leaves, sticks, chips, the remains of dead insects, dust, and bits of paper embedded in the ice? And if this is the case we may surely be convinced that smaller por-

tions of solid matter, often much more offensive and dangerous than the above, will not be wanting. An appeal to the microscope will at once verify this conclusion.'[1]

Very ill effects are sometimes experienced from taking impure ice. After giving an account of several outbreaks of serious illness in America, owing to taking ice from impure sources, the 'Scientific News'[2] gives the following :—

'The most recent case of this kind was the intestinal affection with which most of the European visitors to the late Medical Congress at Philadelphia were attacked. They had conformed to the American custom of drinking iced water at dinner, and suffered accordingly.

'It is startling to learn that most of the ice consumed in New York is obtained from the river Hudson *below* the towns of Troy and Albany. In these two towns the yearly average of deaths from typhoid fever is seventy-five, and all their dejecta are carried into the river.'

Children should not be limited in the use of water ; when thirsty they should be allowed to drink freely, not, however, taking cold or iced water when overheated. Dr. Chambers writes :[3] 'The use of water to the extent of the thirst felt by the individual promotes the vital renewal of the skin, kidneys, and digestive viscera, and cannot be injurious. But it should not be very cold, or swallowed in great quantities at once on a full stomach or after extraordinary exertion, lest it should lower too much the bodily temperature. . . . Fluids should be drunk in moderation, and never at the commencement of the meal. For over-dilution weakens the gastric juice, which is scanty at first ; but when it is poured out more copiously fluids assist the outward motion of the chyme through the pylorus, and obviate that delay which gives rise to the feeling of uneasiness.' The extreme thirst felt after hunting is an instance of how great bodily exertion will affect so as to cause intense thirst. The waste caused by the perspiration consequent on much exertion and exercise needs replacing ; that is

[1] 'The Alleged Purification of Water by Freezing,' *Scientific News*, January 6, 1888.

[2] *Ibid.*

[3] *Manual of Diet in Health and Disease*, pp. 185, 279.

the reason why many children who perspire a good deal after exertion are usually so thirsty. Nurses are apt to check children in drinking, but it is an error.

Experiments made by Monsieur le Docteur Chossat [1] go to prove that water in sufficient quantity tends to prolong life. Dr. Semple observes : [2] 'Frequently a child seems to crave for water ; it forms the greater part of its food, and a teaspoonful of it, occasionally, will often satisfy a fretting babe. Water serves as many purposes to the child as to the adult ; it aids the functions of secretion and excretion ; it acts for the body internal as for the body external ; it cleanses, dissolves, and thereby purifies.'

Dr. Strange again says : [3] 'At meals water should be drunk in *small* quantities at a time. To take a large draught just before beginning to eat is injurious in two ways—it retards the flow of gastric juice and takes off the edge of the appetite by its bulk.'

Dr. Chevasse, however, who has written largely as to the treatment of children, observes of water at meals: [4] 'A draught of water at the commencement of a meal will often induce an appetite ; it is folly to say that a child should not drink before he eats. Nature in this, as in everything else, is the best guide, and a child often craves for a draught of water just before commencing his dinner, and he ought by all means to have it ; it is a diluent, and washes and carries away crudities and impurities from the stomach.' 'Who shall decide when doctors disagree ?' [5]

Baths.

The outward use of water—cold, tepid, and hot, also salt water—is beneficial in a variety of ways. Cold-water baths are sometimes recommended as being strengthening, but should not be used with infants or children without medical advice, as the shock of cold water to the system is sometimes

[1] *Chossat sur l'Inanition*, Paris (new edit.).
[2] *Mother's Guide*, p. 19.
[3] *Seven Sources of Health*, p. 134.
[4] *Counsel to a Mother*, p. 94.
[5] Pope, *Moral Essays*.

very harmful. Warm water used for baths is not only cleansing and refreshing, but is also of service in promoting health. It is a general belief that a warm bath is injurious to a child when there is any trouble with the bowels during teething. I have found that, on the contrary, it often helps to allay the irritation. Dr. Ellis says :[1] 'A warm bath at night will prove of great service if the bowels are disordered.'

Dr. Chevasse writes [2] that the warm bath is useful for the following :—'(1) Convulsions ; (2) pains in the bowels, known by the child drawing up his legs, screaming violently, &c. ; (3) restlessness from teething ; (4) flatulence. The warm bath acts as a fomentation to the stomach and the bowels, and gives ease where the usual remedies do not rapidly relieve. (5) Bronchitis ; (6) inflammation of the lungs ; (7) stoppage of the water or difficulty in passing it ; (8) sleeplessness ; (9) some fevers.'

The skin being one of the great outlets of Nature for what is not required in the system, it should at all times be kept clean and fresh. Nothing is so beneficial to health as soap and water, and nothing helps a child so much to grow up healthy and strong as keeping the skin perfectly clean. In fact, how much the proper bathing, washing, and cleansing (by the use of soap) of the body tends to keep people in good health can hardly be estimated. 'Next to eating and sleeping, the bath may be ranked among the very foremost of the necessaries and supports of life. It is of far higher consequence and of more general utility than any kind of manual exercise, gymnastic or sport. It affects the system more powerfully than these, even in the very points wherein their excellence consists, and it is applicable in a thousand circumstances where they are not. It does not supersede, but it ought to come before, these other practices. A place should be, therefore, found for the bath among the regular occupations of life ; it ought to be a permanent institution, ranking immediately after the prime necessaries of our being. There certainly does not exist a greater device in the art of living, or

[1] *Disease in Childhood*, p. 193.
[2] *Advice to a Mother*, p. 244.

a greater instrument for securing a vigorous and buoyant existence.'[1]

Doctors and sanitarians write about and are all agreed as to the necessity of personal cleanliness, yet too often their advice is disregarded, and people go on neglecting from day to day the use of that which really costs nothing and will benefit them much. Soap and water is within the reach of all—even the poorest. It would be a great blessing if poor people could be persuaded that their children's bodies require washing every day, and not on Saturday only, as is too often the custom.

'The sanitary evil of the personal filth of the population is of such a magnitude as to call for large special exertions by a great national league for its remedy.'

Thus writes Mr. Chadwick.[2] If people only recognised the true value of skin washing, its protective influence against infection, and its value to health, none would neglect so important a matter. Mr. Chadwick further adds: 'A true skin-washer will never be found who has not realised the nature of perspiration, &c., which is nothing more or less than an excremental deposit from the blood, which should be constantly washed away from the three or four million of orifices, in order to encourage the free escape of what comes after it; otherwise the orifices do not act, and the excrement remains in the blood. It is, in fact, the last stage of the "sewage" of the body, which Carpenter alludes to in his account of water in his "Animal Physiology.". . . . Skin cleanliness has a great effect on the assimilation of food. It has been proved that pigs that are washed put on a fifth more flesh than pigs that are unwashed. Indeed, in well-ordered, first-class stables, horses are washed from head to foot daily, and I am assured that the work is considered to be remunerative. I might adduce the like evidence, at length, in respect to the effects on the human subject.' 'Skin cleanliness is certainly a great preservative against passing epidemics and against visitations of the most infectious and contagious diseases. Experienced trained nurses, regularly

[1] Alexander Baine, *Encyclopædia of Practical Medicine.*

[2] *Skin Cleanliness; Head to Foot Washing; Public Measures proposed for its Promotion.* By Edwin Chadwick, C.B.

attending scarlatina patients, give themselves regular head-to-foot ablutions twice a day, and a change of clothes once a day. Medical men of experience, who serve amidst plagues and the most terrible epidemics, do the like. Whether it be that, besides foul insects, the imagined germ-spores of disease find their lodgment on filthy skins, and their entrance thence into the human system, has not, that I am aware, been shown, but certain it is that skin cleanliness affords so powerful an immunity from the attack of epidemics that if I had again to serve as a member of a General Board, and had to exercise authority in providing defences against epidemics, I would propose regulations for the immediate and general "tubbing" of the population, and have it seen to as sedulously as vaccination for protection against small-pox. For I observed, in my service at the General Board of Health, that during the cholera visitation the attacks upon the cleanly, the "tubbed" classes, were extremely rare.'

Dr. Strange writes :[1] 'Great numbers of the people so neglect the purifying of their skins that their secretions are retained on the surface, and become so vitiated that they acquire a great degree of offensive and poisonous qualities. Prolonged communication or virtual contact in close and unventilated rooms with such persons may cause a poison to be imbibed by those exposed to the effluvia, more especially those who habitually breathe a purer air, with most virulent effects. Whether it be that the secretions are in a state of chemical change, or of putrefactive fermentation, it is certain that they become capable, not only of propagating diseases which are actually present, but of originating others which, in a pure atmosphere and amongst cleanly people, are never found.'

The solids and fluids daily excreted from the body amount, according to Dr. Brinton,[2] 'to about three-quarters of a pound, half of which are solids and half water.' The once-a-week bath, I am sorry to say, gains favour with many others besides

[1] *Seven Sources of Health*, p. 43.
[2] *Food and its Digestion*, 1861.

poor people. In many high-class schools this is the rule, the consequence being, the children never wash more than the hands, face, and neck at other times; also, if there are no proper appliances for daily washing, how can it be expected that it will be done? 'Provision of mechanical conveniences and appliances must precede and facilitate the formation of habits.'[1]

In remarking once to the principal of a first-class young ladies' school on most of the pupils only having a bath twice a week, and, unless *especially arranged for*, no child having a bath each morning, I had for answer, 'You see I don't make it the system of my school to have daily baths, as so many of the mothers of the pupils think the children are likely to catch cold with the daily bath, especially taken in the morning,' adding, 'And so many say a daily bath is weakening.' When I asked if a child could have a bath in her room, I was told 'the family would have to provide the bath.'

Is it not obvious, however, that a child is more likely to take cold by having a hot bath twice a week in the afternoon (the custom at this school), and if a child is not well, and a warm bath is needed, should a child have to go to a bath-room along a draughty passage for it? Should—the school fees being very high—the family be expected to provide for, or have to speak as to, the proper and due cleanliness of their child? Every school should most decidedly keep a portable bath in case of illness,[2] and also have in the house one or two stone bottles for warming the bed after a child has a hot bath, and for putting to the feet if cold.[3] Is it not cruel and unreasonable to expect a little child, perhaps delicate and used to the attention and comforts of home—only nine or ten years old—to get up early on a cold, dark winter morning, and, after jumping, half-awake, out of a warm bed, to strip and wash all over with a basin of *cold water*? Mr. Chadwick writes of water for washing: 'Cold is painful, and the cleansing rite repulsive, to persons of low temperature,' and adds: 'All that is wanted is

[1] Edwin Chadwick, C.B., *Skin Cleanliness.*

[2] See 'Croup,' p. 424.

[3] See 'Repose,' p. 328.

a washhand basin three parts full of warm water, the commonest soap, a stiff brush, a sponge, and a rough towel.'[1]

But the 'warm water' is an important and necessary item. Mr. Chadwick further remarks: 'A lady manager of an elementary school in London for girls, comprising children of the class of shopkeepers, with clean faces and clean hands, and clean clothes, found from the smell that they were, nevertheless, untubbed. She undertook to give them a head-to-foot washing herself. Their condition was one of incredible filth, and she was made seriously ill and suffered permanently by the effort. Clean clothes in our towns too commonly cover foul skins.' A German governess who came to me this summer[2] (for the holidays) from a large girls' boarding-school (90 pupils) told me the smell from the children's bodies in the class-room was at times incredibly faint and overpowering,[3] and she also told me the atmosphere in the class-rooms in schools in Germany is tested, and the ventilation in every way much better. Mr. Chadwick adds:[4] 'A large proportion of well-to-do people never wash, as hairdressers who have to stand over them experience. Amongst our higher classes the use of the tub is, however, in most beneficial and exemplary extension. It was not always so, and they partook of the personal filth of the general population. The Order of the Bath, the institution of which was of the most ancient times, as the records tell us, was really a personal distinction. The initiation was not by the sword, by the accolade, but by bathing and putting on clean linen, with vigils and prayers to give solemnity to the habit and the duty. It was the Order of the Washed. A washed and clean man, with clean linen, was

[1] Young people will not always make use of a brush, so that a flannel for soaping with is better. A nail-brush is useful for the feet as well as hands. [2] 1888.

[3] The Aberdeen Philosophical Society has appointed a committee to investigate the purity of the air in the schools of the city, and also to consider the best means for ventilating the schools. The chemical investigations of Mr. Jamieson, city analyst, showed that the exit air contained a very large proportion of carbonic acid; while the outside contains 4 to 5 parts of carbonic acid per 10,000 of air; the amount of carbonic acid of the exit air varied from 12 to 25 per 10,000—*The London Medical Record*, January 15, 1885.

[4] *Skin Cleanliness.*

admitted as a companion of the bathed, "the tubbed," the distinction from the filthy. The Dean of our Order, Dean Stanley, says I am correct as to its origin, and that Evelyn mentions that he was present at a *séance* of the knights of the Bath, under Charles II., when they were all in their baths. A small-tooth comb was once an emblem of nobility. There now are few well-appointed houses where the host is amenable to our Saviour's reproof to Simon for his neglect of the duty of providing the means of personal cleanliness ; and it will be a happy advance in sanitation and civilisation if by a due consideration of the evils to be prevented, and adequate exertion, we can achieve a general levelling upwards, and a national abolition of all distinctions in this respect of the washed and the unwashed.

'The cause may be seriously commended to the active special exertions of school teachers as well as to those who, having to serve amidst befouled atmospheres, have a more serious interest than they are commonly aware of in the maintenance of the purity of the air which they have to breathe daily during long hours.' Miss Cheesar observes :[1] 'I might remark, in reference to even partial washing, that disease may easily be, and often is, taken into the system by the mouth, and that, as the hands may have been in unconscious contact with the germs of death, if they are not washed before eating, neglect may be speedily and seriously avenged.'

Good people all, have a care of your skin,
Both that without and that within.
To the first give plenty of water and soap;
To the last little else but water, we hope.

All you who thus kindly take care of your skin,
And attend to its wants without and within,
Need never of infection feel any fears,
And your skin may last you a hundred years.

If people attended to keeping themselves perfectly clean, there would be no need for such a thing as a 'gratte-dos,'[2] the sale of which is said to be on the increase in England. It is an accepted belief in England that English people are the most cleanly people on the face of the earth, and that foreigners,

[1] *Baths and Swimming for Children*

[2] 'Scratch-back.'

especially the French, are detestably dirty ; but this belief is about as rational as the old English idea that the French always live more or less on frogs, and the equally absurd French belief that the English have 'toujours roast-bif,' eating the aforesaid 'roast-bif' at breakfast, dinner, and supper. There is a great and noticeable difference between English and French ideas of cleanliness. The English are, as a rule, clean about their homes, but dirty as regards their streets.

The French, on the contrary, are very clean in their streets, but not in all cases equally so in their houses, or I should rather say sets of apartments. That the French are not dirty in themselves is a fact known to those who have lived amongst them. They are, on the contrary (all classes), fond of baths, and often in the capital will take one at the public baths, or will have a bath brought to their rooms—it being the custom in Paris to send out large baths (similar to what are fitted up in English houses) and hot water, the expense being but small. The French are also fond of bathing in the sea, and have not that dread of bathing so universal amongst the English, especially the lower classes.

Dr. Granville, F.R.S., writes :[1] 'It were indeed to be wished that the English were more inclined than they are to bathe, especially in the sea, for which they have such ample means. Their propensity is not that way ; or at all events it is, as compared to the *balneomania* of the Parisians for domestic baths, and of the continental nations dwelling near the sea-shore for sea-bathing, very greatly inferior. By a return recently made to the Prefect of Police in Paris, it seems that the number of bathing establishments of all sorts in that capital, which on the termination of the war was 550, has since increased to eight times that number.'

The Rev. Harry Jones writes :[2] 'We are fond of praising our modern civilisation, but, though there can scarcely be anything which marks a civilised state more than cleanliness, there is nothing in which we have come behind the ancients more than in washing. There are Roman ruins in England

[1] *Spas of England*, p 9.

[2] *Washing*, by the Rev. Harry Jones, Rectory, St. George's-in-the-East, London, E.

which testify that in those old times what is now looked on as an expensive luxury for the rich was a cheap provision for the poor. A sumptuous public bath was part of the inevitable equipment of every community, and the people bathed to an extent which is now inconceivable to many. St. George's Hall, at Liverpool, is said to be the most exact copy in modern times of a part of one of those edifices in which the Romans washed themselves. The whole building, however, is less than one-fourth of the size of the central mass of a large Roman bath, and therefore gives but little idea of the immensity of one establishment for washing in old times.

'Other ancient nations notoriously bathed much. In the Bible we see washing raised to a sacred eminence. And existing peoples use water or the bath to a degree which we in England hardly realise. A bath is a necessary of life in Russia, and is to be found in every village. The Japanese are, perhaps, the most universally sedulous nation in the matter of washing themselves. The cheap native prints of scenes in their domestic life generally contain a representation of the family tub or spout. The ablutions of the Mohammedan and Hindoo are well known. I remember, moreover, when on the scene of the making of the great Atlantic Railway across America, which was partly built by Chinese navigators, that one great wonder and complaint of these pigtail labourers, on being brought near the Irish navvy, was that he did not wash himself after his day's work.

'It might be difficult to trace our decline into that form of uncleanliness which is exhibited in the neglect of washing. But the fact is that, practically and generally, the average Briton does not wash himself. Even the tub, which is now used widely by one class, was, not so very many years ago, regarded as almost a sign of eccentricity, and it is at present chiefly used only in houses which contain dressing-rooms. It has not come into anything like general use. The phrase, "cleaning one's self," common among working people, is mostly considered to be realised after what Sam Weller called a "rinse," and, perhaps, the putting of a fresh shirt over an unwashed skin.

'It would be difficult to exaggerate the importance or necessity of fixing this impression on the minds especially of the young. Washing, bathing, and swimming should be prominently explained and encouraged as an integral part of education. British conceit in current civilisation should be diligently assailed by showing how far other nations, whom we consider inferior to us in many respects, have been and are superior to us in the civilised habit of personal cleanliness. This is a matter which might well be taken up vigorously by every School Board and teacher. And, where possible, the addition of a bath to the equipment of a school might be ranked along with the provision of a playground.

'We have, indeed, so much lee-way and lost time to make up, in respect to washing, that some can hardly at first perceive how far we have fallen behind in this branch of civilisation, and been tempted to rest content in the furnishing of a school with a few taps, basins, and towels, and calling the result by the imposing name of a lavatory, whereas it seldom involves more than such a temporary cleaning of hands as shall retard the smearing of the books which the children use.'

I used to think, before I went about in the world, that there never was or could be anyone like 'my old Devonshire woman.' When I was a girl I used occasionally to take some tea to a very old, but still intelligent and active, woman—she told me she was nearly eighty—who lived with another equally old body in a small cottage remarkable for its neatness and perfect cleanliness. I was at that time rather keen on the subject of baths, and, having heard that my old woman was none too particular as regards washing, although outwardly appearing so, I ventured to ask her if she ever took any baths. My question was met with apparent surprise—I might say apparent horror—and received for answer, 'Lawks, no, missy, I don't take no baaths, what for should I? I don't reg'lar wash, not from September to May—'tis too cauld. Baaths'—this reflectively—'no, oh no, baaths daunt sut I nor the likes of I.' I am afraid there are many who are under the impression that washing is rather a cold process, and who echo poor old Betty's 'Baaths daunt sut I nor the likes of I.'

Hot baths in some cases of illness are invaluable ;[1] in fact, if people would only recognise it, water is not only nature's great 'purifier,' but is also nature's coadjutor in helping people to keep in good health, and it is a great pity water is so little thought of as a means of promoting health, and that baths are so reluctantly used. There are many degrees of temperature. These are the recognised temperatures for the different baths named :—

Bath.	Temperature of Water.
The Cold	33° to 65° Fahr.
„ Cool	65° to 75° „
„ Temperate . . .	75° to 85 „
„ Tepid	85° to 92° „
„ Warm . . . ,	92° to 98° „
„ Hot	98° to 112° „[2]

Bathing a Baby.—A baby should be bathed in *tepid* water every morning unless there is something in the state of the child's health which a medical man thinks will render the use of the bath injurious. It is generally sufficient (especially in the winter) to bathe a child once a day, merely washing it before being put to bed.

Dr. Semple says :[3] 'The washing at night need not amount to a bath, a *thorough* sponging will be quite sufficient . . . . Many think it only sufficient to sponge a child, but this is incorrect ; a child will thrive better and grow stronger and healthier by the use of the *daily bath*.'

In giving a baby a bath there should always be sufficient water to nearly cover the shoulders. When a baby is very young, and cannot support itself alone, it should be held in a sitting posture in the bath. Great care should be taken to hold an infant quite firmly. Nothing is so distressing to a young infant as the feeling of slipping. It is best to put a baby *gently* in its bath and sit it down, then bring the left hand and arm round the back of the child, holding it by its back and left shoulder, while with the right hand the child is thoroughly sponged. The child should be soaped (using a thin, soft piece of flannel for the soap) before being put in the bath. It is impossible to soap a baby properly when in the bath.

[1] See 'Croup,' p, 425. [2] *Chambers's Encyclopædia.*
[3] *The Mother's Guide*, p. 21.

It is a mistake pouring a quantity of water on an infant's head when in its bath.[1] Pouring hot water on an infant's head—the head not being closed[2]—has a very injurious effect. Particular attention should be paid to using a plain unscented soap. Unscented oatmeal soap is a good soap for infant use.[3] A piece of flannel should be placed at the bottom of the bath for the infant to sit upon, as it is soft and helps to prevent the child slipping. Great care should always be taken to see that the water in the bath is only lukewarm, and that it is the same heat at the bottom of the bath as at the top of the water. Some have a habit of putting the hot water in first and then the cold ; and without mixing the water thoroughly, sometimes without thinking of putting even their hand to the bottom of the bath to see if the water is all the same heat, they will put the baby in. The consequence is, the surface of the water is fairly cool, but down at the bottom of the bath the water is very warm, and when the poor baby is put in the bath it screams and cries. You will sometimes hear a thoughtless, ignorant person say, 'The baby does not like its bath' ; but if a bath is properly made, and always a comfortable heat, and the child is bathed comfortably, it will enjoy the water, and as it grows older and stronger will kick and splash about, uttering little sounds of pleasure.

Some infants get so fond of their bath that they will sometimes evince dislike to being taken out, and will cry and kick to stay in. After an infant is taken out of the bath it should be laid flat on its back on the knees of the person bathing it, rolled in a nice, dry, warm bath towel, a finer towel being used to wipe the head and to thoroughly wipe and dry every part of the body. Every part of a baby should be gently and very carefully dried : the chest and front parts first, afterwards the back. When quite dry, a little fuller's-earth powder (Matthews' Fuller's-earth Powder[4]) is one of the best for

[1] Wash the head with soap, however, and gently sponge. See 'A Few Remarks on the Hair, Teeth, &c.' p. 2. [2] See 'Sea Air,' p. 354.

[3] Osborne, Bauer & Cheeseman, 19 Golden Square, Regent Street, W., sell 'baby's soap' and *oatmeal soap*, which are good soaps and well recommended.

[4] Sold at all chemists'.

infant use, being free from any ingredient which would make it adhere to the skin or cause any irritation ; it should be used with a puff, especially to any part which is likely to become chafed. Many use violet powder,[1] but it is not so free from doubt as fuller's-earth powder. Some years ago there was a very terrible occurrence through something poisonous having been mixed with some violet powder to scent it. A number of children died through its use.

If a child is properly washed, and carefully wiped and dried, every day, and if a good soap is used, it is unlikely to become chafed. If a baby becomes chafed a most excellent remedy is a little Rock (not the powder) fuller's-earth. Two or three pieces the size of a walnut, put in a bowl with luke-warm water (well mix), and bathe the part. Rock fuller's-earth is sold at chemists', and is very inexpensive. Oatmeal or bran put in a bath is also very excellent if an infant's skin is troubled with tenderness or roughness : a teacupful to a quart of water. Sea salt[2] has the reputation of being strengthening, but some young infants' skins are too delicate to have sea salt used to them—sea water even causing too great an irritation to be continued. I think in this case it is well to let a doctor see the child, as the local irritation may in reality not be altogether caused by the salt water, but may indicate some bodily ailment requiring medical attention. Dr. Semple writes :[3] 'If the infant be feverish, half a teacupful of good cider, vinegar, or some eau de Cologne in the bath will be of service ; but the child must never be allowed to soak in the water bath ; it is then weakening ; sponging is all that is required.'

The French consider the use of eau de Cologne in a bath refreshing and strengthening, and they keep at chemists' in Paris eau de Cologne expressly for bath use. It is less strong than the ordinary eau de Cologne. Directly it is seen that anything (even as regards any particular manner of giving a bath) disagrees with an infant, it should be left off at once ; it only injures infants and children to persevere with what

[1] For infants' use it should be prepared at home. See 'Remarks on the Hair, Teeth, &c.,' p. 531, for how to make.

[2] Brill's or Tidman's.

[3] *The Mother's Guide*, p. 22

disagrees. While giving an infant its bath it should be talked to cheerfully and pleasantly, as it tends to render an infant less nervous, and is comforting to it. In giving baths to older children, also, care should be taken to see that the water is not too hot, as very warm water used daily is weakening. A bath should never be more than comfortably warm. All children should have a bath every morning ; it is always better given in the morning than in the evening, and should be given before breakfast.

In bathing older children it is also as well to thoroughly soap before going in the bath. When the child gets out of bed put a dressing-gown on, and slippers. A flannel dressing-gown is most useful for children. Many children catch cold through sitting up in bed with nothing round them while the nurse is dressing in the morning, or they are awaiting their turn to be washed and dressed. The dressing-gown is best put on when the children awake. I have seen children lying still and covered over when the nurse came in the room, yet, while she was in another room dressing, they had been sitting up with nothing round them. I remember going into the nursery once early, when the word went round, 'Nurse!' and down went the little heads, and there was a general scuffle. I believe many children's colds are caught by standing, just out of a warm bed, with nothing on but the night-dress, in a cold room, and with no slippers, on a cold mat. Then wash the child's face and neck in a basin with soap, using a fine flannel for the soap, rinsing with a sponge, and drying with a nice fine towel. Need I add, a dry towel? It is positively cruel, the way children are sometimes dried with a cold, wet towel. Sponges also, in nurseries, are not always kept as clean as they should be. A greasy sponge is not only disagreeable to use, but is not of the same use.

The best way to clean a sponge is to let it soak all night in malt vinegar, and the next morning to knead, and rinse, and wring the sponge well in vinegar ; afterwards rinse, first in warm, and then in cold water. Hassall's sponge powder, although there are other kinds, is still a good kind of powder for cleaning sponges.

Some children are never properly washed; the ears especially being sometimes quite discoloured from accumulated dirt imperfectly removed. After washing face and neck strip the child and soap the body well, letting the child sit down (put a bath towel on a chair for the child to sit on) while you soap the knees and feet. With the latter it is advisable occasionally to use a soft nail-brush. When well soaped let the child first stand and then sit down in the bath while you sponge well with a bath sponge. Children can in this way be washed thoroughly in about ten minutes. The general practice not only wastes time, but is very inconvenient; the child being soaped while in the water, it cannot be properly done, and often if the water is somewhat cold the poor child sits absolutely shivering while one arm first, then the other, is soaped, and then one leg is pulled up, and then the other.

Washing several children in one small bath without changing the water, and washing their faces in the same water that their bodies (with the dirt of the day) are washed in, is not a practice to be commended, although the general one in nursery life. When a child has a hot bath it should afterwards be put to sleep in the blankets, as being put in cold sheets after a hot bath is apt to cause a chill. If a child is put in the sheets the bed should be warmed.[1] It is a mistake to use quite cold water for an infant's bath, as also for older children.[2] Some have an idea that it is likely to strengthen an infant to bathe it daily in cold water, but it is a great error, and instead of doing good often does much harm. The water being quite cold chills a young infant, and causes too great a shock to the system, and by being persevered with may even, where there is weakness, induce heart-disease. It is always better if the water is a heat pleasant to the child. An infant, even, will soon show when its bath is an agreeable heat. It will give a little cringe if either too hot or too cold, and generally by crying will indicate its feelings.

Dr. Ellis says:[3] 'A warm bath, of the temperature of 92° Fahr., is most proper for the morning and evening ablu-

[1] See 'Water,' p. 369. [2] See 'Repose,' p. 322.
[3] Dr. Ellis, *Disease in Childhood*, p. 114.

tions of the infant; and this temperature, or a degree or two higher, will be most agreeable to the child.' Dr. Chevasse puts the heat of a bath for an infant rather lower; he says:[1] 'Although we are not to use quite cold water, we are not to run into an opposite extreme and put him into a tub of hot water; one folly would be as great as the other: the water ought to be from 88° to 90° Fahr., and which a thermometer will best indicate; indeed, a mother, in such an important matter, should not trust to chance, but should every morning test the proper heat with a thermometer, which cannot err, and which gives but little trouble.'

The very greatest care should always be exercised in seeing that a bath is not too hot. Several accidents have at various times occurred through water being used too hot, in which children have been put on account of illness. An excellent way to try the heat of a hot bath if there is not a thermometer handy is for the person giving the bath to take her boot and stocking off, and put her foot right down in the bath when made. The foot should be kept in the water a few seconds, when it will be easily seen if it is the right heat. The foot, being always covered up, is more sensitive to hot water than the hand, or those parts of the body which are always exposed to the atmosphere, and which thus become hardened. The popular way of trying hot water with the elbow is a mistake. As a rule the elbow is less sensitive to hot water than any part of the body.

A baby should have its bath at the same time every morning: keeping a baby unwashed to a late hour is not conducive to health. It is also very injurious giving a baby food and bathing it immediately afterwards. *No child, however young, should have a bath on a full stomach.* Many imagine it does not signify if an infant is bathed after being fed, as only milk is given, but this is quite erroneous. The bath should be given at least an hour after food has been taken.

Washing a new-born infant.—A new-born baby should always be washed with the very tenderest care. It should not be washed in a cold room, and the door and window

[1] *Counsel to a Mother*, p. 15.

should be shut during the time it is being washed. If very hot weather, a fire may perhaps be dispensed with, but at all other times the child should be washed by the fire. 'I would urge,' observes Dr. Ellis,[1] 'and generally direct, the infant to be washed and dressed in an adjoining room, where for the first few days a good fire should be kept, and the temperature not fall under 70° Fahr. It will be necessary, of course, so to arrange matters, by opening the door leading into the apartment of the mother, that a transition from a warm room to one not so warm will be effected without risk of taking cold.'

Dr. Chevasse writes :[2] 'It is cruel, in the winter time, to wash a child in a room without a proper fire in the grate ; it is not only cruel, but it is most dangerous, as it may cause an attack of inflammation of the lungs or of bronchitis. The proper temperature in the winter season of the nursery during the washing of a child is about 60° Fahr.—a good thermometer being an indispensable requisite in every nursery.'

It is exceedingly injudicious, to say the least, keeping a newborn baby in a room without a fire. I went to call on a young friend, and was asked if I would like to see the baby. I was quite grieved to see the poor little creature, only a few days old, in a cot in an adjoining dressing-room, which had no fireplace. There happened to be a thermometer in the room, and on looking at it I found it registered a little over 50°. The nurse had a thick shawl round her, and, on my remarking that the room struck cold on entering, said, 'There's a good fire in the bed-room' (but the poor infant was not there), 'but baby's ma can't sleep if the baby's in the room, and so we're obliged to keep baby here while she's sleeping, and at night I takes him in with me in my bed, so he don't hurt.' I felt inclined to say, Fiddle-de-dee ; nonsense ! The absurdity of a sleeping infant keeping the lightest sleeper even awake ! Cold linen sheets,[3] too, many times washed blankets, and a thin

[1] *Disease in Childhood*, pp. 114, 115.

[2] *Counsel to a Mother*, p. 62 ; see also 'Fresh Air and Exercise,' p. 342.

[3] See 'Repose,' p. 322. '*Cotton* sheets, blankets and counterpane must be used according to season.'—Quain's *Dictionary of Medicine*, vol. ii. p. 1150.

nightgown completed a covering suited to a warm climate in July, not London in December, with the addition of a cold north-east wind. On remarking that the baby seemed to breathe as if it had a cold, the reply was, 'Yes, he do breathe rather rattly, but he had a cold when he was born ; and the doctor says it's a chance he hasn't had bronchitis.' Bronchitis seemed to me a more or less reasonable conclusion to such treatment of a new-born infant, *minus*, too, 'the wee drappie' which evidently kept this Mrs. Gamp warm. Dr. Semple says :[1] 'It is a fatal mistake so to chill the room of a sleeping infant as to give it colder air to breathe at night than that which entered its delicate lung-tissue by day, a mistake that may often give rise to fatal catarrh. Vitality, that is to say, the heat-making properties, are below the normal standard while the infant sleeps ; its pulse is slower, its respirations are fewer in number, and when there is superadded the peculiarity of the night atmosphere, or that of the hours just preceding dawn, a something—what it is, we know not—that depresses the nervous system to its lowest point, it makes the importance greater of good warm clothing, light in weight, but warm in texture, and a careful regulation of the room temperature at that time. Crises in illness occur most frequently in the night hours, in which also are recorded the greatest number of births and deaths.'

The water of a new-born infant's bath should be most carefully tried, so that it is not too hot or too cold.[2] Having begun washing the child, it should on no account be left in a half-finished state, even for a few minutes. An infant should never be washed in a hurry. If the child after birth appears very exhausted, it is better to defer the washing of it all over, merely washing or sponging the face. Let the child rest awhile in cotton wool, and well wrapped in flannel. It is always wise before the birth of a child to have sufficient cotton-wool ready in case it should prove very exhausted, and it is always better to place an infant in cotton-wool for a little while if feeble at birth.

'In the case of infants prematurely born, the destructive

[1] *The Mother's Guide*, p. 25.

[2] See 'Water,' p. 379.

influence of a low external temperature is among the facts best known to medical science. Instances have occurred repeatedly in which infants apparently healthy, but born in less than the due time, have had their lives prolonged, and in some instances to the full attainment of maturity, by carefully adopting every known means for sustaining their animal heat. Among these, the enveloping of the child in some soft non-conducting substance, such as cotton wool, has been most useful. It is to be regretted that in the case of infants born at the full term of 280 days, or approaching it, little attention has generally been paid to this most essential point.' [1]

Do not cover the infant's face over, as is generally done under the impression that the child will be warmer thereby. The prevailing custom of washing, dressing, and feeding an infant immediately after birth [2] is a great, and occasionally proves a fatal, mistake. If a child is strong, it can of course be washed (as soon as convenient) without incurring any harm ; although many medical men are of opinion that the immediate washing and dressing of an infant after birth is injurious. The face of a new-born infant should, however, always be sponged, *immediately* after birth, with tepid water. Some doctors order the addition of half a teaspoonful (30 drops) of Condy's fluid to a pint of tepid water to sponge an infant's face with after birth. Well mix.

Dr. Semple writes : [3] 'Care should be taken to wash out of its mouth any accumulated mucus, and it is necessary also to wash the face, especially the eyes, with a soft sponge and tepid water to prevent the secretions that have collected giving rise to catarrhal affections which are so troublesome to treat in infants.'

Medical men also sometimes recommend a teaspoonful of Condy's fluid to be put in a foot-bath of tepid water, and the infant to be sponged over with this before bathing with soap. After sponging the child with this throw away.

Condy's fluid *should be used mixed with clean water only*,

[1] Dr. Ellis, *Disease in Childhood*, p. 39.
[2] See 'Feeding,' p. 111.
[3] *The Mother's Guide*, p. 1.

and is totally incompatible with soap, or with substances which consume oxygen, such as turpentine, carbolic acid, oils, &c.' [1]

'A teaspoonful of Condy's fluid should be added to the infant's first bath.' [2]

And it adds (in directions for the use of Condy's fluid):

'*Children's Baths.*—One to two teaspoonfuls. The daily use of the "Condy" bath in the nursery is strongly enjoined by physicians and qualified nurses, as it ensures removal of impurities and secretions of the skin, and prevents "spots," eruptions, sore eyes, and other disorders in children. Condy's fluid added to the bath allays the irritation of the most delicate skin, while it is harmless if swallowed, and does not make the eyes smart.'

But for perfectly healthy children no such addition as Condy's fluid is needed. The staining of the skin caused by Condy's fluid when used for a continuance is against its regular employment, although for once or twice it may with safety be used. The staining would not be permanent, of course.

After infectious fevers, such as scarlet fever or measles, &c., a bath of Condy's fluid before leaving the sick-room is often advised. Some doctors also recommend washing the hair with soap, and rinsing afterwards with Condy's fluid and water.[3] For rinsing the hair one teaspoonful to a quart of water. The water should be a mauve colour.

Carbolic acid is very dangerous to use except under medical direction. Before bathing the child, place on your knees a flannel apron, and thoroughly soap every part, using a fine piece of flannel. Soap especially the ears and joints; then place in the bath (of plain tepid water) and sponge well. Abroad they say it is impossible to wash a newly-born infant thoroughly without using oil, so they usually oil the child all over with olive-oil before washing. Dr. Semple, in speaking of the treatment of the newly-born, mentions: 'The hair, the

[1] *Book of Directions for the Use of Condy's Fluid.*

[2] A physician of eminence told me Condy's fluid used in the bath for a continuance is found to affect the kidneys too much, but for a single bath is harmless.

[3] See 'Remarks on the Hair,' &c., p. 499, note 1.

ears, and the folds of the joints should be lubricated in their turn, vaseline or oil being used, after which a good washing with the best white Castile soap and warm water will leave the skin soft and clean.' Dr. Semple mentions [1] white Castile soap as being of benefit in washing a new-born infant. Dr. Milton writes ('Hygiene of the Skin,' page 79) : 'The marbled look of Castile soap is stated, in Thompson's London Dispensatory, to be communicated by adding sulphate and red oxide of iron.'

Most of the ordinary, not too highly scented soaps are good. I have generally used oatmeal soap.[2] Cimolite soap, which is prepared white fuller's-earth, with glycerine and rose-water, sold by Taylor, chemist, 13 Baker Street, Portman Square, London, W., is a useful soap for the first washing, and is much recommended by the medical profession. Dr. Chevasse speaks also of the use of oil in the washing of the newly-born :[3] '*Ought that tenacious, paste-like substance, adhering to the skin of a new-born babe, to be washed off at the first dressing?*

'It should, provided it be done with a soft sponge and with care. If there be any difficulty in removing the substance, gently rub it with a flannel, smeared with a little lard, or fresh butter, or sweet-oil. After the parts have been well and gently rubbed with the lard, or oil, or butter, let all be washed off together, and be thoroughly cleansed away, by means of a sponge, and soap, and warm water. Then, to complete the process, gently put the child for a minute or two in his tub. If this paste-like substance be allowed to remain on the skin, it might produce either an excoriation or a "breaking-out." Besides, it is impossible, if that tenacious substance be allowed to remain on it, for the skin to perform its proper functions.'

I think great care should be used in washing the newly born. In the effort to get off the adhesive covering I have seen the skin much irritated. Dr. Playfair writes [4] that a newly born infant should be 'placed in a bath of warm water,

[1] *The Mother's Guide*, p. 2.
[2] See p. 376.
[3] *Advice to a Mother*, p. 7.
[4] *Science and Practice of Midwifery*, p. 280.

and carefully soaped and sponged from head to foot,' and adds : 'With the view of facilitating the removal of the unctuous material with which it is covered, it is usual to anoint it with cold cream or olive oil, which is washed off in the bath.' Dr. Playfair says : 'Nurses are apt to use undue roughness in endeavouring to remove every particle of the vernix caseosa, small portions of which are often firmly adherent. This mistake should be avoided, as these particles will soon dry up and become spontaneously detached.'

Dr. Ellis observes :[1] 'Mothers ought to be informed that the new-born infant is always enveloped in a covering of fatty matter, which is not very easily removed. The first washing has for its principal object the entire removal of this covering . . . To remove the fatty covering should be most sedulously impressed on the nurse as a point of much importance. To do this effectually, tenderly, and quickly is to accomplish a very great step in securing the health of the infant. Infinite trouble will attend neglect of this point. The folds of the skin are those places generally passed over, and the excoriations resulting from this want of proper ablution are very troublesome and painful. I am convinced,' adds Dr. Ellis, 'after a careful examination of numbers of new-born infants, that not one in ten is ever thoroughly cleansed at the first from this adhesive matter. Some of the repeated cases of inflammation of the eyes of infants,[2] witnessed daily in accoucheur practice, have, I am persuaded, their origin in the neglect of a thorough removal of this covering and of the irritating secretions which may have accidentally dropped into them immediately after delivery. I would urge every expectant mother to be most particular in impressing her nurse with this first principle in her treatment of the future object of her care. I am thus particular in insisting upon perfect cleanliness in the new-born infant for the following great physiological reason. The tender skin of an infant is a great respiring surface. The child, equally indeed with the adult, breathes not only by the lungs, but by every point of skin all over its body. Obviously

[1] *Disease in Childhood*, pp. 109-111. [2] See p. 387.

it is of great moment to render this function healthy and fully established from the first, especially as the pulmonary respiration is often very languid and imperfect in the newly-born. Nothing can be conceived as better calculated to impede such a function than the fatty covering of which I have spoken. The infant is sometimes so thoroughly protected by it that if left unremoved it is difficult to conceive of cutaneous respiration going on at all. It must not, however, be forgotten that the skin of an infant is very susceptible to harsh usage ; but the necessary ablutory operations of the nurse need not be rough and clumsy.'

'One of the most fruitful causes of blindness is the inflammation of the eyes of newly-born infants, and the Ophthalmological Society estimated that 30 per cent. of the inmates of institutions and 7,000 persons in the United Kingdom had lost their sight from that cause. Various specifics are mentioned by the Commissioners, but they all appear to depend chiefly for their success on prompt application.' [1]

Dr. Geikie mentions a curious custom as still prevailing in the East. 'Babies,' says Dr. Geikie,[2] 'are rubbed with salt before they are put in their swaddling clothes.' 'Common coarse salt is pulverised in a mortar when the child is born ; and as soon as the poor little creature is washed it is covered all over with it, and wrapped up like a mummy in swaddling clothes. This process is repeated daily for three days. In some places they are humane enough to melt the salt and bathe the infant with the brine. After the third day the child is bathed in oil and then washed and dressed as usual.' [3] The wonder we express at what appears to us the strange customs of other nations is equally expressed by them at our habits.

'A native mother,' writes Dr. Geikie, 'cannot imagine how European children are not thus favoured. "Poor thing," she will say, "it was not salted at all." This strange custom, to our Western ideas, seems to date from a very early period.'

[1] 'Report of the Royal Commission on the Blind, the Deaf and Dumb, &c., *The Times*, Tuesday, July 16, 1889.

[2] *The Holy Land and the Bible*, vol. i. p. 154.

[3] *Ibid.* vol. ii. p. 154.

Dr. Geikie refers to Ezekiel, xvi. 4, where the prophet writes (after naming the things which should have been done at birth), 'Thou wast not salted at all,' thus evidently alluding to what was usually done with the newly-born in his day and country. I have been told that the use of salt to a new-born child was to harden the skin so as to prevent chill. That it was done soon after birth we gather from Ezekiel's words: 'In the day thou wast born.' That anointing with oil was also customary we learn from the ninth verse, where it is mentioned: 'I anointed thee with oil,' the prophet still alluding to one newly born. Mention of soap is also made in the Bible —Jeremiah ii. 22 and Malachi iii. 2. In Malachi the words 'fuller's sope' occur, the allusion to its cleansing properties being apparent from what precede and follow. Some of the customs relating to the newly-born have been very strange, and not at all times either beneficial or to be advocated. For instance, we read that at one time nurses used to cut the under membrane of infants' tongues—for what purpose one cannot imagine, for it occasionally caused the child's death and must in any case have been productive of pain and discomfort. 'The tongue cannot be curled completely over and thrust down the throat, because it is confined by a membrane which attaches the middle line of its under surface to the bottom of the mouth. At one time it used to be the barbarous custom of nurses to cut this membrane in newly-born infants, a custom which not unfrequently resulted in the child being choked by its own tongue.'[1]

After well washing the infant, gently, carefully, and quietly dry with a soft, fine towel, and then powder with fuller's-earth powder (Matthews's).[2] Place the flannel band, but not put on tight,[3] and the vest, nightdress, &c., on the child, and let it rest a little time (warmly rolled up) in your arms before the fire to get quite warm. 'It were to be wished that the whole of the first clothing of a new-born infant were generally made either of fine, soft, new flannel, or of very soft

[1] *The Popular Educator*, ix.; *Animal Physiology*, vol. i. p. 290.
[2] Or Violet powder, see p. 531.
[3] See 'Repose,' pp. 323, 324.

cotton cloth.[1] It seems to me that to put a shirt, even of the very softest cambric or finest linen (which are both rapid conductors of heat), next the skin of an infant on its first being enveloped in clothes is as premature and untimely as to put a child five years old into the habiliments proper to youth.'[2] Vests made of Shetland wool, either knitted or woven (these are much better than merino for young infants[3]), coming high to the neck and down to the knees, and quite loosely fitting, are most suitable for new-born infants.

Care should always be observed in holding a baby before the fire. An infant is sometimes held with its clothes tucked up in front of a roaring fire, its poor little legs bare, so that they are quite unprotected, and the fact is, it is almost scorched. The person holding the child, having her clothes to protect her, feels the heat less, but the poor baby, exposed without any protection to the extreme heat, is sensible of discomfort only, and when it whimpers and cries the person holding it, not feeling the same, merely says, 'Baby is fractious;' and when the poor infant, conscious of an excess of heat, moves itself about it is even sometimes thought to be enjoying the fire, whereas, in some instances, it is the great heat it is enduring which makes it move, and it is most uncomfortable. A baby should never be held lying with its head to the fire.

It would be well if people would bear in mind, a baby cannot tell its discomfort, and if they would exercise a little thoughtful common-sense in their treatment of infants it would be of much benefit to these ill-used little mortals. Warmth is essential for new-born and young infants. A medical man observes: 'One-sixth of the deaths of young children (infants) result from cold.'[4] 'The mortality,' he goes on to say, 'from this cause is more than is imagined.' All animals teach us a lesson in respect to warmth being necessary for the newly-born. See how kittens, puppies, chickens—in fact, the young of all animals—keep close to the mother, and she is most careful in keeping them warm the first few days of life.

[1] See 'Repose,' p. 322.
[2] Dr. Ellis, *Disease in Childhood*, p. 112.
[3] See 'Colds, Chills, and Rheumatism,' p. 403.
[4] *The Lancet*, 1878.

Dr. Edwards ascertained the temperature of young puppies and kittens lying near their mother to be one or two degrees lower than that of their parent, but when he removed them they rapidly cooled down until within a degree of the level of the atmosphere, thus further illustrating the small power of generating heat found in the newly-born and very young. 'In an infant of the full period at birth the temperature vacillates between 95° and 99°. During the first week the average temperature of infants is 98°; during the period ranging between four months and fourteen years 99°; in the adult 100°.'[1] The temperature of infants during the first few days of life being so low, any excess of cold or sudden chill will most certainly be more surely fatal than when the child is older and, the temperature being higher, it is able to resist the cold better. 'The infant is born naked. It is true his eyes are open, but, according to Burdach, for the first month he is as it were blind; perhaps able to distinguish light, but that indistinctly. Heat only is essential to him at first, and he will rapidly lose it on exposure. The proverb, "Can two lie together and not have heat?" should be proved in the case of every infant and its mother. Temporary separation may be, and should be, recommended, for then, owing to the power of the infant of again recovering its heat near the mother, no harm is likely to follow, but the separation should not be for long.'[2]

It is left to the supposed superior understanding of human beings to institute the most cruel proceeding of taking a newborn baby away from the natural heat of its mother (where it would get warm all over), and often wrapping the poor little creature in cold flannels and cold, starched, thin, white garments, exposing the little tender thing to all the discomfort of a cold bed, and this perhaps with snow on the ground. Warmth for an infant newly born should be that which will affect its circulation and the whole of its little frame with a gradual heat. The prevailing idea of warmth for an infant is covering it all over. Freedom to breathe is absolutely essen-

[1] Dr. Edwards on *Temperature*.
[2] Dr. Routh's *Infant Feeding*, p. 95.

tial, however, and the face should not be covered over. An old writer[1] observes: 'Mother's warmth to keep the life in doth tend.' If after birth an infant, instead of being placed in a cot, was wrapped up in flannel and laid on its mother's arm by her side, even if only for a time, or, if the mother is too exhausted, close to her, so that the child felt the warmth from her, it would be a boon to poor infants who, allowed to struggle into life as best they may, are often retarded rather than helped in their efforts to try and live.

'Of all animate creatures, the young of the human species is the least fitted to endure early separation from its parent in consequence of its feeble power of sustaining its temperature. Yet the newly born infant,' writes Dr. Ellis,[2] 'is rarely to be found by its mother's side, but is generally placed, wrapped in flannels, on a pillow, or is displayed to wondering friends in the nurse's arms, or on her lap. The young of no other warm-blooded species is thus separated from the person of the parent. On the contrary, the position of all newly born creatures is immediately under or near to the body of the mother. This is really an important consideration, as will appear from what follows. It has been before observed that an infant has only one source of animal heat, which is the function of respiration. But it has also been stated that very generally this function is extremely imperfectly fulfilled at and soon after birth, even for some days. Hence the coldness of the hands and cheeks of an infant. If the infant is at this time left to itself, however thick its envelope of flannels, its temperature is not fully sustained by its own arrangements for animal heat. It requires an additional supply beyond that produced by its own functions. The nurse will very probably now and then give her tender charge something little short of a roasting before the bedroom fire. But the result is not of the kind desired. The child is not the warmer afterwards for a temporary increase of heat from the fire. The only proper source of heat is the mother.'[3] When infants get

[1] Dr. Roger on *Infant Life and how to preserve it*; see also Roger on *Temperature*.

[2] *Disease in Childhood*, p. 113.

[3] See 'Feeding,' p. 112.

over the first few weeks of life, being more developed and the temperature higher, they can bear what might even be fatal in the first few hours of existence, and they can then sleep in their cot without an anxious thought.

Sea-Bathing.

Sea-water is acknowledged by all medical authorities to be strengthening and beneficial where it agrees. In some instances bathing in the open sea disagrees ; if this is found so, it should be discontinued. When children are afraid of the sea, and are greatly terrified by being put in the water, bathing them in the open sea is apt to cause disturbance to the system, and more harm than good is the result. In the summer months one often sees at the seaside many poor children enduring the infliction of a course of sea-bathing, their parents being under the mistaken impression that they are being strengthened thereby. Often, despite their cries and screams, the poor little things are plunged down in the water, sometimes their heads being put under the water two or three times violently, so that their breath is nearly taken away, and they feel almost suffocated. To terrify them still more, quite little children are sent into the water with a stranger to them (a friend of the mother's, it may be, but one whom the children do not know well, so as to be able to place confidence), and, despite the words that the water will not harm, they are truly terrified, the words, coming from a stranger, not inspiring the same amount of confidence they would if uttered by some one known well, and felt to be certain to help in danger.

I am not sure that the old bathing-woman of thirty years ago, now an obsolete personage at most seaside places, was not a very excellent institution. In some families none of the older members will bathe, yet they wish the children to do so. The servants are asked if they will bathe : one and all refuse. At their wits' end, the parents, not wishing to bathe themselves, allow the little ones to be taken in by an elder sister, in whom probably the children have no confidence, or a young friend, and so much mental distress is occasioned. With the bathing-woman of yore, seeing her always in the

water, and thus feeling she knew all about the sea, the children were not nearly so much frightened by her taking them in, and she was as a rule a kindly, cheerful-speaking old body. The 'Now, my deary, one, two, three; down you goes; now ain't that nice? Don't you be afeard, I woan't duck ye, my dear, till ye're ready,' was much more consoling and reassuring than the sudden dash in and under the water—not a word uttered—given by a young and thoughtless girl.

The extract which I give from the 'Illustrated London News,' September 4, 1886, graphically describes the most cruel way in which children are bathed in the sea, and a similar scene may be witnessed any day at the various seaside resorts during August.

'I write àpropos to a scene which I have just witnessed, and which was of the most painful character; and yet of so common an order of blunder that I doubt not most of my readers will have seen a similar incident this very season. A big, strong girl of sixteen or so strode out from a bathing-machine, bearing on her left arm a fair-haired little child of some five summers old. The little one began to cry the moment she found herself in the midst of what, no doubt, seemed to her a raging flood. Regardless of the terror, the elder girl marched out till she was breast high in the water, and then, pulling the clinging little arms from her neck, and pinioning them across the heaving bosom of her helpless charge, she "dipped" the little one—once, twice, thrice. The water choked the screams for an instant; but as soon as the victim was replaced on the arm she clung round the elder's neck, and shrieked with an abandonment to anguished terror that made my heart stand still. In another moment the trembling form and over-wrought nerves were in the bathing-machine again; and the mother of the poor little morsel doubtless supposed that it had received some benefit from the shocking performance. When, in a few months, this child may have a convulsive fit, or when, ten years hence, the nerves, so cruelly strained, break down at a critical period of life, and St. Vitus' dance, or epilepsy, or deafness, afflicts the girl, it will not occur to anybody to look back for its origin to the wrench

given to the nervous system by the terror and torture of this "dip."'

Children are scolded for crying on being put in the sea, and for not liking what is a terror. I have known children made quite ill by being made to go into the sea on a rough, cold day. In any case children should be taken gently into the water and not roughly forced in. Children of tender years should never be put in the sea when it is very cold [1] or rough. Paddling also for a length of time and on cold days is often productive of serious mischief.

If children are very averse to the sea, tepid salt-water baths will answer the purpose of strengthening. A swimming bath at the sea is often liked by children. It is a pity these useful baths are not emptied more frequently. Bathing in water the colour of pea-soup and with a kind of grease on the top is somewhat repugnant to the feelings, however anxious one is to gain any advantage there may be from the use of sea-water. Cold sea-water baths should not be given to children without medical advice. It would be a boon to many if some other system of bathing in the open sea could be devised. Amongst all the things which have undergone improvement the bathing-machine remains unaltered. We run down our Continental neighbours and our 'American cousins,' but in the matter of bathing, and being decently clad for bathing, we might take a lesson from them. In bathing attire our savage instincts remain unaltered, and the 'nobler sex' glory in an absence of garment suitable to an uncivilised land; but when they are mixed up with the 'gentler sex' the latter should not be reminded of the early days of man.

Abroad whole families bathe together, but the bathing costumes are suitable, and there is a freedom from anything which might bring a blush to any cheek; but as bathing is practised at some of the seaside places in England during the bathing season it is hardly decent. The waiting, crowded, on the machines in scorching hot weather is also most disagreeable if not positively hurtful. Surely some system by means

[1] See 'Repose,' p. 322.

of ticket—like the Paris omnibuses—might be introduced. The smell of some of the machines, too, after a number of people have been in, is not only overpowering, but unwholesome. Some people try having a tent, but this is only of use when the water is low and in places having sands. And when children have to run a long distance, as I have seen them on a cold day, with a keen wind blowing, it is apt to give a chill. In some places it is the habit to throw refuse in the sea; sometimes a number of glass bottles, broken glasses, and old broken dishes and china are thrown into the sea, and, being washed back instead of out to sea, get into the sand and stones. I have seen some very badly cut feet this year, from this cause, in bathing. In places where there is glass &c. about, bathing shoes are of advantage.

The swallowing of sea-water often causes diarrhœa with children; even a small quantity being swallowed will cause the bowels to be affected. In fact, it is not generally known that sea-water taken internally has an aperient effect. Some medical authorities think that if the effect of taking sea-water were known it might become of general use as a medical remedy. 'There are,' writes Dr. Granville, F.R.S.,[1] 'very active ingredients in sea-water. The first is chloride of sodium, which exists in the proportion of 1 to 35, or, in other words, a pint of sea-water contains 216½ grains, that is to say, something less than half an ounce of common salt. The second is what medical men call muriate of magnesia, which is a combination of chlorine with magnesium, a salt endowed with well-marked properties on the human frame, and which constitutes one of the active ingredients of Pullna water, so generally used now in England. . . . But, in addition to these active principles in sea-water, Mr. Schweitzer has found in that taken up in the Channel a considerable portion of a substance which we cannot consider otherwise than important, from its two constituent principles, although we have little direct experience as to its immediate influence on the human constitution as a medicine. This substance, which was first pointed out by Wollaston in sea-water, even before it was detected in mineral springs, is

[1] *The Spas of England*, pp. 6, 7.

the muriate of potash, or chloride of potassium as it is called by the learned, six grains of which are found in a pint of sea-water. To complete this analysis it should be stated that the same pint of sea-water contains also eighteen grains and one-third of Epsom salts, eleven grains and a quarter of sulphate of lime, with a very trifling quantity of carbonate of lime. After this account it will be readily admitted that sea-water is in fact a *mineral water* to all intents and purposes; and that we may therefore look with as much confidence for beneficial effects from its employment, whether externally or internally, provided it be judiciously recommended, as from the employment of other mineral waters—proportionate to and in accordance with their respective chemical composition.'

Another ingredient, muriate of lime, is said by Lavoisier and others to be in some sea-water.[1] If, on coming out of the water, a feeling of faintness or shivering ensues, or, as some persons say, 'they feel frozen up,' bathing should be given up. Sea-bathing, to agree, should have the effect of causing the skin to feel afterwards in a pleasant glow, and no bodily discomfort should be experienced. Dr. Strange says:[2] 'Sea-bathing is used altogether as a stimulant. If it do not act as such, it should be at once abandoned. . . . Our knowledge of the vigour of the circulation at different periods of life seems to inform us that it is not safe, as a rule, for very young children. Before the age of seven it should be used with the greatest caution.'

Dr. Macpherson writes:[3] 'Sea-bathing is usually to be avoided where there is a tendency to any cutaneous affection; and if there be any eruption present it should be smeared with pomatum or oil before bathing. Except in the form of warm baths, sea-bathing is to be avoided in gout and rheumatism. It is a doubtful measure, and must be used with much care in convulsive diseases, chorea, and epilepsy. It is to be avoided when there is disease of the heart or blood-vessels or lungs, or any tendency to cerebral congestion.' Dr. Macpherson also

[1] See 'General Remarks,' pp. 59, 60.
[2] *Seven Sources of Health*, pp. 220, 222.
[3] John Macpherson, M.D., *Baths and Wells of Europe*, pp. 160, 162.

writes: 'In a great number of people sea-bathing causes a feeling of sleepiness, and in some rare cases an eruption. The latter is a contra-indication to its use.' Some take ginger on going to bathe, or, on coming out, brandy, whisky, or sherry; the latter, of course, could not be given to children except by medical direction; but where sea-bathing really disagrees no adventitious aid is of any service. It should be carefully watched in the case of young children. Giving food just before entering the water, such as buns, cake, &c., should be avoided. Delicate children sometimes feel a craving for something to drink after bathing; they should, with as little delay as possible, be given a small cup of warm beef-tea (Liebig's), which, if *properly made*, is stimulating and easily digested. The great fault as a rule is, too much of the extract is used, which also makes it unpalatable to many persons.

Dr. Gover, in speaking of Liebig's extract of meat, remarks that[1] 'he would draw attention to the usefulness of Liebig's extract as a stimulant. It was too frequently used as a nutritive agent, and people thought they made beef-tea by dissolving a teaspoonful of it in hot water. But they did nothing of the kind. They got only the stimulating elements of the meat, and made a solution which might be compared to wine, but which had no nourishment in it. It was too much depended on, especially in the case of persons recovering from fevers, and other states where nutriment was required. He would suggest the desirability of using the extract as an addition to beef-tea made in the ordinary way, as by that means they would get the nutriment and stimulant together in a compendious form, which would be very useful.'

Dr. Williams says:[2] 'Liebig's extract of meat, when properly prepared, is what I have called beef-tea proper, in a concentrated form. When it was first introduced great expectations were formed, based on the theory that it is concentrated nutriment. Further investigation has proved that it has many great merits, but it is not a complete nutriment, and that, after being used for a while, it becomes nauseous. Hence

[1] *Society of Arts Journal*, May 17, 1878, p. 591.
[2] *The Scientific Basis of Cookery*.

the preparations that are offered to supersede it, meat essences, &c., which are merely equivalent to Liebig's extract *plus* gelatine, and may be made by stewing beef in warm water, or by adding Liebig's extract to calf's-foot jelly, or to its equivalent, the jelly made from isinglass, or the prepared gelatine sold by grocers. I am not aware whether jelly for invalids is ever prepared thus, by adding a little dissolved Liebig before consolidating ; but I believe that it would form a very good and easily prepared form of delicate food, always remembering that it is still but a partial diet, as it lacks the carbon-food supplied by sugar and the farinaceous compounds.'

It is often difficult to get beef-tea made in lodgings. If it is a distance to the sea from the residence the beef-tea might be warmed before leaving and put in a bottle. A cold drink should not be taken immediately on coming out of the water. It should always be borne in mind that bathing on a full stomach is highly dangerous ; also bathing when over-heated, or immediately after violent exercise. Sir George Lefevre gives the following caution to bathers : 'Let them not wait till the body becomes cold before they plunge into the water. It is in this (the cold stage) that there may be danger ; for excitement has already passed away, and the body cannot resist the depressing influence of cold. If the surface be dry and the heat above the natural standard, little is to be feared from immersion into a lower temperature. If the body be cooled down, and the surface be covered with moisture, such experiments should not be hazarded.'

Sir Erasmus Wilson adds : [1] 'Bathing, to be efficient, should be regular, should be commenced by degrees, and increased by a process of training, and should not be permitted to intrude upon hours devoted to some important function, such as digestion. It must not approach too near a meal ; that is to say, it must not be immediately before the meal, nor must it follow a meal too closely—three or four hours must be permitted to elapse. The time occupied in bathing by invalids should not exceed a few moments, ranging perhaps from two to ten, but persons in health may carry it to the point of satiety, provided

[1] *Healthy Skin*, pp. 190, 197.

always that they combine with it active exercise afterwards. The bath should never be taken directly after meals, lest it put a stop to digestion, and produce faintness and sickness. The proper time for the bath (or for bathing) is before a meal, or three hours after a meal.'

The Royal Humane Society's rules and recommendations are: 'Avoid bathing within two hours after a meal. Avoid bathing when exhausted by fatigue, or from any other causes. Avoid bathing when the body is cooling after perspiration, but bathe when the body is warm, provided no time is lost in getting into the water. Avoid chilling the body by sitting or standing naked on the banks or in boats, having been in the water. Avoid remaining too long in the water. Leave the water immediately there is the slightest feeling of chilliness. Avoid bathing altogether in the open air if, after having been a short time in the water, there is a sense of chilliness with numbness of the hands and feet. The vigorous and strong may bathe early in the morning on an empty stomach. The young and those that are weak had better bathe three hours after a meal—the best time for such is from two to three hours after breakfast. Those who are subject to attacks of giddiness and faintness, and those who suffer from palpitation and other sense of discomfort at the heart, should not bathe without first consulting their medical adviser.' Where sea-bathing agrees, the benefit afforded by it —often in cases of serious disease—is incalculable. It should, in any case of bodily infirmity, disease, or defect, be taken under the advice of a medical man, and thus those having the care of any afflicted child will be absolved from all responsibility as regards its suitability.

CHAPTER VII.

COLDS, CHILLS, AND RHEUMATISM.

A GREAT surgeon[1] once said, 'A neglected cold is the forerunner of all evil,' and invariably this is perfectly true, many serious illnesses often arising from apparently 'a trifling cold'; neglected at the beginning, it has gone on till, perhaps, the highest medical skill is powerless to cope with it. Simple remedies applied at first will often arrest the progress of disease, and in many cases of slight illness will prevent more serious symptoms from developing. With infants and children colds, even slight ones, should never on any account be neglected. 'A stitch in time saves nine' is an old adage, and is in no case more applicable than as regards colds. The weather and climate of England often get the credit of causing many colds, and there is no doubt that in many instances they both deservedly get the blame; but, though the English climate is very variable, and, to a certain extent, very damp, and the weather is often trying in the extreme, yet more colds, coughs, sore-throats, and rheumatism are caused by people's own imprudence than arise from either climate or weather.

Infants sometimes catch a chill from being insufficiently covered over at night. People are apt to put an infant to bed without considering that as the night advances the temperature becomes lower.[2] When put to bed there is, perhaps, a good fire in the room, but when this goes out and the night advances the room becomes much less warm. The baby, perhaps, has no extra covering, and therefore soon becomes sensible of the decrease of heat. It is always well to put an

[1] Dr. Abernethy.

[2] See 'Water,' p. 382.

extra covering over a baby the last thing at night, where the fire is let out and the nights are chilly. With a young baby a certain standard of heat is always necessary, and any sudden change of temperature is highly dangerous.[1] Draughts should especially be avoided. Too much care cannot be exercised in keeping a baby from sudden chill. Sore eyes, weakness and inflammation of the eyes, bronchitis, croup, colds of all kinds, are often caused by draught and exposure to sudden changes of temperature. People will sometimes open a window and door, causing a thorough draught, and leave quite a young baby in the room, in the direct current of air, and then they wonder at the result—a bad cold in the eyes, throat, chest, or head, whichever part is weakest and most susceptible. Chill is most dangerous and fatal to the very young and the old and feeble.

Dr. Semple writes :[2] 'Slight colds are so frequent in infants in this climate, whether from the rapid changes of temperature or the over-heating of our houses, that a few words of advice concerning them will not be out of place. In infants the commonest variety is the nasal catarrh. Mothers forget that the delicate skin of the scalp is as easily influenced by outside impressions as that of the body, and, whilst they will envelope the child thoroughly in numberless wraps, they will let its head receive the draught from an open door ; or, pacing from one room to another, to gratify a few intimate friends by a sight of the baby, the little one will receive a fever-chilling blast. The result is that its breathing through the nose will become difficult ; it will have to breathe through the mouth, and so in sucking there will be constant threatening of suffocation. Of course the sense of hunger will cause it to cry, and the difficulty will be aggravated. The treatment is simple. The advice of Dr. Meigs should be followed : let it wear a flannel cap at night ; there is nothing better.[3] Grease its nose well with a little vaseline, mutton-tallow, or goose

[1] See 'Repose,' p. 322. [2] *The Mother's Guide*, p. 37.

[3] See 'Repose,' p. 318. 'The more lightly its head is covered, and the more quickly all caps are dispensed with, the stronger will be its hair and the less susceptibility to catarrh.'—Quain's *Dictionary of Medicine*, p. 1149.

grease, and if there is much stoppage a little sweet-oil or glycerine will be found serviceable to the nostrils. If the bowels show that the condition is not limited to the nose, but the stools contain a little slimy mucus and are unhealthy, a small dose of castor-oil will be indicated.[1] A warm foot-bath and a good rubbing of the surface of the body with the warm hand will give great comfort.'

I think very often in winter a frequent cause of colds in young children is taking them out of their warm beds the last thing at night, when the fire, if there has been one, is gone out, and the room therefore has become cold, and sitting them down without any covering being put round them, their little bare feet, perhaps, on a piece of cold matting, or even oil-cloth, for the child is oftenest sat down by the washhand-stand, which has usually such before it. The thoughtless nurse says : 'But they are only out of bed a few minutes.' True, but it is the sudden chill which is so harmful. I have seen a little child—fragile and delicate—taken out of its warm bed on a freezing winter's night—the fire out—and sat down half-awake without anything round it, while the nurse finished her own undressing. There the poor little soul sat—nurse calmly plaiting her hair at the looking-glass—nodding its poor little sleepy head backwards and forwards, each time in danger of tumbling over, its forlorn condition exciting not a spark of pity in the callous heart of its unfeeling attendant.

Take a child out the last thing at night by all means, but put a warm covering round it while it is out of bed, and don't let the feet rest on anything cold, such as oil-cloth or matting ; and, further, give the child the comfort and support of your arm round it, and add thereto a gentle, soothing, encouraging word. Although half-asleep, the child will recognise the familiar voice and feel comforted.

Care should be taken to see that children are suitably clad, according to the weather, the season of the year, and the climate of the country lived in.

Dr. Pope writes : [2] 'If we desire to use clothing as a pro-

[1] See 'Feeding,' pp. 101, 107, 113. [2] *Clothing and its Materials.*

tection from direct solar heat, we have but to attend to colour. Texture has nothing whatever to do with it. In the shade colour has no result, and we obtain our effect from mere thickness of material and conducting power. As far as colour is concerned, white reflects direct heat and light (some of the latter rays being converted into heat rays), and at the same time it radiates much less than black or darker colours. Grey, yellow, pink, blue, and black follow in order.

'It is curious how we have, in our colour of dress, gone directly opposite to nature. Everywhere around us we see white associated with cold, and yet it is in the hottest season that we employ it as a covering for ourselves. May it not be worthy a thought that the radiating power of black and darker colours offers a facility for rapidly throwing off heat generated within? And, again, white clothing would really form the warmest in winter, due regard being paid to power of conduction and thickness of material. The old coachman was correct when he stuck to his white duffel coat as the proper thing for winter and summer.

'There can be no doubt but that the wearing of dark clothes has arisen simply from principles of economy—the expense of soap and water—and not comfort or use. We must mind our economy does not harm us; dark clothes get as dirty as light ones, and the fact that we do not notice this may cause suffering and disease that could be easily avoided.

'Woollen articles of clothing have a more vitally important character: they absorb water freely, not only into the fibres (hygroscopic water), but between and amongst the fibres, in the interstices of the material (water of interposition). It is this power that renders wool so superior to cotton and linen.

'Professor Parkes has proved that, in comparison to either cotton or linen, the absorbing power of wool, according to relative weight, is double, and, according to surface, quadruple.

'In condensing the watery vapour constantly given off from the skin of the healthy human body, woollen material restores the latent heat to the system, and is thus always warm. I maintain that its free use is imperative in our alternating and fickle climate. Chills are most fatal conditions, and if they are

to be avoided, and a healthy standard of warmth maintained, wool must be worn next the skin. There is but one disadvantage in the use of woollen clothing. It shrinks in washing, and the fibres become smaller, harder, and lose a proportion of their absorbent power. Our manufacturers would do well to battle further with this evil, and by mixtures of wool, or various combinations of silk, cotton, or other material, to produce an article free from the objection, and yet possessed of water-absorbing power. Wool will bear a mixture of 40 to 50 per cent. of cotton, and yet act satisfactorily as a chill-preventing agent.

'To the minds of some, the mere mention of woollen garments suggests an overheated and irritable condition. I would impress upon them the fact that wool can be, and is, woven into material of an almost gossamer-like character, as well as into thick mufflers and heavy blankets, and its use can be adapted to all times and seasons.

'Clothing, a distinguishing characteristic of man, is essentially a result of civilisation, and has borne a relation to its advancement or decline in quantity, character, and variety. Man, as a wild animal, could doubtless exist with little or no clothing, but such a state would demand continued energy and incessant activity, a condition of life not natural to the human race. And we find, therefore, that as man has become civilised, associated with commerce and society, he has provided himself with sheltering arrangements and put on clothing.

'The principal use of clothing is the maintenance of animal heat, whilst its secondary uses will combine protection from external heat, defence from the bite of insects, prevention of the accumulation of dirt, and removal of undue pressure on certain parts, as we see in the use of sandals and shoes. It is fit, however, that the marked distinction between the maintenance and production of warmth should be recollected. Clothing cannot create animal heat. Food, and food alone, is the legitimate source, and clothing merely supplementary. "The best fuel in winter is a well-filled stomach." Sir John Ross truly said "that starvation from cold follows too soon starvation from food." Being an adjunct to food, it follows

that, in colder climates, the warmer we are clad the less necessity for increased fuel, and so we find furs and flannels for our Arctic travellers, whilst we hear from Captain Speke that the wardrobe of a native African chief frequently consists of an iron bracelet and collar.'

Dr. Pope adds : 'I would point out that in common paper —white, brown, or even newspaper—we have an almost equally warmth-sustaining material to wool. For the poor it is invaluable, and can be employed as a lining to a coat or waistcoat, as a blanket or quilt, or even as a petticoat. Ordinary brown paper was our grandmother's "Allcock's Plaister," and right good service it did. Wadding or wool, quilted between two sheets of paper, forms the best and lightest chest protector, and I need not say the cheapest.

'An Irishman, talking of his experiences as a sailor in the Arctic Expedition, said, "'Deed, indeed, yer honor, cowld wasn't the name for it. If it hadn't been for my paper blanket, I believe, sir, I'd have died every blessed noight of my life.'

It is the fashion to praise everything of foreign manufacture, but myself I think, for modern goods, woven articles, and hosiery, no country can exceed England. The 'British Medical Journal,' November 1887, observes of woollen goods :—'The return of frosts and cold winds has brought home to all of us the need of warmer garments than have been worn during autumn, and medical men throughout the country are now busy impressing on their delicate patients the wisdom of adopting woollen underclothing, even in spite of cutaneous irritation. It may not be inopportune therefore at this season, and at a time when so many of our work-people are unemployed and half-starving, to call attention to the fact that British hosiery is for all hygienic purposes, as well as for comfort, fully equal to those articles of woollen underclothing of foreign manufacture with which our markets are flooded, and which are vaunted as possessing special virtues. What are called in the trade Scotch goods, but which are really made in England as well as in Scotland, are in all respects as shapely and wholesome underclothes as any that are to be purchased, and can be had at a lower price than the imported goods which

compete with them, and which, by dint of diligent puffing, have in some measure supplanted them. They are made of the finest and purest wool, unmixed with cotton or linen fibre, and of its natural colour, so that it is free from any injurious dye. They are of soft, elastic, open texture, being lightly milled or not at all in some cases, and thus afford a ready exit for all cutaneous exhalations, and contrast favourably with some German makes, especially in the thicker substances, which are heavily milled, brushed, and matted. They are made of various thicknesses, from a fine gauze up to a fleecy flannel, and can therefore be obtained suitable for summer, autumn, or winter wear, for those who are young, robust, and vigorous, and for those who are aged, infirm, or of very languid circulation. They are skilfully shaped on anatomical principles, and really insure a good fit, which their Continental rivals do not often do, as they are for the most part cut out of webbing. And, lastly, they are free from the clumsy and often irritating seams which are found in foreign underclothing, and are so well made that they stand wear and tear. Any medical man comparing Scotch with German hosiery will unhesitatingly give the preference to the former on all sanitary grounds. The popularity which the latter has attained has really arisen out of exaggerated notions as to what it is possible for woollen clothing to accomplish in the preservation of health and the prolongation of life, together with an unreasonable faith in German science. In justice to our own work-people and manufacturers, in these bad times it is desirable that a foolish prejudice which has been greatly to the detriment of a section of them should be dissipated, and that British hosiery should be rehabilitated in public esteem. And members of the medical profession can do more than any others to accomplish this, by assuring those who consult them that, in the hand-frame hosiery made at their own doors, they have underclothing of unsurpassed softness, cheapness, and durability, which will ward off all disease and promote health as faithfully and successfully as it is in the power of any underclothing to do.'

The chest should always be kept well covered ; care should

be taken in seeing that the garments of infants and young children combine *warmth with lightness.* Weight is seldom an increase of warmth. The way in which some poor infants are clad during the winter with thin garments, their little chests insufficiently covered and thus exposed to draughts, and brought down sometimes out of a very hot room through cold passages, with only a light covering, or perhaps none, put round them, often causes colds, and is exceedingly dangerous, even if the ill effects are not perceived at the time.

It is very unwise having infants' dresses cut so that the neck and upper part of the chest are exposed. Some infants are strong and become inured to having their little necks bare, but others, being less robust, suffer sometimes considerably. Rational dress for infants is a subject demanding the immediate attention of sensible people. It would be a great thing if some clever influential person would give attention to the subject of infant clothing, and could devise some better garments than some of those now in use.

Dr. Chevasse writes :[1] 'There is so much absurdity and complication in the clothing of an infant, or rather in the dressing up of an infant, that it is high time the subject was brought prominently before a mother's notice, in order that such outrageous blunders might be rectified.

'It would be well if some clever woman would give her best attention to the more simple dressing of a child ; by so doing she would confer a lasting benefit on the rising generation.'

People say, 'Oh, babies have been dressed like that now for ever so long.' But this does not prove that the said 'babies' clothes' require neither alteration nor improvement. Grown people's dress is subject to change. Is it only infants' clothes which are to remain unaltered : subject to some 'law like that of the Medes and Persians'?[2] I have heard it said, 'I get my baby's things at a good shop, and so they're sure to be all right.' Is it ever taken into consideration that persons often keep a shop for, and make, infants' clothing, knowing nothing about an infant or its needs, and continue making

[1] *Counsel to a Mother*, p. 18.

[2] Daniel, vi. 8.

infants' clothing on the old lines? How much infants' clothing requires improvement and alteration, everyone having the charge of an infant, and obliged to dress it in the ordinary clothes, bought at a shop, will testify.

The way poor infants are dressed is simply absurd. A long flannel gown (this would be very well if it were made properly), made quite straight, and with a tendency to always slip down, is fastened over the arms with straps of *narrow* tape, so that they never keep on the arms and are of no use whatever. This flannel gown is kept on by the baby's dress or night-dress being tied tightly round the waist. The flannel gown, as a rule, is fastened down the front with tapes which are nearly always unfastened, so that, unless the flannel gown is tucked up, the baby's legs and feet are exposed to the cold. The long—often absurdly long—white gowns, stiffened and starched, are generally not only inconvenient, but in winter cold and not sufficient protection, especially over the arms, which often have only the covering afforded by the sleeve of the gown. If it were not for the flannel square (used to cover the child round), it would be in a poor way as regards sufficient covering. Sometimes pilchers are made a proper shape, but more often not. They should be made of a three-cornered shape, like a handkerchief folded crosswise, with a band and tapes on two ends to fasten through the third end with a loop of tape on it; this avoids the use of pins.[1]

Infants' cloaks often cause much unthought-of discomfort, and are sometimes the cause of infants being fretful out of doors. Tied tightly round the neck, and the whole pressure perhaps of a heavy cloak coming directly on the windpipe, it is not only most uncomfortable to the infant, but will even occasionally make a baby quite faint, the breathing being seriously interfered with. Infants' cloaks would be best made in one piece—in fact, of the pattern of little 'Red Riding Hood's' cloak—so that there could be no pressure on the throat, and the weight also would not rest on the neck. The present way of fastening everything round the neck of an

[1] See 'Repose,' p. 328.

infant when it goes out, although it is carried, causes pressure on the throat. An infant's cloak should combine lightness with warmth. I have seen some nice and exceedingly pretty knitted cloaks, the hood being part of the cloak, and, being wadded, and the lining quilted, were perfectly warm and comfortable.

À propos to pressure on the throat, few are aware how injurious continued pressure on the windpipe is. Anyone has only to press the fingers tightly on the throat, so that there is pressure on the windpipe, and it will be seen how uncomfortable a sensation it causes, and in some measure its injuriousness will be realised. Children's dresses should always be quite loose round the throat. Nurses generally carry infants with more consideration for the display of the infants' clothes than regard to the warmth the child may receive. Very often the infant's cloak is so tied down the front that it affords little protection to the chest and stomach, and the child has literally its little muslin dress and inner flannel only as covering for those delicate parts of the body which need warmth and careful protection. The cape of a long cloak never counts as any use to an infant, as this is always placed—for ornament—hanging over the nurse's arm.

If nurses would only carry an infant so that its chest and stomach are close to the nurse's body,[1] it would save the tender infant much discomfort, and many a crying fit caused by cold in the stomach would be avoided. I have seen infants on a severe winter's day come in with chest and stomach literally chilled through being carried so as to display the fine clothes to the greatest advantage. Putting infants to bed with the same amount and kind of clothing they have on in the day is not giving that amount of distinction between the day and night clothing which grown people think necessary for themselves and for older children, and is the cause of colds. It would be thought wanting in common sense if older children were to go to bed in all their indoor clothes, merely making a change of garment ; yet this is precisely what is done with infants, the

[1] See 'Repose,' p. 336.

white day-gown even being changed for an exactly similar—as to texture—night-gown. Why will people look upon infants as requiring totally different treatment in night-clothing to older children? The requirements of nature are the same, whether in an infant or grown person. Older children are put to bed perfectly free, but a poor infant is cased up and tied up in every possible way at night, to its discomfort, and, if it could but be free at night as to bands and tight things, would be greatly benefited.[1] It is this which often causes infants not to get on so well the first few months of life. When shortened, the night clothing being altered as well, the child quickly improves. Knitted overalls are useful for outdoor wear for young babies when shortened.

Dr. Goodhart writes :[2] 'When long clothes are discarded, they should be replaced by a pair of loose flannel drawers, such as can be fixed to the wraps.' I think there can be no doubt that it is a cause of much abdominal chill, the way in which infants' long clothes and flannels are suddenly changed to short clothes, the legs and stomach being suddenly exposed to the air after previous close wrapping. Some leave off flannels altogether in summer ; if the summer is cold and the weather changeable, it causes much chill ; even if a hot summer, flannels should not be entirely dispensed with. Sudden changes of temperature are of such frequent occurrence in England, even during the two supposed hottest months, July and August, that it is never wise to leave off flannels entirely ; flannel also absorbs the moisture from the skin,[3] and is a great preventive of colds. Not being dried quickly after being bathed, standing about with only a little clothing on,[4] standing in a thorough draught when over-heated, washing in cold water when very warm, wet feet, damp sheets, damp body linen, are all productive of colds.

Wet feet and damp boots are, I think, a cause of many severe illnesses arising from cold. Where the feet are always

[1] See 'Repose,' p. 323.
[2] *Diseases of Children*, p. 37 (new edit.).
[3] See 'Repose,' p. 322 ; and 'Colds, Chills, and Rheumatism,' p. 403.
[4] See 'Water,' p. 378.

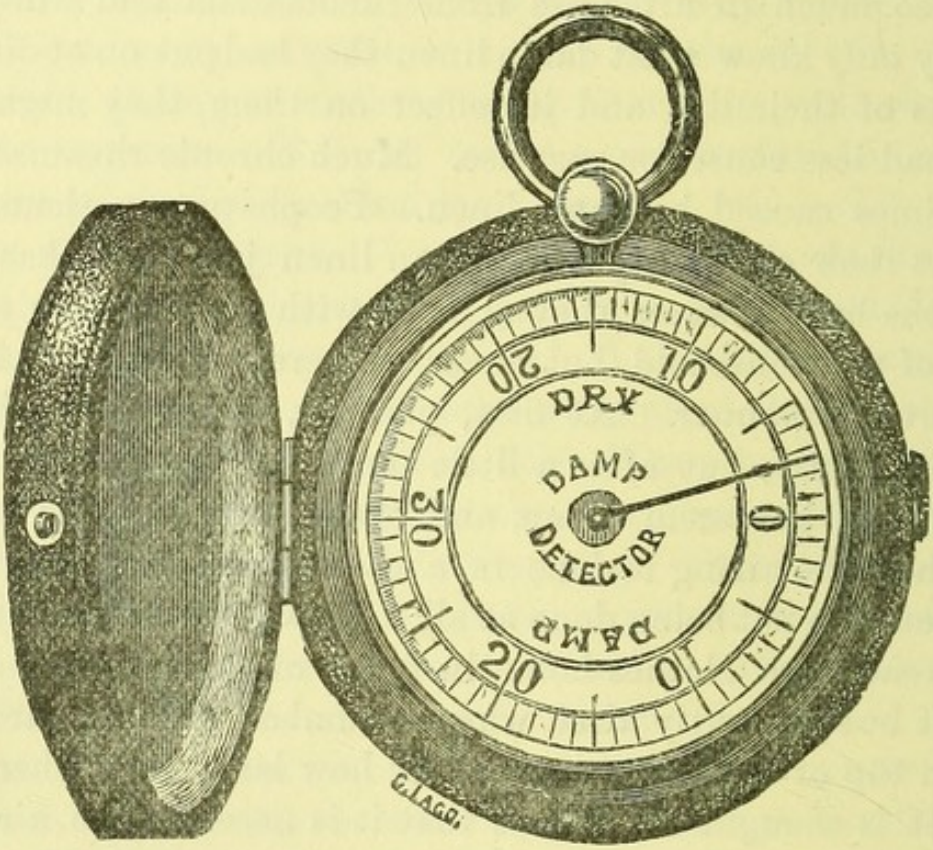
kept uncovered, the skin becomes hard, forming a natural covering. In Scotland and the North of England, for instance, hundreds of children go barefooted and run about the streets in all weathers, suffering no ill effects thereby ; but if once the feet are covered it renders them more or less susceptible to cold should they get wet or damp, and be allowed to remain so.

Attention should be paid to the airing of infants' and children's linen. People are surprised that they suffer sometimes so much in after-life from rheumatism and stiff joints. If they only knew what damp linen they had put on at different periods of their life, and its effect on them, they might find they had less cause for surprise. Much chronic rheumatism is sometimes caused by damp linen. People put on themselves, and let their children put on, clean linen just as it has come from the laundress, or they arrange with a servant to air the linen of the household, but never see personally that it is done in a proper manner. At first, perhaps, the servant airs the linen carefully, but after a little time, finding the linen apparently does not seem damp, and there being no one to look after her, the airing is done in a careless manner, and sometimes ends in not being done at all. To well air linen, it should be spread on a clothes-horse in front of a good fire. Linen cannot be sufficiently aired when a number of things are piled one on top of the other, no matter how large a fire there may be. It is thought sometimes that it is necessary to air linen in the winter, but not in the summer, whereas it is quite as necessary. In summer, the weather being warm, laundresses, like other persons, do not keep up such large fires, and often linen comes home damper in summer than winter.

Dr. Pope writes of airing linen :[1] 'One point with reference to the water-absorbing power of articles of clothing requires attention. I rarely see now the large "clothes-horse" in front of the kitchen fire on a Saturday night. As a boy, to have put on clean linen without it had been "well aired," would have been treated as a suicidal act, and been met with prompt punishment. All clothes should be aired. An ordinary shirt,

[1] *Clothing and its Materials.*

exposed to no unusual circumstances, contains three-quarters of an ounce of water, a pair of trousers an ounce, a coat two ounces, and a waistcoat a quarter of an ounce, and so on in proportion. This necessarily is evaporated by the loss of heat from the body, which is thus more or less reduced. With sick, feeble, or aged persons, with infants and young children, this becomes an important consideration, and should receive attention at your hands.' Sheets and pillow-cases when put away



in a cupboard for any length of time should always be put before a fire before being used. Bedding, blankets, and counterpanes which have not been used for any length of time should be well aired before being slept in. Much rheumatism and many severe colds arise from damp beds. Hill's [1] 'Damp Bed Detector' is useful for travellers and others in discovering whether a bed is damp. It is portable and 'will show in a few minutes the slightest amount of damp in a bed or clothing.'

The practice of keeping children's clothes in a more or less

[1] Hill & Son, 4 Haymarket, London, S.W. (opposite Her Majesty's Theatre). Established nearly a century.

damp landing-cupboard is very dangerous to health. Dr. Kitchener observes :[1] 'A great-coat must be kept in a room where there is a fire. If it has been hung up in a cold, damp hall, as it often is, it will contribute about as much to your calorification as if you wrapped a wet blanket about you.'

A fruitful cause of rheumatism is damp houses. People have sometimes a place in the country to which they go in the summer or send their children. The house is perhaps shut up all the winter in charge of someone who only occasionally puts fire in the rooms, if at all. Fires are lighted in the rooms for half a day before the family arrive. If it is quite warm weather no fires are probably put in the rooms. Children and all sleep in the beds and rooms, which may be quite damp. Furnished houses and apartments are also taken at the seaside in the summer which have been perhaps unoccupied all the winter. It is never thought of, to air the bedding or have fires put in the bed-rooms before they are occupied, because it is summer, and it is taken for granted 'everything is all right ;' and then it is wondered at that rheumatism and rheumatic affections are so common, and that children are sometimes so delicate and so liable to take cold, whereas it is really a wonder people are so strong and so little subject to such, considering their utter indifference occasionally to all precautions to ensure health.

Sleeping in a damp bed or damp room is sufficient to affect a whole life, it being immaterial whether it is summer or winter when it is done, and it is equally injurious to a child as a grown person. Few also ever consider how imperfect and defective the drainage is at many seaside and country houses, and often people leave their own more or less well-arranged houses for others the most defective as to drainage, water, and all sanitary appliances. They go for a change for the better, perhaps, as to outdoor, but for the worse as regards indoor air ; and can sea or country air possibly do good when all the beneficial effect is neutralised by a more or less poisonous

[1] Quoted by Sir Erasmus Wilson in *Healthy Skin*, p. 132.

atmosphere, breathed continually, indoors—more especially at night, when badly drained houses, literally hermetically sealed up by having every window and door shut, are a prey to all the noxious gases which in the day time have more or less free vent for escape ? One is loth to admit probably that a delightful seaside or country place, where one is thoroughly enjoying oneself, is defective in 'essentials for health,'[1] and when at last the unwelcome truth is forced upon one that it is so how reluctant one is to believe even the evidence of one's own senses ! Often the sole cause of a place not agreeing is the unwholesome state of the house inhabited.

It is very inconvenient when persistently obtrusive facts will keep forcing themselves on one's notice ; but it is of no use ignoring what vitally affects health, and one fact is certain—viz., that it is not only of importance, but absolutely necessary for health, that one's house should not be damp, and besides that the air inside one's habitation should be pure and free from sewer gas. It is of no benefit going either to the seaside or into the country if certain conditions necessary to health are absent. A cottage in a sanitary condition is better than a palace defective in this respect, for illness (like some few other things) is no respecter of persons. It is simply absurd to imagine that, because the air of a particular place is very good, therefore nothing else is of the slightest consequence. To those who indulge in such unwise ideas a very unpleasant awakening may come. Those having children should be most careful as regards drainage, such being most susceptible to all diseases induced by defective drainage, and having less physical power to contend against any severe attack of illness. Sore throats are in some instances the result of defective house-drainage.

House-drainage may very easily be tested, I am told (as to escape of sewer gas), by 'smoke rockets.' Mr. Cosmo Innes, C.E.,[2] writes on 'Smoke-testing of Drains' : 'When a sanitary engineer is called in to inspect and report upon a

[1] John Hunter.

[2] Secretary, London Sanitary Protection Association, 1 Adam Street, Adelphi, W.C.

house there are several tests, one or more of which he may use to, as a doctor would say, assist him in his diagnosis. He may plug up the drain and fill it with water, or attempt to do so ; he may pour into it some strong-smelling volatile liquid, which will fill the drains and pipes in connection therewith with its vapour ; or he may fill it with smoke, which may be made as strong-smelling as he pleases, and has the advantage of being perceptible by the eye as well as by the nose. I am happy to believe that the members of our Association who once have their houses put in order, or certified to be in order, by one of their own engineers, and afterwards have the drains and pipes tested periodically by burning "smoke rockets" inside them, run very little risk of suffering from the escape of sewer gas into their houses through their drains.'

It is much to be hoped that the Bill which has been proposed to be passed for the 'Sanitary Registration of Buildings' will, even if only in a modified form, become law, as such is much needed for the better looking to of drainage in schools, lodging-houses, boarding-houses, hotels, &c. 'It is proposed that on and after January 1, 1890, it shall not be lawful for any building to be used as a school, college, hospital, asylum, workhouse, factory, workshop, hotel, or lodging-house, until a proper sanitary registration certificate has been issued. Such buildings are to be inspected by properly competent persons, who must certify that the construction is in accordance with the sanitary arrangements duly defined in the tenth cause of the Bill. These requirements are very simple, providing as they do for such elementary details as the proper isolation and ventilation of the soil pipe, and a proper "flushing service." An ill-drained house is certainly a source of danger to its neighbourhood, but it would be impossible to apply compulsory inspection to all houses. Moreover, the principles of a proper sanitary arrangement are so simple that they cannot fail to be generally adopted before many years have passed. Where, however, large numbers of people are congregated together, and especially where they are only temporary inhabitants, having no direct control of the details of the buildings, the law undoubtedly ought to step in and

protect them from the ignorance or supineness of the proprietors.'[1]

'At a public conference, convened by the Sanitary Assurance Association, for the purpose of enlisting the sympathy and support of the public in securing the introduction of a Sanitary Registration Bill into Parliament in the ensuing session, held on Saturday afternoon last[2] at the Society of Arts, Mr. Brudenell Carter said that one of the great benefits which were likely to flow from the passing of the Act would be to convert the sanitary condition of houses from a matter of everybody's business into a matter which would be the business of some one in particular. They need not look back many years in order to find official reports disclosing that one of the great London hospitals had one at least of its wards in a condition totally unfit for human habitation, with sewer gas leaking into it. Nor would they have to go very far back to find a great college at one of our Universities in a condition which involved an outbreak of typhoid fever, and when the case was investigated an unsanitary condition of things was disclosed which almost passed the bounds of belief. Had the authorities of that college been compelled by law to submit their building to periodical examination, such a condition would never have arisen, and many valuable lives been spared. He thought the medical profession would welcome any Act which would make the sanitary state of all the lodging-houses in London a matter of certainty.'[3]

I think the seaside resorts would be especially benefited by such a measure. One of the most melancholy experiences is taking a house (with every assurance that it is in good sanitary condition) at the seaside, hoping to have an agreeable, beneficial, and probably much-needed change, only to find oneself and family poisoned with sewer gas, and with no redress. A suggestion made by Mr. John Wood[4] appears a

[1] *The Daily News*, Thursday, January 26, 1888. [2] January 1, 1888.
[3] 'The Sanitary Registration Bill,' *The Times*, Monday, February 6, 1888.
[4] *Journal of the Society of Arts*, November 7, 1884.

useful one in relation to house-drainage. 'A word in regard to house drains. In my opinion, a plan of the basement and drainage arrangements of every house should be deeply engraved on a large smooth slate, which should be let into the wall (say in the scullery), so as to be seen by every one. The cost would be a mere trifle, and the convenience great.'

This would certainly do away with the lengthened quest there is sometimes (when the drainage of a house is out of order) to find the position of the drains, the place and condition of which occasionally causes much amazement to the occupier of the house, and sometimes solves the mystery why with 'such a nice house' the family are never feeling quite well. Mr. Wood's experience is the trying one of many taking houses. 'Finding that I could not live in the house I then occupied, I took another, in one of the most open and healthy districts in Southeast London; this time subject to a sanitary inspection and certificate. My new landlord not objecting, I went to an apparently high-class sanitary engineering company, paid the fee for inspection, and obtained a detailed report, showing what their engineer considered it was necessary should be done, when my landlord employed the same firm to carry it out, at a heavy cost, which he paid, and received a certificate that the house was then in a perfectly sanitary condition. On this I occupied it, but very soon found it was quite the reverse, upon which I telegraphed and wrote to the sanitary company, who, having received their money, took not the slightest notice; and so, as the matter was urgent, I was obliged to employ a series of plumbers and builders, from time to time, at my own expense, to effect partial remedies, until at last matters became so dangerously bad that I was compelled to resort to another sanitary engineering company, whose superintendent discovered that the drains were improperly laid, not properly joined, and so otherwise defective, and leaking in many places; that the soil at the back and under the house was completely saturated with sewage, of which some cartloads were removed; and after a deal of misery and inconvenience new

drains were brought and properly laid, at a cost of nearly forty pounds, since which the house has been habitable.'[1]

As regards sanitary conditions at the seaside, 'A Sufferer' writes to 'The Times' on the subject of sanitary reform in watering-places :—'May I ask what is done in any town or village to prevent sewer or cesspool gas entering houses? Go where you will by the seaside for change of air, and where can you find sufficient attention paid to this important subject? I speak feelingly, having had illness in my house for eighteen weeks due to this cause. One of my children fell ill the day after returning from a town at the seaside, and the disease, sore-throat, was so infectious in its character that my wife and the rest of my family, six in number, who had all been in the same lodgings, followed one after another, and my wife is still very seriously ill. In the town where they were the public sewers had been constructed for some years, and were not sufficiently ventilated, while no provision was made by any bye-law to ventilate the soil-pipes of w.c.'s or ensure a separation in the connections of such soil-pipes and scullery and other drains with the sewers. I found a noxious smell from the w.c. close to the sitting-room we occupied, and went to the town clerk's office to inquire if there was any such bye-law, but learnt that the majority of the Town Council were interested in the property, and that nothing of the sort was attended to.'[2]

To return to colds after this long digression : an excellent preservative to keep the chest from being affected by damp or cold weather is wash-leather.[3] A piece made so as to cover the entire chest will often be of service in keeping the chest from catching cold. It is not expensive, and can be bought at a harness-maker's. A good piece of wash-leather, costing from 2*s.* to 2*s.* 6*d.*, will make three chest-preservers sufficiently large for children. They should be bound with ribbon, and made to tie round the neck. It is necessary to perforate some holes (small) in the wash-leather to allow of free transpiration.

[1] *Journal of the Society of Arts*, November 7, 1884.
[2] *The Times*, August 1877.
[3] See 'Colds, Chills, and Rheumatism,' p. 404.

When a child shows symptoms of severe cold on the chest no delay should be made in applying linseed-meal poultices.[1] [2] Sometimes there is delay in putting on poultices till a child goes to bed, although it may be all day suffering from its chest, and may each hour be getting worse. In a few hours, if not attended to, a cold on the chest may become serious, especially with a delicate child. It is better, as soon as a child shows by its breathing or coughing that the chest is affected, to put it to bed and apply poultices. Even quite an infant is the better for having linseed-meal poultices put on as soon as the chest seems oppressed. If a large piece of new flannel (white), so as to cover the whole chest, with a piece of wadding or cotton-wool the size of the flannel, is placed on the chest after applying poultices, it will help to prevent any further cold arising from their application. A piece of linen or something similar should be placed over poultices to keep the night-dress from becoming damp. Where oil-silk is available it is, of course, better for this purpose. Hartshorn and oil, which can be purchased at all chemists', is a good remedy for cold on the chest. Well rub on the chest, and place new flannel on after. *Do not steep flannel in hartshorn and oil, and place on the chest, as it will act, if used thus, as a blister.* When a child appears to have a bad cold coming on, putting the feet in mustard and water (one or two tablespoonfuls to three-quarters of a foot-pan of hot water) is of benefit. Put a blanket round the legs and over the foot-pan, and keep the feet in from ten to twenty minutes. A basin of gruel in bed afterwards is of service. I have found for children (boys especially) subject to chill a broad flannel band of great service. Sir Charles Locock observes : 'A broad flannel belt, firm but not tight, is very serviceable,' and adds : 'Many colds proceed from chill.'[3]

[1] See 'Home Remedies,' p. 476, for making.

[2] When the chest seems much affected it is always best to send for the doctor.

[3] Sir Charles Locock, *Encyclopædia of Practical Medicine.*

CHAPTER VIII.

CROUP.

BEFORE beginning to say anything relative to croup, I must premise that I do not write with any scientific or medical knowledge, but only as one having seen much of croup in various forms, and also as having seen the extreme value of timely domestic help. In seeing croup so often, and in having had it brought so directly under my notice, I have gathered a few thoughts relative to it which may be useful to others. But the first thing I would urge most earnestly is, *never delay in getting medical advice.* My suggestions are only given as being likely to be of service till the arrival of a doctor. I in nowise recommend anything in lieu of medical advice, which is *all-important.* The necessity of immediate medical aid in croup is so recognised by doctors that in writing books for the help of young mothers in bringing up their children little or no mention is ever made of croup, and its treatment is, as a rule, ignored altogether. There is no doubt that in croup the personal seeing of the patient is of the greatest moment.

'It would be impossible for any practitioner to give written instructions, beyond those which are embodied in general medical teaching, for the treatment of croup, which is of all diseases the most dangerous to children, the most quickly fatal, and the most needing personal observation. Popular remedies should be used with the utmost caution.'[1] Dr. Semple[2] writes[3] that in many cases children do not suffer

[1] *The Lancet*, 1886.

[2] Armand Semple, B.A., M.B., Cantab.: M.R.C.P. Lond.; Physician, North-Eastern Hospital for Children, Hackney; Physician to the Royal Society of Musicians; late Senior Examiner in Arts at Apothecaries' Hall; late Medical Clinical Assistant and Surgical Registrar at the London Hospital. Author of 'The Essential Features of Diseases of Children.'

[3] *The Mother's Guide*, pp. 49–51.

from real croup, but from what is termed 'stridulous breathing.' In this case home-remedies applied in good time may be useful, but may be of little or no avail in the more developed forms of the disease.

Dr. Semple observes: 'Nothing is more common in the daily practice of hospitals and dispensaries than to hear a mother say that her child has had croup. This term is made,' adds Dr. Semple, 'to do duty for at least three separate diseases; what the mother really means is that her child has been subject to attacks of croupy, or more properly stridulous, breathing. The sound is peculiar, it is hard and somewhat metallic in character, and is conspicuous for the absence of moistness. Croupy or stridulous breathing may occur in three different diseases. It may be an indication of inflammation in the larynx (acute infantile laryngitis or inflammatory croup), or it may be caused by simple spasm of the vocal cords (laryngismus stridulus or spasmodic croup), and again it may be expressive of membranous croup (laryngo-tracheal diphtheria, or diphtheria confined to the larynx and trachea), in which a distinct membrane is formed. The causes and symptoms of these three forms of throat disease are very different. One is distinctly inflammatory, another is characterised by a membrane, and the other is merely a spasm.' From this definition of the various forms of croup, the necessity for the practical eye of a medical man will be apparent.

Dr. Semple continues: 'Children about the age that covers the period of dentition are most liable to attacks of croupy or stridulous breathing. . . . An attack of such breathing in itself may be a harmless though alarming affection; but it is the danger of a more severe catarrh—a bronchitis or pneumonia—that renders it so important a disease. A child that is teething may droop for a few days, it will show some slight evidences of cold, its bowels may be disturbed, or it will be restless at night and slightly feverish by day. A watchful mother will note these conditions and keep her child well guarded; she will regulate its bowels; she will see that its skin is kept well acting by warm clothing and by frequent sponging, and she will also be careful that it does not get over-heated. But

occasionally the attack will be sudden; a child will wake in the night with a hoarse, dry cough, it will be restless and feverish, or the paroxysm will become intense and require immediate relief. If such be the case, let a warm bath be given at once,[1] or, instead, saturate a large sponge in hot water, bearable to the hand, and place it upon the child's throat, removing it frequently. If still no relief be obtained, give a few drops of ipecacuanha wine,[2] and to this may be added as much glycerine. The nausea which will result may relieve the attack.

'It is well, then, if possible, to examine the child's throat,[3] and see if it be merely red, with no whitish deposit or membrane. Give it a dose of castor-oil,[4] and during the night let it drink frequently from a tumblerful of water, slightly sweetened, containing a teaspoonful of sweet spirits of nitre. Should the cough be clear and ringing, and not muffled and hoarse, the immediate relief of the symptoms will end the attack. Should it, on the contrary, be dull, muffled, and husky, send at once for your doctor. Rub the chest well with vaseline or tallow, and avoid the further use of ipecacuanha or squills till you obtain medical advice. Ipecacuanha wine is certainly a very harmless remedy in most cases, and an exceedingly valuable one, but it is an irritant to the stomach, and it therefore nauseates, and causes immediate vomiting. Mothers forget this, and they will frequently, with very little cause, before adopting simpler means, give their children at once a dose of ipecacuanha, or squills and ipecacuanha, if the least resemblance to a croupy sound reaches their ears. Squills have the same effect, and when these drugs are combined they are, in appropriate cases, very valuable.

'If your child seems inclined to be hoarse, or you notice that its voice becomes deeper and more sonorous with the approach of evening, give it a good rubbing, especially about the throat, with well-prepared mutton tallow [5] if you can get it, or with vaseline. The odours of ammonia and turpentine, which

[1] See 'Croup,' p. 424. [2] *Ibid.*, p. 432. [3] *Ibid.*, p. 436.
[4] See 'Home Remedies,' pp. 468, 469, 489. [5] Sold at chemists'.

substances are usually recommended in stimulating linaments, are not pleasant to an infant, and the irritability ensuing from their use will sometimes do more harm than good. The chloral liniment (Chloral hydratis ℥j, Linimenti saponis f℥iv.—Misce. Signetur. For *external use only*) is very soothing to children. A little of it rubbed about the neck in these cases, or a small quantity gently rubbed on the abdomen of a teething and fretful baby, will often quiet when everything else has failed. A mother may notice that the attack of stridulous breathing fails to give rise to the very severe so-called croupy symptoms which have just been mentioned as so characteristic; the child will be languid and drooping, the voice will be muffled and husky, with an occasional croupy bark; there will be a laboured effort during breathing, and the respirations will become jerking and blowing, especially as the air leaves the chest.

'If you have lived near a railroad, and have watched a locomotive engine pull a heavy load of cars up an incline, you will remember the almost life-like, laboured panting, with the last puff always prolonged. When a child breathes that way it is ill, and its danger is great; it shows that the catarrhal inflammation has settled deeper in the chest; it points to the first stages of a bronchitis which in time—and it takes but a very short while—may proceed to a pneumonia. Immediately soak the child's feet in hot water with a little mustard,[1] wring out flannels in water the heat of which your hand can bear, and apply them to the chest, both front and back, and place over them a layer of oiled silk, and keep the chest well covered. You can give the child half a teaspoonful of a cooling saline mixture (liquor ammoniæ acetatis) out of your medicine chest, in a couple of tablespoonfuls of water, and repeat the dose in two hours—in fact, every two hours—till your doctor arrives.

'In these cases, unless the cough be very severe and racking, and the child seems to suffer greatly from its tightness, it is well not to give either the ipecacuanha or squills, for fear of disordering the digestion. Such a case may be protracted, and anything that will debilitate will have an evil influence

[1] See 'Colds, Chills, and Rheumatism,' p. 419.

on the disease. On the contrary, the greatest care should be taken that the child receives and digests what is most nourishing. If, in these cases, milk is found not to digest readily, a more concentrated food would be barley water [1] with cream—less, if it is required—and the child should be allowed to drink plenty of water or egg-water with some sweet spirits of nitre in it. The bowels rarely escape in a catarrh so severe, and therefore a small dose of castor-oil at the outset will be a valuable aid.[2] In place of the hot flannels to the chest, a poultice may be used ; it can be made of corn meal, or flax-seed meal, very thinly spread, and covered over with oil-silk as directed. Never let the substance of the poultice come in contact with the skin, as is sometimes done, but use an old soft linen handkerchief.[3] Two poultices should be made, one for the front and another for the back, with shoulder straps to connect them, and a little mutton-tallow introduced into each poultice to keep it soft.[4] Change at least every three hours ; never let it get cold or hard, as it then, in either case, would be worse than none.

'Let me impress upon all mothers,' Dr. Semple further adds, 'the importance of avoiding the use of the various patent cough mixtures that are so freely sold for the little ones. They all contain substances that may imperil the child's life ; the too general custom of jumping at straws and "just trying" what someone said cured her cousin's child, and which has brought with it its recommendation that if it "does no good it can do no harm," has sent many a little one to its long rest.' [5]

Dr. Ellis observes of the warm bath in the illnesses of young children : [6] 'The directions of medical men are so repeatedly frustrated in consequence of the inconvenience and discomfort of preparing a warm bath that it is very important to have at all times the facility for its use without the hurry, bustle, and confusion constantly experienced where it does not

[1] See 'Feeding,' p. 186, for making.
[2] See 'Home Remedies,' pp. 468, 489.
[3] In putting on poultices I have found muslin best.
[4] I have found putting a little salad-oil over the poultice when spread of equal use.
[5] See 'Home Remedies,' p. 465.
[6] *Disease in Childhood*, pp. 243, 244.

exist.[1] The bath,' continues Dr. Ellis, 'is a most potent remedy in many diseases of the adult; but it is one of absolute necessity in most of those of childhood. The warm bath and a good emetic will often cut short an attack of pulmonary inflammation if they could only be used at an early period; and in all diseases of the skin, in all disorders of the digestive organs, in convulsions, in croup, and numerous other maladies, it is a most valued adjunct to the remedies of the medical man.'

Croup is undoubtedly one of the most dangerous diseases to which children are liable, and, unless promptly attended to, sometimes ends fatally in a very short time. It is very curious that with many persons (especially amongst the lower classes) croup is not regarded with much alarm. I have heard mothers say, 'Oh! croup isn't dangerous like bronchitis.' I believe in many instances, as Dr. Semple says, croupy symptoms are set down as real croup, and I think all mothers should be warned against this apathy regarding croup.

Dr. Ellis writes:[2] 'But a lamentable degree of indifference has been felt in this country on the whole subject. Among the poorer classes, every medical man whose duties have taken him much among them will give his testimony to the existence of this state of apathy, and I have painful reason to add my own.' Dr. Ellis does not give any treatment, thus clearly indicating the necessity *for personal and skilled medical attention.*

Dr. Chevasse, in his well-known 'Counsel to a Mother,' p. 153, urges the extreme necessity of proper treatment. 'It cannot be too indelibly fixed,' writes Dr. Chevasse, 'on the mind of a mother, *that the remedies for croup cannot be too early applied.* Moments at such a time are golden—are most precious.' Croup, if treated early, Dr. Chevasse continues, 'is most amenable to treatment; but if twelve, nay if six, hours be allowed to elapse ere the proper remedies be applied, the case is frequently hopeless. Remember, if croup be not properly treated within the first twelve hours, and in some cases within six hours, the child's death-warrant is signed, and there

[1] See 'Water,' p. 369.

[2] *Disease in Childhood*, p. 5.

is, as a rule, no reprieve.' Every mother, suggests Dr. Chevasse, 'just before going to bed, should go her rounds, as a sentinel would, to see that all is right, and that every child is well . . . . nothing should interfere with her doing so ; this duty—for duty it is—ought never to be delegated to servants. Many a child has, by adopting the above plan, been, to my certain knowledge, saved from certain death ; croup, for instance, is very apt to come on at night, in a child's first sleep ; now, the quick ear of a mother would detect the disease at once, and would cause her instantly to apply the proper remedies, to his almost immediate relief, while possibly, if he had been left to the tender mercies of servants, the croup might not have been detected until the morning, when it might have been too late, and all remedies might be unavailing.'

Although it is possible for simple home remedies (warm poultices, &c.), if used in time, to retard the progress of this dire complaint, croup, too much reliance should in no case be placed on them, as it is not possible for anyone unacquainted with the science of medicine to judge to what extent or from what form of croup a child is suffering. Much mischief is often caused by delay in summoning a doctor. Few would be inclined to neglect seeking immediate medical aid if they knew how great a risk they incur. I knew a dear little child whose life was sacrificed because the parents were on a visit at a friend's house, and unfortunately the nurse—being in what was to her a strange house—did not like to rouse the servants (her mistress having gone to a ball) to get the necessary things for poultices and a warm bath. She rubbed the child's chest with a little vaseline, and, rolling it up in warmer bed-clothes, thought no harm would result from leaving the child a few hours without further remedial measures. By the morning the poor child was so seriously ill that, when the doctor (who had to be hastily sent for on the mother's return) came, the case was hopeless, and beyond the reach of the best medical skill. The doctor was of opinion that, if the child had had timely medical aid, and poultices had been applied in the early stage, the child would not have lost its life.

I saw another case of croup in which the operation of

tracheotomy had to be performed, entirely through delay in sending for a medical man. Some children are more liable to croup and croupy symptoms than others, but all children, even quite babies, may have an attack.

Dr. West writes :[1] 'Croup in all the forms which it assumes in this country is essentially a *disease of early life*. Of twenty-three cases of croup of which I have preserved a record, all occurred in children under five years of age, and twelve before the age of two. It has been attempted to explain the great frequency of croup in early life by the imperfect development of the organ of the voice before puberty. This, however, can scarcely be admitted as a valid explanation, since it does not at all account for the extreme rarity of the disease after five years of age. The preponderance of male over female children among those who are attacked by croup is another fact which, though confirmed by the experience of all observers, has never received any adequate explanation.' Dr. Semple remarks that 'there is undoubtedly an hereditary disposition to such attacks,' and adds : 'It is stated that in families in which a consumptive taint exists affections of the throat are most prevalent. Certain it is that, in some families, the children never suffer from this stridulous breathing, and that in others it occurs very frequently.'

No house where there are children should ever be without linseed-meal, ipecacuanha wine,[2] hartshorn and oil, castor-oil, new flannel (white), cotton-wool, and oil-silk. It is a mistake to suppose children are only liable to croup in the winter, or in severe weather. I have had two of my children who were subject to croup attacked (in summer) several times quite suddenly, and without any previous warning symptoms, the weather at the time being quite warm. It has appeared to me any sudden chill is likely to bring on croup, especially if the child's stomach is out of order.

In his treatise on Croup, Professor Gölis, of Vienna,[3] relates the case of 'a little boy, four years old, previously in perfect

[1] *Diseases of Infancy and Childhood*, p. 219. [2] See p. 432.

[3] *De rite cognoscendâ et sanandâ Anginâ Membranaceâ*, Observ. iv. p. 141 (8vo, Viennæ).

health, who, having gone out of an overheated room into the open air during an extremely cold winter's day, was seized, while walking, with all the symptoms of most violent croup, which proved fatal in fourteen hours.' Dr. West also relates the following :[1] 'Some years since I saw a little boy, about seven years old, living at some distance from London. He had over-heated himself at play during the afternoon of a hot day in August, but went to bed apparently well at eight o'clock, and soon fell asleep. At ten he began to breathe with the peculiar noise characteristic of croup, and presented all the symptoms of the disease before midnight.' This shows the value of a mother seeing her children, as Dr. Chevasse advises, the last thing at night.

Croup is sometimes mistaken in the first stage for bronchitis by those ignorant of its symptoms, but, once identified as croup, it will not be again mistaken. Dr. West writes :[2] 'Whatever be the circumstances under which croup comes on, the symptoms resulting from disease obstructing the channel of the larynx and trachea by false membrane, or inducing a spasmodic closure of their aperture, must be, to a great extent, the same. The mode of onset of the disease, however, is very variable ; sometimes, especially in those forms of croup that prevail among healthy children living in the country, the disease is announced by few, if any, premonitory symptoms ; but the affection of the larynx is apparent from the very outset, and attains, in the course of a few hours, a high degree of intensity. This sudden onset and rapid course of the disease, however, are of rare occurrence, and croup generally comes on gradually attended, in its first stage, with but few symptoms that could distinguish it from ordinary catarrh. Slight fever, drowsiness, suffusion of the eyes, and defluxion from the nares attend it. The respiration is not perceptibly disturbed, and the cough, though frequent, presents no peculiar character. There is, besides, occasional complaint of slight sore-throat, or of uneasy sensation about the larynx, but so slight as scarcely to attract attention, and not to cause any alarm.'

[1] *Diseases of Infancy and Childhood*, p. 222. [2] *Ibid.*, p. 227.

It is probably this absence of urgent symptoms in the first stage of croup which is so misleading to many. The child does not appear to have serious symptoms, therefore the sending for a doctor is delayed till, the more urgent symptoms having developed, the need of medical aid is at once recognised. The danger of this delay, however, is thus alluded to by Dr. West :[1] 'In no disease is the prompt employment of appropriate treatment more important than in croup, since in none does the use of remedies sooner become unavailing. Even in cases where the attack is merely apprehended, but where catarrh exists, attended with a slight ringing cough, such as often indicates the commencement of croup, the patient should be watched most sedulously, and visited not merely by daytime but also late in the evening, and attention should be particularly directed to the character of the respiration during sleep as well as in the waking state.' Ordinary observers are often deceived by the breathing during sleep of a child with croup. Dr. West further observes of the *last stage* of croup :[2] 'The treatment employed may seem to have mitigated the severity of the disease ; the restlessness may give place to ease, the burning skin may grow moist, the respiration may become tranquil, the cough loose, with but little clangour ; expectoration may be easy, and a wheezing, attended with a very slight croupy sound, may be the only indication of the dangerous disease under which the patient is suffering. This apparent amendment may continue for a few hours, and then be succeeded without any assignable cause by the return of all the former symptoms, and soon be followed by death ; or the mitigation of the disease may be accompanied with great drowsiness, which, however, does not excite alarm, since it is very naturally attributed to the exhaustion produced, partly by the disease, partly by the remedies. During sleep the respiration is deep and tranquil, like that of a person in a sound slumber ; it is, indeed, attended by a kind of wheeze, but presents little of the croupy stridor ; and when awake the child is quite sensible and even cheerful. After a time, however, it becomes difficult thoroughly

[1] *Diseases of Infancy and Childhood*, p. 227. [2] *Ibid.*, p. 224.

to rouse him ; his pulse grows more rapid, the moisture on his skin changes almost imperceptibly to a cold, clammy sweat, and convulsive twitchings of the angles of the mouth occasionally disturb the repose of his features. Silently, but surely, the exudation has been making progress, and when the alarm is taken it is too late ; the stupor deepens, and the child dies comatose, or rouses only to spend its last hours in the vain struggle for breath, and embittered by all the painful circumstances which ordinarily attend the suffocative stage of croup.'

Dr. West thinks that 'croup appears to be influenced by peculiarities of climate and locality much more than most diseases of the respiratory organs.'[1] 'Croup and diphtheria are so identical in some of their symptoms,' a physician writes to me, 'that a medical man alone can distinguish them.'

Dr. Hillier says :[2] 'I can detect no distinction between membranous croup and laryngeal diphtheria.' 'There are two diseases,' Dr. Hillier adds,[3] 'sometimes called croup, which are totally different from diphtheria : one is laryngismus stridulus —a purely spasmodic affection, seen most commonly in rickety children (the symptoms here are intermitting, frequently relapse, and are often accompanied by tonic contraction of the thumbs and toes, with a tendency to convulsive movements) ; the other is a simple inflammation of the larynx and trachea, which induces thickening of the mucous membrane and muco-purulent secretion.'

Dr. Hillier adds :[4] 'Epidemic croup is always diphtheria.' Croup being likely to assume so grave a form, and being a disease of so essentially rapid a character, what mother should take upon herself the responsibility of determining that she can herself cure her child, and will wilfully close her eyes to her child's danger when it has croup ?

Too many should not be round a child when it has croup. It is best if only those who are attending to and those who have influence over the child are in the room. Care should be taken (where the child is old enough to understand) not to alarm. Everything should be done

[1] *Diseases of Infancy and Childhood*, p. 219.
[2] *Diseases of Children*, p. 127. [3] *Ibid.*, p. 128. [4] *Ibid.*, p. 128.

promptly, quietly, but firmly, and yet in such a manner that irritation, fear, and needless pain are avoided. Gentleness and cheerfulness are most necessary. Children soon read the countenances of those with them, and as, if there is any danger, they should be kept in ignorance of it they ought not to be able to see in the face of anyone about them any signs of alarm. Nothing is gained by violently forcing children into things. More especially is it to be guarded against when they are ill. With gentle, but judicious, firmness children can be made to do and will allow almost anything to be done to them. There should be no delay in putting on linseed-meal poultices when the croupy symptoms *first manifest* themselves. If mustard is ordered, added to the linseed meal, care must be observed, in using, not to put too much.

Some children cannot bear the application of mustard; where this is so, it should not be put except under *medical supervision.* Also, if the child complain, when mustard is used, of the poultices hurting, it should at once be looked to. German authorities advocate the addition of tallow to linseed-meal, instead of mustard, in croup. The necessity for great care in the use of mustard with poultices for children is confirmed by the following, which I cut out of a newspaper some time back. The melancholy occurrence having happened several times within the last few years proves the necessity for *great care* in the use of poultices with children :—'Yesterday Mr. George Collier, Deputy Coroner, held an inquest at the Hope Tavern, Banner Street, St. Luke's, on the body of Maggie Webster, aged one year. Margaret Webster, 1c Block, Peabody-Buildings, Roscoe Street, St. Luke's, said that deceased was her daughter, and for the last three weeks had been suffering from suppressed measles and bronchitis, and was under the care of Dr. Rogers. Dr. Jarrow, who had attended deceased before, gave orders to apply linseed-meal poultices to the child's chest. On Friday a poultice was applied by Sister Owen, of the Playhouse-yard Mission, and deceased was severely scalded on her chest, from the effects of which she died. Deceased had had no other poultice on her chest, and it was kept on an hour-and-a-half. When Sister Owen

came back she looked at the child's chest, and then took the poultice off, and witness then saw that the skin was raised and a blister had formed. The sister did not put her finger to the poultice before applying it. Emma Owen, of 6 Bridgwater Square, said she was a certificated nurse, and had been so for fifteen years. When she was called in to the deceased, she found her very ill and dying, and she made a poultice of mustard and linseed, and applied it to the child's chest. When she looked at the child an hour-and-a-half afterwards she found the chest was blistered, and she opened the blisters. She was present when Dr. Jarrow came and ordered the poultice to be kept on for three hours. Dr. George Eugene Jarrow said that when he first saw deceased she was suffering from suppressed measles and bronchitis, and he ordered a linseed-meal poultice, with mustard, to be applied to the chest, and kept on until the skin was red, and that it was afterwards to be replaced by a linseed-meal poultice. He also ordered a warm bath. It was possible for the death of the child to be caused by scalds from such a poultice. Mr. Edward Rogers, surgeon, said that when he saw deceased she was suffering from bronchitis and the effects of scalds. He prescribed for her, but she never rallied, and died from exhaustion consequent on the scalds. It was usual to try a poultice before applying it. The jury returned a verdict in accordance with this evidence, and added a rider that it was due to want of caution on the part of the nurse, and negligence on the part of the mother. The two women were then called into the room and censured by the coroner.'

'The tender skin of a child,' writes Dr. Goodhart,[1] 'should always be a matter of attention. Poultices and hot bottles easily scald.'

Where ipecacuanha is used, I have found the following of service :

℞ Pulv. ipecacuanhæ . . . . . gr. vj.
The Emetic Powders . . . . . gr. vj.[2]

A good fire should be lighted, and when a warm bath is

[1] *Diseases of Children*, p. 13, 1st edit.
[2] Best given by putting in a glass with a little water and sifted sugar.

ordered the temperature required should be named by the doctor,[1] the temperature being regulated by a thermometer. When a child is given a warm bath it should be given in the room [2] before the fire, a blanket being placed over the bath round the child. The child should be in ten or twelve minutes, and when taken out should be quickly dried with a hot bath-towel, and should be put in warmed blankets in bed. On no account should the child be put back into a cold bed or into the sheets. Warmth, and freedom from sudden chill, are of the utmost importance in croup. Where Liebig's beef-tea or Brand's essence are used, care should be taken in preparing. Liebig's is a good addition to ordinary beef-tea.[3]

Speaking of drinks for children in illness, Dr. Ellis writes:[4] 'Toast-water, barley-water, plain water slightly sweetened, or barley coloured by a little tea or cocoa, will be thankfully accepted by most children. If acidulous drinks are used—and they are sometimes not only harmless but even serviceable—it should always be done after due medical sanction; for in some inflammatory states they may be very improper. Of these are tamarind water, made by pouring boiling water over a few tamarinds in a proper vessel; black-currant water, made in the same way, by using a little preserve, with a slice of lemon; apple-water, prepared by putting a few slices of a ripe and sweet apple into hot water, and sweetening it—when cool, it is fit for use; lemon-water, made of a slice or two of lemon with sugar and water; what is called Imperial, which is lemon-water with the addition of a little cream of tartar. Perhaps the most agreeable beverage to older children is cool aërated water, to which a few drops of some syrup or a little raspberry vinegar are added. This can always be obtained either in bottles or in the ingenious instrument called a syphon-vase, which is always charged, and from which any quantity can be drawn without loss of gas from the rest.' Dr. Ellis remarks of the feeding of children during illness:[5] 'The diet of children, when ill, should be entirely under the direction and control of the medical attendant, otherwise serious and even

[1] See 'Water,' p. 375. [2] See 'Croup,' p. 424. [3] See 'Water,' p. 48.
[4] *Disease in Childhood*, pp. 256, 259–260. [5] *Ibid.*, p. 256.

fatal errors may be committed.' Dr. Chambers gives in his 'Manual of Diet' the following receipt for acidulated rice drink :— [1]

One ounce ground rice, two quarts water; boil and strain, sweeten with barley-sugar, one ounce; acidulate with one ounce lemon-juice.—(*Children's Hospital.*)

'Lemonade is best made,' adds Dr. Chambers, 'by paring a lemon very thin, and putting the paring in a jug with an ounce of sugar-candy; squeeze the lemon into it and pour on a pint of boiling water; strain.' Made thus with orange instead of lemon, it is by some considered nice.

Attention should always be taken to keep up the strength, and not to allow a child to get exhausted. Sometimes, after croup, children have a disrelish for food, so that what is given should be as light and palatable as possible.

When poultices are taken off altogether, to cover the chest with cotton-wool and new flannel should not be forgotten. Croup is often not dangerous, but, neglected, the result is *certain death.* Children subject to croup should wear an over-flannel at night,[2] and a chest-protector is by some deemed of service.[3] When a child is ill, and more especially in croup, it is of the utmost importance to see that whoever has charge of the child is not only likely to nurse the child carefully and well, but also that whatever treatment is prescribed is carried out exactly. Children sometimes lose their lives more from want of good nursing than from the dangerous nature of their illness. When a child is ill, the mother should, if she is unable to nurse the child, at all events superintend the nursing, herself seeing that everything necessary is carried out *accurately*—especially that medicines which are ordered are given at the proper time.

When children do not appear to be very ill it is difficult to make people understand that the giving of the medicines ordered with regularity is of the *utmost consequence.* But much of the success of medical treatment depends on the medicines being given so that, as the late Dr. A. T. Thomson

[1] Pp. 258, 259.

[2] See 'Repose,' p. 321, 322.

[3] See 'Colds, Chills, and Rheumatism,' p. 405.

observed,[1] 'the next dose of medicine is not given after the effect produced by the first is altogether effaced, because, thus given, no real progress is made, for the cure is always commencing and never proceeding.' People will often, if a child does not appear very seriously ill, nurse the child very well during the day; but when night comes, being tired, they are not heedful of giving the medicines ordered at the regular hours, although the child may be waking; and too often there is great neglect at night in nursing sick children. They are allowed to go through the night as best they can, grave harm often resulting. It is impossible for one person to nurse (in serious illness) night and day for any length of time. It is too generally imagined that 'a sick nurse' requires little or no rest, and people will point to monthly nurses. But it is quite overlooked that in this kind of nursing the nurse always after the first day or so gets her regular night's rest. It is imperative for one nursing the sick to have *proper repose and fresh air.*

When a child is very ill a professional nurse is best, but even she will require supervision. Where a mother can nurse her child there is no one so well fitted to do so.[2] Good nursing is essential in serious illness. In most cases the recovery of a patient rests as much in the nurse's hands as the doctor's. Croup especially demands the *greatest care*, and any neglect, even in apparently unimportant matters, will involve grave danger.

Bronchitis

is somewhat similar to croup in some of its symptoms, but is a totally distinct disease. Warm baths, linseed-meal poultices, steam kettle, are of benefit. When the atmosphere of a room is ordered to be moistened many are at a loss what to do, and in many cases the kettle used for this purpose is quite insufficient. 'The only means of moistening the air,' writes Dr. Marcet,[3] 'is by steam, but, unless a large volume of steam

[1] *Some Diseases of Children.*

[2] 'The hireling will fall asleep over the sick child, but the mother will drive sleep away from her dwelling-place till she has rescued her little one from the power of the enemy, if it be within the scope of her endurance and skill to win so great a triumph.'—*Dr. Parker, Sermons at the City Temple.*

[3] *Southern and Swiss Health Resorts*, pp. 84, 85.

be emitted, the accession of moisture may be so slight as to escape the indications of a delicate hygrometer, an observation I first made at Cannes in the bedroom of a patient in which an "Etna" was steaming. In order to supply a large volume of steam in a sick-room, I have had a bronchitis-kettle made,' adds Dr. Marcet, 'through which several vertical tubes are carried, thus imitating the tubular boiler of a steam engine. The flame of the fire, from either coal or gas, plays through these tubes, and the surface of contact between the fire and the kettle is thereby greatly increased. These kettles I have found to give out a larger amount of steam than the ordinary ones with the same fire; they are made and sold by Mr. Probyn, chemist and druggist, in Davies Street, Berkeley Square, and Pall Mall,[1] and I can recommend them as calculated to evaporate more water within a given time than those in common use, and thereby better fitted for the purpose of steaming the atmosphere of a room. A tap has been fitted at the side of the kettle, enabling hot water to be procured from it at any time.'[2] In bronchitis, equally as with croup, there should be no delay in using remedies, as when neglected it is very dangerous; especially with young infants the necessity for skilled medical advice is equally apparent.

Sometimes children are put to a great amount of discomfort when they have a sore throat by their throat being looked at. A spoon is put in their mouth to keep the tongue down, and they are nearly choked by the efforts of well-meaning but awkward people to see the throat. A very simple plan is—place the child in front of you (you yourself being so placed that you can see right into the mouth) in a strong light (a window with the blind drawn up or a lamp behind you); make the child open its mouth wide and, *with its mouth wide open*, say 'Ah!' as loud as it can two or three times, when you will be able to see right down the throat without inconveniencing the child.

[1] Probyn & Co. have moved to 55 Grosvenor Street, W., from Davies Street. Also at 7 Pall Mall East, S.W.

[2] *British Medical Journal*, April 30, 1881. Another kind of kettle is manufactured by Allen & Son, of Marylebone Lane.

CHAPTER IX.

SOME MINOR AILMENTS OF CHILDREN.

Ear-ache.

ONIONS are an old-fashioned but useful remedy for relieving ear-ache where it is merely otalgia, proceeding probably from cold. Get a Spanish or large common onion, put it in the oven, or cut in half and roast (holding on a toasting-fork) before the fire. When quite hot place on the ear, covered over (both sides, with thin flannel or linen). Continue to apply, putting the onions on as hot as they can be borne, till the pain is relieved or gone. As hot onions will tend to melt the wax in the ear, it should be seen afterwards whether the ear is quite clear ; if not, syringe *very gently*[1] with lukewarm water. A little lint or cotton-wool may be placed in the ear after the onions are removed, to avoid fresh cold being taken. Some doctors advocate lint being used for putting in the ear in preference to cotton-wool. Where onions are not to be had a little salad-oil, warmed, and a piece of lint (or with wool, if such is not handy) dipped in it and placed in the ear, will often relieve the pain. It should be placed in, feeling comfortably warm, and something—such as flannel—should be wrapped round the head. The oil can be warmed in a spoon over a candle.

Dr. Ellis writes :[2] 'Ear-ache is by no means a simple and harmless affair in a child when it is attended with any severity, and the most acute and agonising suffering may be only a part of the bad results attendant upon it. Disease of one of the

[1] There are syringes (inexpensive) sold for this purpose.
[2] *Disease in Childhood*, pp. 198, 199.

bones of the head, attended by the most formidable and even fatal consequences, is not impossible. Until aid is obtained some relief may be afforded to the suffering child by putting a very soft bread poultice into the ear, and by laying over it a bag of camomile flowers wrung out of hot water. The moisture and warmth give great ease generally, but the pain does not often, in acute attacks, subside altogether until a discharge of matter takes place, when relief is generally obtained at once.'

'In all discharges from the ear,' writes Dr. Chevasse,[1] 'whether offensive or otherwise, an experienced doctor should be consulted.' Dr. Hillier says:[2] '*Slight diseases of the ear* require more attention than is usually given to them, from their liability to induce deafness, or to lead to purulent infection or to cerebral mischief. The progress of the disease towards the brain is very insidious: in many cases there is no evidence that the brain has become affected until acute symptoms set in; the only symptoms are discharge from the ear and some deafness. It is very important that attacks of ear-ache, frequently recurring in infancy, should not be slighted; the exciting causes should, if possible, be ascertained and avoided. Careful attention to the general health, and avoidance of exposure to cold draughts, are especially to be enjoined. But each case must be treated, according to its peculiarities, by the surgeon.' When a child is constantly having attacks of ear-ache an aurist, *having an extended practice*, and known to be well skilled in the treatment of diseases of the ear, should be consulted. The ear is a very delicate part, and requires judicious and careful treatment.

Face-ache.

Where face-ache or a swelled face arises from cold, poppies and camomile flowers (four poppy-heads and four ounces of camomile flowers, to be boiled in four pints of water for half-an-hour, and then to be strained to make the fomentation)[3] are useful in soothing and reducing the swelling and pain. If

[1] *Counsel to a Mother*, p. 164.
[2] *Diseases of Children*, pp. 220, 221.
[3] *Cyclopædia of Practical Medicine.*

the swelling is very great, a doctor should be consulted, as it may possibly proceed from an abscess, or from decayed teeth which may require extraction. A preparation of poppies and camomile flowers which is more readily used is sold by J. Allden, chemist, 156 Cromwell Road (opposite Collingham Road), South Kensington.

Boils

Sometimes arise from a low condition of health, and in some cases, on the other hand, proceed from poor living. Many eruptions, and what is popularly termed 'breaking out,' in children, proceed, in some instances, from insufficient or defective nutrition. When a child is troubled with boils or any kind of breaking out *it is always best to get skilled medical advice.* Dr. Chevasse gives the following old-fashioned remedies [1] for outward application to boils: 'One of the best applications, if the boil be single, is a Burgundy-pitch plaster spread on a soft piece of wash leather. Let a chemist spread a plaster, about the size of the hand; and from this piece cut small plasters, the size of a shilling or a florin (according to the dimensions of the boil); snip it round and apply to the part. Put a fresh one on daily. This plaster will soon cause the boil to break; when it does break, squeeze out the contents—the core and the matter—and then apply one of the plasters as before, which, until the boil be well, renew every day.

'The old-fashioned remedy for a boil, namely, common yellow soap and brown sugar, is a capital one for the purpose. It is made with equal parts of brown sugar and of shredded yellow soap, and mixed by means of a table-knife on a plate, with a few drops of water, until it be all well blended together and of the consistence of thick paste; it should then be spread either on a piece of wash-leather or on thick linen, and applied to the boil, and kept in its place by means either of a bandage or of a folded handkerchief; and should be removed once or twice a day. This is an excellent application for a boil—soothing, comforting, and drawing—and will soon effect a cure.

[1] *Advice to a Mother*, pp. 204, 205.

A paste of honey and flour, spread on linen rag, is another popular and good application for a boil.'

Boils, however, so much depend on a condition of health that outward remedies (no matter how efficacious) *should not be applied without advice from a medical man.*

Chilblains.

Chilblains are sometimes caused by putting the feet to the fire when chilled. It is best, if children's feet are exceedingly cold, to warm them by rubbing, or to put them on a hot bottle. Sir Erasmus Wilson, F.R.S., writes:[1] 'Another form of the red rash originating in cold is the well-known torment of children in the winter season, chilblain. In its first stage a chilblain is a redness of the skin attended with heat, a slight degree of swelling, and more or less itching. So far the chilblain exhibits signs which belong to the family of the red rashes. The next thing that happens is, the chilblain looks blue and purple, and the scarf-skin is raised up by a fluid beneath it, forming a blister. Then the chilblain is said to 'break'; the blister bursts, the scarf-skin is rolled aside, and the 'broken chilblain' exhibits a sullen distempered sore, slow to heal, and slow to get worse, but sometimes becoming a deep, ugly ulcer, that may be weeks in getting well. In its essential nature, a chilblain is a chill of the skin. The immediate effects of the chill are to lower the tone of the nerves, as evinced by numbness; to check the circulation, as evinced by whiteness; or to retard the circulation, as shown by blueness; then reaction ensues: the blood is driven forcibly into the previously collapsed and shrunken vessels, the part becomes red and swollen, it itches violently, and throbs—so that the disease is the return of the blood to a part previously emptied of its blood, and lowered in its vitality by cold. Not, however, the return of the blood, simply, but its return with unusual force into vessels weakened and prostrated by the antecedent chill.

'Thus it is, after coming in from the cold, and sitting down by the fire,' adds Sir Erasmus, 'that the great suffering from

[1] *Healthy Skin*, pp. 205, 206.

chilblains ensues—in other words, by the addition of a cause which provokes an increased impetuosity of the blood's current. Hence, also, it is that heat in all shapes gives rise to the production of itching, or increases the itching when already in existence. And now, what is the *rationale* of treatment of a chilblain? Why, to restore the circulation through the chilled and benumbed part, gently and gradually. The child of nature rubs the chilblain with snow, a combination of friction and heat a degree above that of the benumbed part; then, the friction being continued, the temperature of the fluids used in the process may be increased, until friction gradually restores the circulation to its wonted degree and wonted regularity, and the process requires to be repeated every time new chilblains make their appearance; the cure of chilblains being the acquisition of a habit of bearing the cold, or the return of a warmer temperature. The child of art uses stimulants in conjunction with friction, such as vinegar, spirits of camphor, spirits of turpentine, &c., and to save the skin from abrasion by excessive friction, or the union of friction and stimulants, the latter are combined with oil, soap, or the yolk of egg.

'An excellent chilblain remedy,' further adds Sir Erasmus, 'is made by shaking well together, in a bottle, spirits of turpentine, white vinegar, and the contents of an egg in equal proportions. With this the chilblains should be rubbed gently whenever they are in a state of irritation, and until the swelling and redness are dissipated. Flogging the chilblains with furze or holly is bad practice, as also is soaking the feet in warm water. After the frictions with the liniment the chilblains should be covered with a piece of simple plaster spread on wash-leather.'

Dr. Chevasse recommends:[1] 'If the chilblains be *unbroken*, they should, three times a day, be rubbed with camphorated oil. If they be *broken*,' he adds, 'it will be necessary to call in a medical man, as surgical appliances will be required.' Kerpod, sold by Thomas Christy & Co., 25 Lime Street, E.C., is a remedy which has lately come into use for chilblains, and is spoken favorably of as a cure.

[1] *Counsel to a Mother*, p. 70.

Mr. G. H. W. Parry, The Surgery, Wallington, co. Durham, writes :[1] 'Kerpod, or cure for chilblains, has done wonders for one of our patients here.' Many object to taking an internal remedy for chilblains. As long as the remedy is external they will try it, but in some cases this may prove an error. I lived for some time in a country place where the village people suffered dreadfully from chilblains. I, myself, although I never had chilblains before or since, had my hands and feet covered with them, causing intense irritation. I was told by the local doctor (an exceedingly clever physician, who had lived a long time in India) that it was something in the nature of the water supply which tended to produce these chilblains during the winter months, and he told me 'it was of no use treating chilblains externally only,' they should, he said, 'be treated internally as well, especially when of long continuance.' The use of bran and water is soothing in washing hands or feet affected with chilblains. A breakfast cup of bran to half a basin of boiling water. Use comfortably warm.

Thrush.

A complaint almost peculiar to infants, generally appearing a few days or weeks after birth—popularly believed, however, to occur always either after birth or before death. It seldom requires more than simple treatment. It has occurred to me in watching thrush that defective, improper, and insufficient nutriment, and *milk given too hot*, has a good deal to do with thrush appearing in an infant. And, even though a mother may nurse her infant, it may not get sufficient nourishment.[2] Dr. Ellis remarks :[3] 'A malady of still more frequent occurrence, from which, in fact, from some cause or other, few infants are exempt at the early period of their lives, is what is popularly called the thrush, and by medical men aphthæ. No complaint of infancy is better known to nurses than the thrush, for it is the almost invariable result of the traditional custom of superadding some improper artificial food to the

[1] *The Lancet*, 1887.

[2] See 'Feeding,' p. 84.

[3] *Disease in Childhood*, pp. 178, 179.

mother's milk, which the nurse judiciously considers to be a little too weak at first![1] It reveals itself in the form of numerous small white spots, closely resembling the curds of milk which would be found on the tongue and angles of the lips. These spots must not be mistaken for curds, and if an attempt be made to wipe them away under that belief the membrane of the mouth will bleed in consequence of the injury, and so determine the real character of the spots. Sometimes these spots enlarge, and the mouth of the little sufferer is almost coated with the white deposit. In either case, if the spots do not quickly vanish, it will be proper to obtain a medical opinion as to their cause and treatment. Very generally, however, the complaint is not of much consequence, and will yield to very simple remedies.'

Again Dr. Ellis says :[2] 'Aphthous mouth of very young children may be traced to the indefatigable assiduities of ignorant nurses in the administration of improper food.' And adds : 'Thrush is a mere evidence of the existence of mischief in the digestive apparatus, generally produced by improper food.' German doctors recommend, when a child has thrush, the careful removal from the mouth after each time the child is fed of the milk remaining in the mouth. This to be done with a piece of lint dipped in warm water. I have not, however, found this of much service in the actual cure of thrush, although it may be a help in keeping the mouth clean. In fact, with one of my children, who had thrush *very badly*, the continued cleaning of the mouth seemed to add to the irritation. An old-fashioned remedy for the mouth used to be half an ounce of borax mixed with two tablespoonfuls of honey. The mouth used to be rubbed round with a piece of lint dipped in this.

But Dr. West writes :[3] 'An objection, however, has been raised to any application into the composition of which honey or other saccharine matters enter, on the ground that the tendency of those substances to pass into a state of fermentation will make them favour rather than prevent the forma-

[1] See 'Feeding,' pp. 109, 111. [2] *Disease in Childhood*, pp. 55, 180.
[3] *Diseases of Infancy and Childhood*, p. 343.

tion of confervæ in the interior of the mouth.' The prescription following, given to me by a physician, I found of service in thrush :

℞ Glycer. Boracis . . . . . ℥iss

It is to be used to the mouth with a camel's-hair brush three or four times a day. The contagious nature of thrush is almost entirely overlooked by nurses. In fact, I believe very few are aware of its extremely catching nature. Dr. Routh mentions :[1] 'I have seen in a public institution a whole ward infected with malignant thrush by one child, where a careless nurse, wise in her own conceit, had thought fit to disregard the medical directions given.' The most extreme care and cleanliness are necessary when an infant has thrush, not only for the child's sake, but for those with it. All articles such as teats, tubes, and bottles should be well washed and kept in diluted Condy's fluid.[2] Any linen or brushes used for the mouth should be regarded as infected.

Through not knowing that thrush is catching, I had a very bad attack of thrush once which I caught from my little baby who was suffering from it. I had taken her myself, as she did not seem to be going on well when the monthly nurse left, and through trying the feeding-bottles without first washing the teat after her mouth I caught the thrush. I had it very badly for nearly three weeks, and found more benefit from using diluted Condy's fluid (ten drops to a wineglass of water), for rinsing the mouth, than from all the remedies I tried. *Condy's fluid must be used with care, as it may discolour the teeth.* After rinsing with it, wash the mouth well with tepid water. Tincture of Siegesbeckia Orientalis is recommended as a cure for thrush. J. Hutchinson, M.D., Physician, Anderson's College Dispensary, Glasgow, writes : 'So far as my researches have carried me, there is no danger—either local or constitutional—to be apprehended from the free use of Siegesbeckia.'[3] *It should, however, be used under medical direction,*

[1] *Infant Feeding*, p. 442 [2] See 'Feeding,' p. 130.

[3] Sold by Christy & Co., 25 Lime Street, E.C., who will give information and medical opinions as to its use.

as it requires in some cases careful mixing with glycerine, and the proportions necessary should be decided by a medical man.

Red Gum.

Red spots appearing on the skin of infants are given the name of red-gum. It causes but little if any irritation. A little cooling medicine such as fluid magnesia is generally found to be all that is required. The application of a little rose-water and glycerine (mixed) is of benefit to use to the spots. 'Young mothers,' writes Dr. Ellis,[1] 'are frequently much concerned at a simple little eruption called red-gum, which is common in newly born infants, and is very generally connected with some derangement (commonly acidity) of stomach and bowels. It is without danger, and soon vanishes if the diet is attended to.'

Sometimes infants and children suffer from red spots which arise from the bites of fleas, bugs, and other insects, without those having the charge of them being at first aware of what is really causing the red spots. Irritable red spots appear on the skin and are put down to various causes.

People are very loth to own that bugs especially have taken up a residence with them, and infants and children occasionally suffer much discomfort from these objectionable insects without its being known what it is that troubles them. I have seen an infant so bitten by bugs that it was imagined the child was suffering from a severe rash, until the doctor was called in and his practised eye discovered that instead of a rash the child's trouble arose from 'insect-bites.' I also saw a child so severely bitten by fleas that the red spots raised by these irritating creatures was attributed to 'some over-heat of the system coming out on the skin.' When infants or children have red spots about them, and they yet in themselves appear in perfect health, the cause should be looked for, and a thorough search should be made to discover if the spots are caused by fleas or other tormenting insects. The search should be most thorough. No trouble should be spared, and no taking things for granted should be allowed.

[1] *Disease in Childhood*, p. 198.

Ruptured Navel.

It is of the utmost importance to lose no time in having proper medical advice if a baby has a ruptured navel. Through neglecting to have timely advice, I have seen poor little infants great sufferers. When a baby's navel does not seem quite right a doctor should see it at once. Some nurses, after the navel string separates, and they find the navel is not quite in place, cover a two-shilling piece over with wash-leather, and by the aid of strips of diachylon plaster they place this on the navel; but it does not answer the purpose of a proper navel pad, as the surface is flat, and it therefore does not keep the centre of the navel in place. It is most injudicious, tampering with a child's navel. Many doctors advise a compress over the navel until it is quite healed, and using over it a flannel binder, *not too tight*—just sufficiently tight to keep it in place. In this way I am told the rupture so common in infants, which is liable to be caused by straining or coughing, and also that most troublesome and painful affection, an ulcerated navel, is avoided.

Dr. Playfair writes :[1] 'The cord is generally wrapped in a small piece of charred linen, which is supposed to have some slight antiseptic property, and this is renewed from day to day until the cord has withered and separated. This generally occurs within a week, and a small pad of soft linen is then placed over the umbilicus, and supported by a flannel belly-band, placed round the abdomen, which should not be too tight, for fear of embarrassing the respiration. By this means the tendency to umbilical hernia is prevented.'

Abrasions of the Skin.

With some children, if they scratch or cut themselves, and plaster[2] is put on the place, it will cause not only inflammation, but will even make quite a wound. Immediately it is seen that any discharge is coming from under the plaster, when it has been on a little time, it should be gently and carefully removed

[1] *Science and Practice of Midwifery*, 6th edit. vol. ii. p. 285.
[2] See Appendix.

with a sponge and a little warm water. The necessity, unless a wound is severe, of a doctor seeing to it is seldom thought of. Also that plaster may be dangerous to some constitutions is quite unknown to many. The following, which I cut out of a newspaper, June 1877, is worth noting where there are children :—'At the Southwark Coroner's Court, Borough, yesterday afternoon, Mr. S. F. Langham held an inquest on the body of Charles Rowe, aged nine years, late of 19, Hales Street, St. George's Road. The evidence showed that on last Wednesday week the boy came home from school in the afternoon with a wound on his forehead, which he said had resulted from a youth named Harvey striking him in the school, and from his having fallen over a boy's foot while running out of the school-gates. The injury was covered with plaster, and the deceased appeared to progress favourably till Sunday last, when he complained of feeling cold. On Monday he went to school, but in the evening again said he was cold, and gradually became drowsy. He continued to get worse and became insensible, and died at 4 A.M. next day. Frederick Harvey, the pupil-teacher in question, denied having struck the deceased. He admitted, however, having pushed him on the day in question because he was a bad boy, but was positive the deceased neither fell on the ground nor struck his head against a wall. A schoolfellow, named George M'Donald, deposed that the deceased tripped over his foot and struck his head on a sink, causing it to bleed. Henry Faulkner, surgeon, who was called to the deceased shortly before death, deposed to making a *post-mortem* examination, which showed that death was the result of blood-poisoning, brought on by the plaster on the wound not having been removed and the wound properly cleansed and dressed. The pus could not escape, and had become absorbed in the blood. Had the injury been properly attended to, the deceased's life might have been saved. The jury returned a verdict of "Accidental death," and said they considered there was no reflection on the pupil-teacher Harvey.'

I had one of my little girls very ill once with a terribly bad leg, owing to plaster being put on only a slight cut, and which appeared a mere trifle.

Bruises.

Many persons use arnica to bruises of the skin, and with some it can be used with perfect safety. To some constitutions, however, it is very dangerous, and will produce erysipelas. It is often best only to use fomentations of hot water to bruises. Dr. Chevasse says:[1] '*If a child receive a blow, causing a bruise, what had better be done?* Immediately smear a small lump of *fresh* butter on the part affected, and renew it every few minutes for two or three hours; this is an old-fashioned, but a very good remedy. Olive-oil may be used if *fresh* butter be not at hand: or soak a piece of brown paper in one-third of brandy and two-thirds of water, and immediately apply it to the part; when dry renew it. Any of these simple plans—the butter plan is the best—will generally prevent both swelling and disfigurement.'

Dr. Chevasse's mention of 'brown paper' rather reminds one of

> She soon did the job,
> To plaster his nob
> With vinegar and brown paper.[2]

Lancing the Gums.

Doctors appear divided as to the benefit to be derived from lancing the gums. I have never had my children's gums lanced, as they have all got their teeth very easily. I am inclined to believe that children teething are much affected by their food, and it is, undoubtedly, during this period that errors of diet will show themselves. Giving a little cooling medicine during teething is necessary. Dr. Ellis observes:[3] 'Such remarkable relief is occasionally derived from lancing the gums that parents should always leave it to the medical attendant to decide as to its necessity. The use of hard substances for the child's mouth during dentition is to be deprecated, but relief is often apparently given by biting a soft,

[1] *Advice to a Mother*, p. 249.

[2] *Jack and Jill: The Children's Play-Book* (Frederick Warne and Co.).

[3] *Disease in Childhood*, p. 194.

elastic substance, as an indiarubber ring.'[1] It is very dangerous rubbing children's gums with laudanum, or anything containing opium.

Convulsions.

Doctors have been urgent at all times in counselling *timely medical aid* in this most distressing ailment of infancy. The immediate use of the hot bath is deemed of service. Dr. Ellis says:[2] 'If an attack of convulsions comes on, until medical aid arrives, all that a mother can do is to put the child up to the armpits in a warm bath, to sprinkle cold water in the face, and to apply cold to the head. In slight cases the fit will often be subdued by this means alone. During the fit care must be taken that, in the convulsive struggles of the child, it does not injure itself by contact with hard substances. After being taken out of the bath it should be quickly dried and put between the blankets, all but the head, on a horsehair mattress, the head being slightly raised by a pillow, not too soft.'

According to Dr. West, the following appearances in a child may indicate the approach of convulsions:[3] 'When we see the thumbs drawn into the palm, either habitually or during sleep; when the eyes are never more than half closed during sleep; when the twitching of the muscles is no longer confined to the angles of the mouth, but affects the face and extremities; when the child awakens with a sudden start, its face growing flushed or livid, its eyes turning up under the upper eyelids, or the pupil suddenly dilating, while the countenance wears an expression of great anxiety or alarm, and the child either utters a shriek or sometimes begins to cry.' In many instances, there is no doubt, convulsions proceed, if not entirely, yet in a great measure, from improper feeding. Dr. Chevasse says:[4] 'Convulsions in a child are, nine times out of ten, preventible! A doctor in investigating the cause of the convulsion can generally trace it to some improper article of diet.'

[1] See 'Feeding,' p. 126.
[2] *Disease in Childhood*, pp. 211, 212.
[3] *Diseases of Infancy and Childhood*, p. 19.
[4] *Counsel to a Mother*, p. 100.

Dr. Ellis also says :[1] 'It is right to explain the fact that convulsions is merely a symptom of disease or diseased condition. It is not itself the disease, but its token.' It is averred by medical men that there is no real suffering in convulsions. 'Some of the mental agony of a mother may be relieved by assuring her that her child, though convulsed in every limb, and externally appearing to present the most violent indications of pain, is, in fact, in a state of total unconsciousness ; whilst the fit lasts it has no sensations of pain.'[2]

Whooping-cough.

Whooping-cough is one of the diseases of childhood to which little heed is, as a rule, given. Dr. West remarks of whooping-cough:[3] 'Whooping-cough then claims our notice as being essentially a disease of early life ; but, as it is one which almost every old woman professes to cure, we might fairly expect not to be detained long with its study. We find, however, that in this metropolis it ranks fourth among the causes of death under five years of age, inflammation of the lungs, convulsions, and hydrocephalus being the only more fatal ailments.' The subjoined records of the public health will show the truth of Dr. West's remarks as to the general great mortality from whooping-cough. From these reports it would appear that it is no uncommon thing for there to be as many as 120 deaths, and, taking the average number, it is as a rule an extraordinarily large one.

'The Registrar-General's return for the week ending May 26 shows that the deaths registered during that period in twenty-eight great towns of England and Wales corresponded to an annual rate of 17·8 per 1,000 of their aggregate population, which is estimated at 9,398,273 persons in the middle of this year. The six healthiest places were Birkenhead, Portsmouth, Derby, Leicester, Liverpool, and London. In London 2,278 births and 1,361 deaths were registered. Allowance made for increase of population, the births were 413 and the

[1] *Disease in Childhood*, p. 268. [2] *Ibid.*, p. 211.
[3] *Diseases of Infancy and Childhood*, pp. 255, 264.

deaths 203 below the average numbers in the corresponding weeks of the last ten years. The annual death-rate per 1,000 from all causes, which had been 16·6 and 17·9 in the preceding two weeks, declined again last week to 16·6. During the first eight weeks of the current quarter the death-rate averaged 18·1 per 1,000, and was 2·8 below the mean rate in the corresponding periods of the ten years 1878-87. The 1,361 deaths included twenty-three from measles, seventeen from scarlet fever, nineteen from diphtheria, sixty-four from whooping-cough, ten from enteric fever, three from ill-defined forms of fever, nine from diarrhœa and dysentery, two from choleraic diarrhœa, and not one either from small-pox or typhus; thus, 147 deaths were referred to these diseases, being ninety-seven below the corrected average weekly number. In Greater London 2,982 births and 1,689 deaths were registered, corresponding to annual rates of 28·1 and 15·9 per 1,000 of the population. In the outer ring nineteen deaths from whooping-cough were registered. Scarlet fever caused three deaths in Stratford sub-district, and diphtheria two in Ilford sub-district.'[1]

'The Registrar-General's weekly return for the week ending January 7 shows that the deaths registered last week in twenty-eight great towns of England and Wales corresponded to an annual rate of 23·8 per 1,000 of their aggregate population, which is estimated at 9,398,273 persons in the middle of this year. The five healthiest places were Brighton, Bradford, Huddersfield, Birmingham, and Hull. In London 2,845 births and 1,868 deaths were registered. Allowance made for increase of population, the births were 241 and the deaths ninety-five below the average numbers in the corresponding weeks of the last ten years. The annual death-rate per 1,000 from all causes, which had been 18·6 and 23·3 in the two preceding weeks, declined again last week to 22·8. The 1,868 deaths included twenty-five from measles, thirty-seven from scarlet fever, twenty-eight from diphtheria, 120 from whooping-cough, one from typhus, twenty-eight from enteric fever, two from ill-defined forms of continued fever, twelve from diarrhœa and

[1] *The Times*, Friday, June 1, 1888

dysentery, and not one from small-pox or cholera; thus 253 deaths were referred to these diseases, being thirteen above the corrected average weekly number. In Greater London 3,758 births and 2,370 deaths were registered, corresponding to annual rates of 35·5 and 22·4 per 1,000 of the population. In the outer ring forty-five deaths from whooping-cough, eleven from measles, seven from "fever," and six from diphtheria, were registered. In the registration sub-district of West Ham the seventy-nine deaths from all causes included nine from whooping-cough, seven from measles, and four from "fever." Nine fatal cases of whooping-cough were registered in Stratford sub-district.' [1]

And again in the Registrar-General's return for the week ending March 24, 1888, the greatest number of deaths arose from whooping-cough. 'The 1,655 deaths included eighteen from measles, twenty-four from scarlet fever, seventeen from diphtheria, eighty from whooping-cough, one from typhus, ten from enteric fever, six from diarrhœa and dysentery. In the outer ring twenty-three deaths from whooping-cough, eight from diphtheria, and six from "fever" were registered.' [2] I am often pained to see the utter disregard people have for the sufferings of children with whooping-cough. I have seen children in an agony with a paroxysm of coughing, but little or no attention paid to their too evident suffering. Most people are under the impression that whooping-cough requires no doctor and is a complaint of little moment. Dr. West, however, says: [3] 'The *complication of whooping-cough with serious disorder of the nervous system* is almost as frequent as its association with grave mischief in the lungs and air-tubes, and even more dangerous and perplexing. Hazard from this source,' adds Dr. West, 'attends alike the onset of the disease, its acme, and decline; and the mode in which the danger presents itself is no less variable than are the seasons of its occurrence.'

Residence at or near gasworks, so that the smell may be

[1] *The Times*, Monday, January 16, 1888.
[2] *Ibid.*, Friday, March 30, 1888.
[3] *Diseases of Infancy and Childhood*, pp. 255, 264.

inhaled by the patient, has been said to be of benefit in cases of severe whooping-cough. My father, at the age of sixty-three years, had a violent and prolonged attack of whooping-cough, which was cured by going for a time to some gas-works.

The 'British Medical Journal' writes: 'It is well known that the emanations from gasworks frequently prove serviceable in obstinate cases of whooping-cough. A chemist in America, whose child was dangerously ill with this complaint, conceived the idea of impregnating the air of the sick chamber with the principles contained in the gases given off from coal tar. He designed for this purpose a little apparatus for vaporizing Cresolene. His child was cured, and the treatment was adopted with success in other cases in the same epidemic. Although it has been introduced only eighteen months, "Cresolene" already enjoys an excellent reputation in the United States, and has been so extensively used that Messrs. Allen & Hanburys have undertaken its agency in this country. We have given it a trial, and are satisfied that in many cases of whooping-cough it may be used with decided advantage.'[1]

Great care should be used in giving remedies the properties of which are unknown or doubtful.[2]

Measles, Chicken-pox, Scarlet Fever, &c.

These, although in some measure complaints incidental to children generally, need the advice of a doctor from the first, and are so within the province of a medical man that, except in a work on sick-nursing, but little can be said about them; in fact, they are quite within the range of a medical work, not one like the present, which is merely a few hints on matters of general importance in the care of children.

[1] Page's (Patent) Vaporizer and Cresolene for whooping-cough.
[2] See 'Home Remedies,' p. 460,

CHAPTER X.

HOME REMEDIES.

THE too frequent use of medicine is injurious. In many instances, however, the cause of children not being well arises from want of attention in taking a little timely medicine, and would easily be remedied by simple remedies being given before the stomach is so much out of order that it requires the skill of some one versed in medicine to set matters right. I am assured many doctors' bills might be saved if a little simple cooling medicine were given to children when they require it. There is no doubt that Dr. Chambers is quite correct in saying English mothers are very fond of doctoring their children, and that it would be well if they were not brought up with such a habit of taking physic. It is evidently an old failing of the English mother, witness Tony Lumpkin's plaint to his mother:[1] 'For you have been dosing me ever since I was born.' Poor Tony adds: 'I have gone through every receipt in the "Complete Housewife" ten times over; and you have thoughts of coursing me through Quincey next spring.'

'Young people,' writes Dr. Chambers,[2] 'should not be brought up to the habit of taking physic. As a rule, the British mother is very fond of dabbling in doctoring, and apt to try her first experiments on her own family. If there is any disease with a definite name to it discoverable, a professional man is called in; but if a child is only weakly, or troubled now and then with unimportant ailments, she tries this and that which has been recommended by her friends,

[1] Goldsmith, *She Stoops to Conquer*, act ii.
[2] *Manual of Diet in Health and Disease*, p. 155.

without suspecting that the cause of the evil lies in some irrational regimen. The consequence of drugging is sometimes a positive organic lesion, generally a debilitated state of the digestion, and almost always a disposition to fly, for the immediate relief of petty inconveniences, to drugs which in reality impede their cure by preventing the use of more far-sighted means. Boys get laughed out of this at school, but girls are seldom so fortunate, and grow up with the idea that something which calls itself physic is a necessity of human life. Now, in all the pharmacopœias there is not a single active article which joined to its virtues has not the vice of deranging more or less gastric digestion. It is that which makes it a medicine and not a food. Assuredly its final effect in suitable cases is to restore digestion by restoring health, but when taken needlessly it can scarcely fail to be injurious.'

I remember hearing a young mother say at the seaside—although all her children looked pictures of good health—'I think they (the children) ought to have a powder soon in case they may get bilious being at the sea; I think I'll give one to-night.' This is a rendering of the old proverb, 'Prevention is better than cure,' with a vengeance. When children are quite well, let them alone.

Dr. Ellis writes :[1] 'It may be, and probably is, true that some English children get a great deal too much medicine, but it is certain that many perish for want of a very little administered in due time.' Dr. Ellis, however, also adds of domestic medicine : 'Except in the simplest cases, the whole system of domestic medicine is reprehensible, and instances of its pernicious consequences might be adduced without number. In many cases it is little short of dallying with the powers of disease and death, and that parent will consult best for her family who, distrusting her own judgment in a matter so important as the health of her children, seeks medical aid in time. It is beyond question the neglect of seeking for timely advice which in many instances renders the attack prolonged and the consequent medical attendance costly.'

[1] *Disease in Childhood*, pp. 49. 61.

If an infant remains constipated a doctor should be consulted without further delay, as sometimes there is a defect in the rectum which causes it. 'Constipation in infancy,' Dr. Ellis observes,[1] 'of an obstinate kind, should always be submitted to medical investigation, since it may actually arise from an organic defect in the evacuatory passage. The same remark also applies to an absence of relief from the bladder. . . . This difficulty is easily overcome by a simple operation, but it is a more serious affair when there exists a congenital defect of the rectum. It is of great consequence,' adds Dr. Ellis, 'to accustom children to make a regular periodical attempt to relieve the bowels, notwithstanding that it may not be always successful.' Nothing is so necessary to maintain the good health of infants and children as nature being relieved each day without the constant use of aperients. Children should early be taught to seek relief each morning after breakfast.[2] Letting the bowels be relieved at any time is often a cause of trouble. If every mother would make it a practice *each morning* herself to see to her children, it would be of immense benefit to them. Half an hour after breakfast for this, and seeing to their teeth,[3] is all the time required.

Dr. Chevasse says :[4] 'A frequent cause of costiveness is the bad habit of disobeying the call of having the bowels opened. The moment there is the slightest inclination to relieve the bowels, *instantly* it ought to be attended to, or serious results will follow. Let me urge a mother to instil into her daughter's mind the importance of this advice.'

Those unaccustomed to a newly-born infant are sometimes troubled at the colour of the child's motions. Dr. Semple writes :[5] 'The motions of a healthy infant are at first dark,

[1] *Disease in Childhood*, pp. 183, 184.

[2] It is usually easy and always beneficial to instruct young children to secure an alvine evacuation directly they rise of a morning, and before their bath. Quain's *Dictionary of Medicine*, vol. ii. p. 1150. I have found in practice my own plan the best. I have found the bowels more easily moved after than before breakfast. In fact, I found the recommendation in Dr. Quain's Dictionary impossible of attainment, unless the child took a hot drink of a medicinal character on waking.

[3] 'Remarks on the Hair, Teeth,' &c., pp. 500, 501.

[4] *Advice to a Mother*, p. 316. [5] *The Mother's Guide*, p. 30.

from the discharge of those matters that have accumulated in the intestines. The early milk will purge them of this, and then their appearance will gradually assume a yellow colour.'

Some habituate their children to the use of an enema each morning. But it is a lamentable habit to create, to be unable to obtain relief without this. I knew a young lady who lost her life entirely through being brought up with this habit. She was travelling in India, far from chemists'. Her enema became broken, and, unable to relieve the bowels without an injection, stoppage ensued, with the result that death after much agony was the consequence.

The French are greatly addicted to the use of enemas, some using such each morning. It is a custom of great antiquity. Molière, the Shakespeare of France, of whom Professor Ragon [1] observes: 'The language of Molière is the most perfect French for conversation; it is the nearest to the thought, and, beyond every other author, Molière expresses the mind of his nation'—Molière, acquainted with the prevailing national custom, makes 'Argan,' the 'Malade Imaginaire,' [2] in looking over his bill for medicaments, say, after recounting the number of medicines he has had, 'Et un, deux, trois, quatre, cinq, six, sept, neuf, dix, onze, et douze lavements, et l'autre mois il y avait douze médecines et vingt lavements.' Where aperients are often needed, the simpler they are, the better. In fact, as regards all remedies this is so, and those who have studied the human frame the most deeply are usually in favour of remedies which are the least complicated.

It is those who do not consider and who do not recognise the great simplicity of Nature who think a complex system of medicine either useful or necessary. Too often a simple remedy, easily applied, is looked upon with contempt because of its simplicity, and if those using the remedy so simple do not see an immediate and at once beneficial result the remedy is cast aside as worthless. It is well always to remember that most remedies, whether simple or otherwise, require one addi-

[1] Professor of the French language and literature at the City of London College.

[2] Molière, *Le Malade Imaginaire*, p. 12.

tion, 'time,' to which may be added with advantage 'patience.' Simplicity in cure has been from the earliest regarded with ever recurring dissatisfaction on the part of mankind.

In the Old Testament we have an instance in Naaman (2 Kings v. 1–27), who 'was wrath, and went away in a rage,' because the Prophet did not 'do some great thing' to cure his leprosy; and in the New Testament the blind man cured by Christ (St. John ix. 1–34), the whole account of which shows the doubt and astonishment of the people, and especially directed at the simple manner of cure—they even being unwilling—on inquiry as to how the blind man received his sight—to give Christ the credit of the cure. 'Then again called they the man that was blind, and said unto him, "Give God the praise: we know that this man is a sinner."' The man's reply, with practical common-sense, clearly proves the effectual nature of his cure. 'He answered and said: "Whether he be a sinner or no, I know not; one thing I know, that, whereas I was blind, now I see."'[1]

Home remedies should only be used in easily seen illness, the nature of which is clearly apparent. It is always most unwise to tamper with illness. Illnesses beginning with apparently no danger, sometimes through not having proper medical advice in good time, end seriously. At all times great care should be used in giving any patent medicines or cough mixtures to infants or children, as what might be taken by older persons with a good result might be not only very harmful to young children, but might even have a fatal effect. In giving, without medical advice, any kind of mixture to children, people should not only be quite assured of its harmless nature, but should also be quite certain that the quantity given is correct. There is in this country no protection whatever to the public in the sale of patent medicines, anyone being allowed to sell any patent medicine, whether injurious or otherwise. It therefore behoves persons to be careful in their use. That some legislation restricting the sale of patent medicines containing deleterious remedies is necessary, many are aware.

[1] Verses 24, 25.

The following inquiry, which I cut from a newspaper,[1] clearly shows the need of some limitation to the sale of medicines containing harmful ingredients. 'The Coroner for Central Middlesex, Dr. G. Danford Thomas, held a long inquiry at the Providence Hall, Church Street, Paddington, as to the death of William Henry John Heath Shehan, aged seven months, which was alleged to have resulted from the administration of a patent medicine sold as a specific for whooping-cough. William Francis Heath Shehan, 23 Marylands Road, Paddington, said deceased was his child. It had been brought up by hand, owing to the death of its mother, and had been suffering about a month from whooping-cough. He had given it a patent medicine called "Holt's Specific," as many persons had recommended it, and a child in the same house, aged one year and nine months, was also taking it. Martha Wilkinson, residing in the same house, said she took charge of the child on the death of its mother. She had given the child five doses of the "specific" altogether, the dose being one teaspoonful every four hours. She gave the doses regularly. On Wednesday night she put the child in its bassinet, and on Thursday morning, about 8 o'clock, she found it dead. She had intended to send for a doctor that morning, as its breath had been short all day on Wednesday. She expected the medicine to make the child sick, and it did so the first dose. Dr. Finzi, 99, Sutherland Gardens, who was sent for shortly before 9 a.m. on Thursday, said the child had been dead about an hour. There were no signs of suffocation. He had made a post-mortem examination and found the lungs healthy, but with the air-cells enlarged. There were patches of inflammation in the stomach and intestines which had been caused before death, which was due to failure of the heart from poisoning by antimony when suffering from whooping-cough. He had analysed the specific, and found it contained antimony, which would have the effect of creating excessive vomiting, depressing the heart's action, and irritating the stomach and intestines. The Coroner.—Now, taking into consideration the number of doses administered to the child and

[1] *The Times*, Tuesday, January 1, 1884.

the quantity taken in each of those doses, do you consider the antimony had any share in causing the death? Witness.—Yes. The jury remarked that the Government ought to interpose to prevent the sale of these patent medicines, which were simply poisonous rubbish. The Coroner concurred, but said under the existing law there was no mode of stopping the sale of these dangerous medicines. Persons could take out patents without being compelled to state the ingredients, which they kept a secret. In France the case was different. The law compelled a statement to be made outside the vessel what the contents consisted of. Such a law was required here to protect the public. Dr J. E. Curgenven, Craven Hill Gardens, deposed, that in obedience to the Coroner's warrant, he had assisted Dr. Finzi in the *post-mortem*, and corroborated his evidence. There was half a grain of antimony in each dose. The witness added he had seen two children suffering lately from the effects of the same medicine. One had died, and an inquest was held on it; the other had its heart so enfeebled that he had been obliged to administer brandy to it, and it was now recovering. This specific was vended by a lady who kept a confectioner's shop, who did not, he suppose, know the effects of antimony. The Coroner supposed the "secret" had been handed down to her, as the handbill advertising it said it had been established eighty years. A juror.—If it is the same as that sold in St. Paul's Churchyard, it used to be called "Hooper's." The Coroner.—It is the same; it is now designated Holt's. Dr. Curgenven then described the effects of antimony, and said that the deceased was healthy and well-nourished. There were no traces of disease in the lungs, and it would have lived had it not been for the administration of the antimony. No doubt the death had resulted from the effects of antimony contained in the preparation called "Holt's Whooping-cough Specific." The Coroner here remarked that on the previous inquest held by him, a fortnight since, the proprietress of this "Holt's Specific" attended with her solicitor, but made no comments. It was strange, however, that neither of them were present on this occasion. The jury, having consulted for some time, returned the following special verdict:—"That the

deceased had died from syncope through failure of the heart's action when suffering from whooping-cough; and the said jurors are further of opinion that the said death was accelerated by the administration of antimony contained in a mixture called 'Holt's Specific for Whooping-cough,' and the jurors desire to call the attention of the Home Secretary to the want of protection to the public in the sale of patent medicines, with a view to some legislation restricting the sale of those containing poisons and other dangerous remedies."'

That patent medicines have an increasing sale in England is a matter of fact. Professor Leech (Manchester), at a meeting of the British Pharmaceutical Conference held at Owens College, Manchester, August 1887,[1] in a paper on the 'Future of Pharmacy,' said: 'Ready-made medicines were taking the place of the official preparations which used to constitute the surgery stock. The increasing variety and pleasantness of these medicines, and the saving of labour of the practitioner, would doubtless tend to reduce still further the actual compounding of medicine by medical men. If pharmacy was to hold its own, each pharmacist must in the future be the guarantor of the purity of the medicines he retailed, and not the mere distributor.'

The 'Lancet,' November 26, 1887, observes: 'It is always satisfactory to the regular practitioner when he can confine the choice of his remedies within the bounds of the British Pharmacopœia. But it must be allowed that many medicines have achieved a decided and meritorious reputation before they reach a place in that honoured but somewhat slow volume. Indeed their appearance in it is the recognition of a reputation already made.'

The 'Lancet' adds: 'In 1886, at the British Pharmaceutical Conference, a committee of its members was appointed to prepare a formulary of unofficial remedies. As we announced in our issue of September 10, it has now produced such a formulary, published by Messrs. Churchill, containing thirty-seven formulæ for the preparation of new drugs or old drugs in new forms.'

[1] *The Morning Post*, Thursday, September 1, 1887.

It is curious to read the old Pharmacopœias of the College of Physicians, and one wonders at the credulity, or shall we call it ignorance, of our ancestors. 'In the official Pharmacopœia of the College of Physicians of London, A.D. 1678, *the skull of a man who has died a violent death*, and the horn of a unicorn, appear as highly approved medicines. Again, in 1724, the same Pharmacopœia mentions unicorn's horn, human fat and *human skulls*, dog's dung, toads, vipers, and worms, among the really valuable medical stores. The Pharmacopœia was revised in 1742, and various ingredients were rejected, but centipedes, vipers, and lizards were retained.

'Nor were these strange compounds prepared for human subjects only. In the "Angler's Vade Mecum," published in 1681, anglers are recommended to use an ointment for the luring of fish, consisting, amongst other horrible ingredients, of *man's fat*, cat's fat, heron's fat, asafœtida, finely powdered mummy, camphor, oil of lavender, &c.; and it was added that man's fat could be obtained from the London chyrurgeons concerned in anatomy.'[1]

In Black's 'Folk Medicine' one reads of the strangest beliefs in the oddest remedies. Truly, 'imagination kills or cures.' Scrofula was formerly imagined to be cured by the 'Royal touch.' 'King's Evil (scrofula), formerly supposed to be cured by the King's touch, the first being Edward the Confessor, in 1058. In the reign of Charles II. 92,107 persons were touched; and, according to Wiseman, the king's physician, they were nearly all cured! Queen Anne officially announced in the "London Gazette," March 12, 1712, her intention to touch publicly. The custom was dropped by George I., 1714.'[2] 'Faith in the virtues of the touch of the King's hand for the cure of "the evil" was in the days of the Stuarts evidently no mere fashion, nor was it confined to the humble or ignorant classes. Lord Chaworth, in a letter to Sir John Coke, the Secretary of State to King Charles I., quoted in the recently-published calendar of the Cowper manuscripts, under date

[1] A. F. Gordon Cumming, *Strange Medicines*.
[2] B. Vincent, *Haydn's Dictionary of Dates*, p. 483.

December 1, 1632, says, "I am an humble suitor unto you, sir, to move his Majesty to grant me leave to bring my wife up with me to the physicians in London for the great necessity of her health. That this is no idle excuse yourself knoweth by the trouble you had about her pass to the Spa, which truly did her more good than all other experiments, and his Majesty also knows that in the opinion it was the evil she had tried the cure of his hand. I do presume," adds this modest and loyal nobleman, "that his Majesty will not deny me the comfort, or her the means of health, the rather for that, in obedience to proclamation, we leave our son at one of my houses, with a competent family for housekeeping in the country." [1] One wonders why a custom honoured by the usage of so many years, and evidently believed in, was given up by George I. Was he less superstitious than his predecessors, or did he find on inquiry that no good had really resulted? It is hard to conceive how a custom affecting so large a number of persons could have been continued for so long a period if no good came of it. One wonders, if no one benefited, how it was that so many kept silence; for it is not recorded in any of the old writings that any complained of not deriving the benefit they expected from 'the King's touch.' In fact, it is mentioned that 'the one' King William (1689) was persuaded 'to touch' (for he also dropped the practice) 'was cured.' See Whiston's 'Life of Himself.' 'Poor Whiston, who believed in everything but the Trinity, tells us gravely that the single person whom William touched was cured notwithstanding His Majesty's want of faith. See also the "Athenian Mercury" of January 16, 1691.' [2]

Macaulay mentions that William (1689) refused to touch for the scrofula, causing thereby much discontent among the people, and adds: [3] 'On one single occasion he was importuned into laying his hand on a patient. "God give you better health," he said, "and more sense."' Macaulay says: 'The parents of scrofulous children cried out against his cruelty; bigots lifted up their hands and eyes in horror at his impiety.'

[1] *The Daily News*, Thursday, September 27, 1888.
[2] Macaulay's *History of England*, vol. v. p. 146. [3] *Ibid.*, p. 146.

This will show what hold the custom had on the people, and how much they believed in its efficacy. The service used at this strange ceremony is still to be found in prayer-books of the reign of Anne. In Carte's 'History of England' (edition of 1747), vol. i. page 291, there is mention of touching for the scrofula.

The fullest information on this curious subject will be found in the 'Charisma Basilicon,' by John Browne, Chirurgeon in ordinary to His Majesty, 1684. See also the 'Ceremonies used in the Time of King Henry VII. for the Healing of them that be Diseased with the King's Evil, published by His Majesty's command, 1686,' 'Evelyn's Diary,' March 28, 1684, and 'Bishop Cartwright's Diary,' August 28, 29, and 30, 1687. The days on which the ceremony of touching took place 'were fixed at sittings of the Privy Council, and were solemnly notified by the clergy in all the parish churches of the realm.' See the Order in Council of June 9, 1683. 'When the appointed time came several divines in full canonicals stood round the canopy of state. The surgeon of the Royal Household introduced the sick. A passage from the sixteenth chapter of the Gospel of Saint Mark was read. When the words, "They shall lay their hands on the sick, and they shall recover," had been pronounced, there was a pause, and one of the sick was brought up to the King. His Majesty stroked the ulcers and swellings, and hung round the patient's neck a white riband, to which was fastened a gold coin. The other sufferers were then led up in succession; and as each was touched the chaplain repeated the incantation, "They shall lay their hands on the sick, and they shall recover." Then came the epistle, prayers, antiphonies, and a benediction.'[1] Macaulay says that 'the expense of the ceremony was little less than ten thousand pounds a year.'

I am afraid in those days there was no nice, kind, inquisitive, inquiring person to protest against waste of public money, and 'to inquire as to the utility of spending much on needless ceremonies, and the keeping up of foolish customs.'

[1] Macaulay's *History of England*, vol. v. pp. 143, 144, 145.

Most of us in these enlightened days scout the very idea of superstition. Yet I am afraid we are all still rather ready to give credence to fables of one sort or another. We are much like Pepys, who would not at first believe in the efficacy of a hare's foot as a cure, yet carried one about with him, and after a time said (after describing his state of health as very good—'I never was better in my life'), 'Now I am at a loss to know whether it be my hare's foot which is my preservation—for I never had a fit of the colic since I wore it—or whether it be my taking a pill of turpentine every morning.'[1] We would now probably give a decision in favour of the 'turpentine pill'; but quaint, simple Pepys is unbiassed, and quite willing to say a good word for the 'hare's foot.'

Mothers are often under the mistaken impression that their babies do not get any medicine, whereas, on the contrary, often without the knowledge of parents, nurses who are unprincipled will give a great deal of aperient and other medicine to infants and young babies. Some nurses before entering a situation will buy a large bottle of castor-oil, of which they are far from sparing in use. Another reprehensible practice is taking babies to 'prescribing chemists,' and getting them to make up powders and mixtures. The medical knowledge obtained by chemists is not sufficient for them to prescribe upon. 'Yesterday, Mr. A. Braxton Hicks also held an inquiry at Putney into the circumstances attending the death of Frank Ernest Rands, aged fourteen months, whose parents reside at 2 Quill Cottages, Charles Road, Putney.—The mother stated that the child, who was always delicate, was taken ill on Sunday, and she took him to Mr. Lamacraft, a chemist, whose assistant examined, and prescribed a bottle of medicine and two powders for him. Witness found him dead on Tuesday morning.—Dr. John Keenan, of 4 Gwallion Road, Putney, who was called in after death, said that upon making a *post-mortem* examination he found the stomach so much distended with food that it was pressing on the cardiac region of the heart and had produced syncope, the cause of

[1] *The Diary of Samuel Pepys*, 1664–1665, p. 40.

death. The child had been fed on corn-flour, which was most improper.—Mr. W. H. Lamacraft, who stated that he had carried on the business of a chemist on his own account, although he possessed no qualifications, deposed that on Sunday he was assisting his brother, whose shop was at 34 High Street, Putney. He remembered Mrs. Rands coming in with her baby, saying it was suffering from diarrhœa and dentition. After looking at the child he prescribed for it.—By the Coroner: He took the mother's word as to what the child was suffering from.—The Coroner: Did you ever know mothers to talk a lot of nonsense?—Witness: They generally know what is the matter with a child.—The Coroner: That is not my experience, at least, according to what doctors tell me. No doubt it is a great advantage to poor people to be able to run into a chemist's to get something in a hurry, but if a chemist prescribes wrongly he must take the risk of it. If a grown person chooses to commit suicide, so to speak, by going to a chemist instead of a doctor, that is his own look-out, but I do not think that chemists have any right to interfere in the case of children at all. The sooner the practice is stopped, the better. While a child is alive parents go to chemists, and to a doctor after it is dead, the consequence being that the Coroner has to intervene.—Witness: I shall be very particular in future.—The Coroner: You will have to, if you remain in my district. I shall always speak plainly when I find chemists prescribing for children.—The jury returned a verdict in accordance with the medical testimony, and expressed their opinion that Mr. Lamacraft should have sent the child to a doctor.'[1]

Every mother should see and know what physic her children take, and should be quite sure nothing is given without her knowledge.

Medicines as a rule are given in the most disagreeable manner to both infants and children. I have seen infants and older babies' noses forcibly held while the medicine was literally shoved down the throat; and when unable hardly to

[1] *The Morning Post*, Friday, August 24, 1888.

breathe or swallow the perhaps most nauseous stuff, the child choked and brought it up, the usual 'Oh, you naughty, naughty baby,' with a violent thump on the back, and shake, was the consequence. Mothers should learn how to give medicines to their children, and should never suffer a nurse to do so unless assured that she will do it considerately, kindly, and in the best way. In any case a mother is likely to do it in a kinder, gentler manner than a stranger, who feels perhaps no interest, save a pecuniary one, in the child.

Dr. Ellis writes of the giving of medicines to children :[1] 'It is *very important* to attend to the *manner* of their administration. Effervescing saline medicine has been known to be taken, the liquid first, and the acid afterwards, so that the mixture took place in the stomach, not in the glass ! Such a mixture might be extremely serious in a child, for the enormous disengagement of gas resulting might fatally interrupt its respiration or do other mischief. Again, insoluble powders are often ordered for children, more frequently indeed than for adults ; but they are very repeatedly given in water, and, falling to the bottom, are never received by the child at all. All powders should be given, unless otherwise directed, in a little honey or sugar and water, in a spoon, and the child should be required to take every portion of them, otherwise the most active ingredient may actually be left behind.'

I have myself found the best plan with powders is to take a teaspoon, put a little sifted (castor) sugar on it, then the powder, then cover with sugar. Let the child take this off the spoon in its mouth, and swallow down by drinking a little water. Some children manage it better by taking the powder in two halves. I have found this a much better way than putting the powder in either honey or jam. The good old days of our early youth, when our nurse was our general physician—how the remembrance comes back to one's mind ! The senna-tea, vowed to be 'not so very unlike real tea,' and to be 'far from really horrid,' which we would persist in declaring, with childlike pertinacity, it was, and 'so neces-

[1] *Disease in Childhood*, p. 250.

sary for our health ;' the electuary, supposed to be completely disguised by the wafer enfolding it ; the powder, nauseous to a degree, yet neatly put in the spoonful of our favourite jam, with the deluded idea of its being more palatable ! What victims we felt, and what salutary effects were intended and supposed to be achieved ! The make-believes, the subterfuges, which we saw through so clearly, yet were supposed to be blind to !

Truly, these days are better for the little ones, and their medicines, as a rule, are not so disagreeable. Children should never be deceived in taking medicines. When children are old enough, the promise of a future reward will often make them swallow a necessary dose without finding it too disagreeable ; and why condemn rewards ? Are we not all expectant of reward ? Even our system of religion embodies the idea of rewards both present and future.

Castor-oil.

Castor-oil is a valuable, but, where only a gentle aperient is required, too powerful a medicine for general use. In hot countries this is especially so. Where a child is suffering from indigestion, in croupy symptoms, or where a strong aperient is needed, castor-oil is of service. When an infant is teething, and appears hot, heavy, feverish, or there seems to be disturbance of the stomach, the breath being heavy and faint, a dose of castor-oil is of value. 'In infancy, however, a gentle dose of castor-oil is the only safe remedy for domestic use : its operation, and, indeed, the natural action of the bowels, may be much assisted by gentle friction over the abdomen from right to left.'[1] The best way, where the ordinary castor-oil has to be used, for giving castor-oil to infants or children, is to take half a wineglass of *very hot* milk, pour in the requisite dose of oil, then pour this (the oil and milk together) into a bottle—a medicine-bottle will answer the purpose—cork the bottle, and shake violently for a few seconds till the oil and milk are thoroughly mixed. Then give with a teaspoon

[1] Dr. Ellis, *Disease in Childhood*, p. 182.

to an infant; older children will drink the mixture from a glass, as there is not much taste with it.

This way of giving castor-oil has another advantage: it is not so liable to repeat and cause sickness as when given alone. One or half a teaspoonful of castor-oil is sufficient for an infant. After twelve months it may be necessary to increase the dose to two teaspoonfuls.[1] Some children bear but small doses of aperient medicine; this must be decided by whoever has charge of a child. When a child has a great deal of phlegm on the chest a dose of castor-oil is useful. Castor-oil is best given in the morning. A great mistake is made in giving food after castor-oil, as it causes sickness. Messrs. Allen & Hanburys, Plough Court, Lombard Street, sell what is called 'tasteless' castor-oil, of which the 'Lancet,' March 4, 1882, writes: 'Messrs. Allen & Hanburys have recently introduced a variety of castor-oil which seems likely to supersede the old-fashioned form with which we are all so familiar. Their 'tasteless' castor-oil is absolutely pure, is almost colourless, and is as free from disagreeable taste or smell as anything of the nature of oil can be. We have given it an extensive trial, and find that it is taken both by children and adults without the slightest difficulty, whilst its aperient effects are unquestionable. It possesses all the advantages that are claimed for it.' A child should be made to lie down, and, if possible, to sleep, after taking castor-oil, as this prevents its having a nauseating effect.

Sweet Essence of Senna

is considered a useful aperient for children. It is to be obtained from all druggists. Senna-tea is a very old remedy. I have known it to be of a very griping nature; however, Dr. Ellis says it will not be found so when made with cold water. 'Senna-tea . . . ought always to be made with cold water, the infusion being allowed to stand for twenty-four hours; it is then devoid of griping qualities.'[2] Dr. West observes:[3] 'Both senna and manna are apt to gripe, and if they be found on trial to

[1] See 'Feeding,' p. 101, and 'Home Remedies,' 489.
[2] *Disease in Childhood*, p. 183.
[3] *Diseases of Infancy and Childhood*, p. 251.

produce this effect their use must not be persevered in. Few medicines,' Dr. West adds, 'act more mildly or more certainly in children than aloes; and the bitter of the compound decoction may be much concealed by extract of liquorice. The bulk of a medicine, however, often opposes a great difficulty to its employment in infancy, and if that be the case the powder may be substituted for the decoction. If slightly moistened, mixed with a little coarse sugar, and placed on the tongue, it will often be swallowed very readily. I have found manna,[1] as a rule, does not gripe when dissolved in boiling water and added to warm milk or tea.'

Magnesia.

During teething, fluid magnesia (Dinneford's) I have found very beneficial, being cooling, and tending to correct acidity;[2] one to two teaspoonfuls. It should not be given in the whole of an infant's bottle of milk, as thus, if it does not take it all, the full effect is lost.

Compound Liquorice Powder

is also recommended as an aperient for children. But some children have an extreme aversion to it. Where it can be taken it is generally found mild in effect.

Cascara

has come into use as an aperient. It can be bought in a lozenge form, or in tincture, capsules, or elixir.

Compound Sulphur Lozenges

are a good and mild aperient. One or two at bed-time. As a rule they are not disliked by children, being nearly tasteless. Prepared and sold by Blake, Sandford, and Blake, 47 Piccadilly, London. These lozenges are a relic of the brimstone and treacle days of our forefathers in a portable and more palatable form. They can be taken occasionally for a continuance without harming. In some cases of skin affection they are beneficial.

[1] See 'Home Remedies,' p. 491, for quantity to give.
[2] See 'Feeding,' p. 151.

Powders.

Powerful medicines are sometimes put in powders, and should not be given (unless assured of their being harmless) except by medical advice. 'Calomel and grey-powder ought never to be administered unless ordered by a medical man.

'Jalap is also frequently given, but it is a griping medicine for a baby, and ought to be banished from the nursery.' [1]

I give a prescription for a perfectly harmless aperient powder which I have used for years with all my children. I have never given more than one powder at a time (going to bed),[2] and have found it equally efficacious at three years as at twelve. The prescription was given to me by a children's doctor. I always have a dozen made up of the powders ; but it is not well to get so large a number at the seaside, as they lose their colour, although I have been told this does not affect their quality. Inland they keep a long time.

PRESCRIPTION OF APERIENT POWDERS.

℞ Powdered rhubarb, gr. 5.
„ carbon. soda, gr. 5 (into a powder).
To be taken at bedtime.

A harmless aperient is Glauber's salts (powdered), 2 ounces (one teaspoonful) in half-a-tumbler of hot water. This quantity is for a child from ten years of age. Its extremely salt taste is much disliked by some children ; others, however, do not mind it. If made with quite hot water and drunk hot, the salt taste is not so perceptible.

Hot Water,

taken fasting in the morning (a tumblerful has an effect on the bowels, and is much recommended by American doctors), ginger-bread, brown bread, baked apples, figs, honey, are all useful for children. Dr. Chevasse speaks, in 'Advice to a Mother' (page 71), of honey having an aperient effect, and recommends also for infants raw sugar, or, as it is called, 'moist

[1] Dr. Chevasse, *Advice to a Mother*, p. 71.
[2] See 'Home Remedies,' p. 467, for how to give powders.

sugar.' Dr. Chevasse says : 'Half-a-teaspoonful of raw sugar dissolved in a teaspoonful or two of water, or give him, out of your fingers, half-a-teaspoonful of raw sugar to eat.' But, if the latter is given, care must be observed in getting a good kind of sugar. I have seen some 'moist sugar' full of mites, which could not possibly be wholesome for a baby.

Dr. Chambers writes :[1] 'The baser sort, "moist brown," always contains dirt, sand, and mites. If it is dissolved in warm water the heavy dirt falls to the bottom, and the mites float on the surface, affording an interesting object for the microscope. Grocers,' Dr. Chambers adds, 'get, from handling it, psoriasis palmarum, or "grocer's itch," so it can hardly be a desirable condiment to eat raw.' Dr. Chambers speaks very highly of bacon[2] as being of assistance in keeping the bowels in a good state. 'Bacon—the most soothing of fats to the digestive canal—eaten at meals, or two teaspoonfuls of salad-oil taken at bed-time, prevent that drying and hardening of the contents of the bowels which causes much of the inconvenience, and they also augment the activity of the liver.'[3] Again Dr. Chambers adds : 'Sweet-oil and fresh bacon may be used to keep the contents of the abdomen from concreting into hard lumps, and brown bread and brown-bread biscuits are often found of essential service.'[4]

I mention these remarks of Dr. Chambers because some people will not allow their children bacon on account of 'its being salty,' although they will allow them to have pickled pork, which seems to me 'straining at a gnat and swallowing a camel.'[5]

Tonics.

Fellowes' Hypophosphate is an excellent preparation, as is also Parrish's Food.[6] Ambrecht's coca-wine, made with Malaga or Burgundy, is also of value where there is nervous exhaustion. But all coca tonics are not harmless, as will be

[1] *Manual of Diet in Health and Disease*, p. 47.

[2] It should always be fried, not cooked in the oven, which dries it up ; or toasted before the fire.

[3] *Manual of Diet in Health and Disease*, p. 313. [4] *Ibid.*, p. 352.

[5] St. Matt. xxiii. 24. [6] See 'Feeding,' p. 101.

seen from the following analysis :—'The chemist to the Board of Health of Massachusetts has published a report on investigations recently made by him into the tonics and bitters advertised and used in the United States. Forty-six out of forty-seven examined were found to contain alcohol in quantities varying from 6 to 47·5 per cent., the average being 21·5 per cent. One advertised as "not a rum drink" contains 13·2 per cent. ; a "coca beef-tonic," which is said to contain some sherry, actually contains 23·2 per cent., while sherry contains only from eighteen to twenty per cent. Another described as a purely vegetable extract, "a stimulus to the body, without intoxicating," contains 41·6 per cent. of alcohol, while whisky and brandy contain only fifty per cent. This particular tonic is especially recommended to inebriates struggling to reform, because "its tonic and sustaining influence on the nervous system is a great help to their efforts." Another tonic, said to be distilled from seaweed, and quite harmless, contains 19·5 per cent. of alcohol, and certain "German bitters," which are advertised as purely vegetable and free from alcoholic stimulant, have 26·5 per cent. Certain "sulphur bitters" contain no sulphur, and, though advertised to contain no alcohol, actually contain 20·5 per cent. One maker's "concentrated sherry wine bitters" contain 47·5 per cent. of alcohol, or barely 2·5 per cent. less than brandy, while another "stomach bitters" contain 42·6 and a third 44·3 per cent. of alcohol. Of the whole forty-seven tonics and bitters examined, only one was free from alcohol, and the average alcoholic strength was greater than that of sherry.'[1] I have seen patent tonics given to delicate children with an effect the reverse of beneficial ; perhaps the above may afford the clue to the reason. Undoubtedly, *where a child is delicate or ailing, proper medical advice is necessary.*

[1] *The Lancet*, 1888, and *The Times*, 1888.

Preparations for Infants. Dill-Water.

A teaspoonful, put in an infant's bottle of food when the child is troubled with flatulency, is of service. 'It is advantageous,' Dr. Routh says,[1] 'to give small quantities of *dill-water* in the regular food the child takes, in quantities varying from one to two teaspoonfuls.' Dr. Routh adds: 'Many other of the non-poisonous essential oils, such as carraway, peppermint, mint, cloves, cajiput, &c., would answer as well.' No doubt dill-water is of service in dispersing what nurses term 'the wind.' I have never used it except when necessary, and think *a doctor should be consulted before using with regularity in the food.* Peppermint as a carminative is much favoured by country people. Some doctors disapprove of the giving of peppermint to infants, however, and recommend, in preference, for flatulence, bruised carraway seeds. Dr. Chevasse says:[2] 'Three teaspoonfuls of bruised carraway seeds may be boiled for ten minutes in a teacupful of water, and then strained. One or two teaspoonfuls of the carraway tea may be added to each quantity of his food, or a dose of rhubarb and magnesia may occasionally be given.' 'One of the best and safest remedies for flatulence is sal volatile,—a teaspoonful of a solution of half a drachm to an ounce and-a-half of water.'[3] A useful stomachic mixture for infants and young children—

℞	Rhubarb powder . . .	gr. lx.
	Soda carbonate	gr. lx.
	Sugar	gr. cxx.
	Dill-seed water	ʒ iij.

Dose—a teaspoonful at bedtime.

This is in principle the same as the 'aperient powders,' page 471, and is useful for infants, and where the powders cannot be taken, viz., by very young children.

I have found a warm flannel placed on the stomach will sometimes give relief. 'Wind in the stomach' of an infant is often caused by the nature of the food given. When a baby is continually troubled with flatulence, this should be seen to by a medical man.

[1] *Infant Feeding*, p. 434. [2] *Advice to a Mother*, p. 73.
[3] Sir C. Locock; see *Advice to a Mother*, Dr. Chevasse, p. 73.

Homely Remedies for Colds and Sore Throat.

Hartshorn and oil is an excellent remedy for cold on the chest. It should be well rubbed into the chest, and, if the cold is severe, between the shoulders as well—a piece of new flannel (white) being placed over the chest afterwards. The flannel should not be dipped in the hartshorn and oil, and put on the chest, as it will act as a blister if this is done. For a very young infant it is well sometimes to add a little salad-oil before using the oil as it comes from the chemist. Hartshorn and oil, however, when *properly made up*, I have not found too strong even for infants. Sometimes, however, without the knowledge of the purchaser, turpentine is put with hartshorn and oil. Turpentine, being of a powerful nature, should not be used for infants or children without medical advice ; therefore it is well in asking for hartshorn and oil to mention that *no turpentine* is to be put with it. A remedy for the chest, much used by Germans, is tallow. The addition of nutmeg grated over is said to be beneficial. Spread the tallow on linen and put on the chest.

For external use in sore-throat, take a piece of lint doubled (eight inches by two). Wring it out of hot water ; sprinkle over it a teaspoonful of eau de Cologne, and wrap it round the throat ; cover it with oiled silk of the same size, and tie it all on with a light silk handkerchief.

Gargle for Sore Throat.

One handful of red sage (the leaves picked off), half-a-pint (one tumbler) of vinegar, half-a-pint of cold water. To be well boiled (kept simmering in a saucepan with the lid on) for one hour. The saucepan must not be an iron one, or it will turn the mixture black. When nearly cold, strain through a sieve, and add two glasses of port-wine and six tablespoonfuls of honey. A silver, electro-, or wooden spoon should be used. This will make a port-wine bottle full of gargle, and when cold may be bottled for use. This is an exceedingly useful gargle for a relaxed sore throat. For chronic weak throat I have found it of much service. For an ulcerated throat it is best

used warm. This is easily done by placing the quantity of gargle required in a tumbler, and standing it in hot water.

I have found, however, Condy's fluid best for ulcerated sore throat—enough Condy's fluid to make the water a mauve colour (from ten to twenty drops in half a tumbler of cold water). 'For diphtheritic throat, as for ordinary sore throats, this gargle is invaluable, a timely use of it often warding off an attack. It is entirely harmless if unintentionally swallowed.' [1] After using, brush the teeth with soap and rinse the mouth with warm water. For relaxed throat a wine-glass of port-wine with the juice of one lemon added is a useful gargle.

Lemon and Honey.

Juice of one lemon. Soften the lemon well (before cutting) by pressing and rolling, then squeeze the juice out and add two tablespoonfuls of honey, and well mix together. Strain through a sieve. A simple and useful preparation for cough. A spoonful of this will often stop a fit of coughing with children. An old country remedy for a cough with phlegm is

Two ounces of honey.
Two teaspoonfuls of glycerine.
Three teaspoonfuls of vinegar (malt).
Mix well, and keep in a cup.
Give a teaspoonful twice a day, or when the cough is troublesome.

Syrup of squills and tolu is useful when a cough is troublesome. For children it is best to have one part squills to two of tolu. Glycerine pastilles, sold by Bell & Co., 226, Oxford Street.

Linseed-meal Poultice.—(How to prepare.)

The chief requisites for a linseed-meal poultice, to be of benefit, are for it to be—1st, hot (as warm as can be comfortably borne); 2nd, light; 3rd, moist (not too wet, however). A linseed-meal poultice is of little or no use if it is half cold when put on. If a person is very ill, and the part to be poul-

[1] Douglas J. Smith, M.D., Edinburgh.

ticed is tender, if a heavy lump of half-cold poultice is applied it does more harm than good.

To make the poultice, get a good-sized bowl, and in it put from eight to ten well heaped-up tablespoonfuls of linseed-meal, according to the size of the poultice required. Stir, adding *boiling water* till it is thoroughly mixed; then turn into a piece of thin muslin,[1] the size required for the part affected. Spread the linseed-meal with a knife.[2] Some pour a little salad-oil[3] on the poultice, and spread over to bind it together and prevent it getting into lumps. Turn the muslin over the oiled part, so that the poultice may be kept together, and place the side not oiled on the part affected. When mustard is required, add the quantity, *unmade*, to the linseed; mix well together, so that the mustard is distributed through the linseed *before* putting the water. Oil-silk placed over a poultice helps to keep the heat in, and is useful in cases where it is necessary to keep the poultice on some time. For ordinary use a hot flannel placed over the poultice serves to keep the heat in. The hospital manner of making a poultice of linseed-meal is as follows :—

Warm your basin with boiling water, and throw away the water. Then pour in a small quantity, and add (with the hand) linseed-meal, stirring with a spatula till the poultice is of the required consistency. Spread on muslin with the spatula, and cover over with the muslin. Should be quite flat, thin, and light when made.

When a poultice cannot be borne on the chest, it serves equally to place on the back between the shoulders, placing cotton-wool[4] on the front of the chest. Hold the latter for a minute or two before the fire previous to putting on.

Dr. Chevasse observes :[5] 'Crushed linseed is far superior to linseed-meal; crushed linseed has all the linseed oil left in it, while linseed-meal has all the linseed oil taken out of it.

[1] See *Croup*, p. 424.
[2] A spatula is better, sold at chemists'.
[3] This is not necessary.
[4] Get at the chemist's (medicated wool), and say for what purpose required.
[5] *Counsel to a Mother*, p. 157.

Crushed linseed makes an excellent poultice for a sore throat ; it should be applied quite hot, and next the skin ; it should be put on at bed-time and kept on all night.'

Dr. Chevasse says : [1] 'The best way for making a mustard poultice for a child is to mix the mustard with linseed-meal in the following proportions, that is to say, two parts of linseed-meal and one part of mustard, mixing them together, and making them into a poultice with hot water, and then applying it to the chest, keeping it on, according to the age of the child, and according as he can bear it, either for five or for ten minutes.'

For a bread-poultice [2] 'scald out a basin, for you can never make a good poultice unless you have perfectly boiling water ; then, having put in some hot water, throw in coarsely crumbled bread, and cover it with a plate. When the bread has soaked up as much water as it will imbibe, drain off the remaining water, and there will be left a light pulp. Spread it a third of an inch thick on folded linen, and apply it when of the temperature of a warm bath. It may be said that this poultice will be very inconvenient if there be no lard in it, for it will soon get dry ; but this is the very thing you want, and it can easily be moistened by dropping warm water on it, whilst a greasy poultice will be moist, but not wet.'

Mutton Suet,

for chapped hands and ankles, from which some children suffer, is a useful remedy. Melt a piece of fresh, uncooked mutton suet before a fire (over a candle will do equally), and rub while warm on the part affected. Let it dry on the part, and wash off, after being on a little time, with oatmeal water.[3] It is best applied at night before going to bed.

Scalded Lard.

Take a quarter of a pound of lard. Put the lard in a basin ; pour a pint of boiling water on it ; let it stand till the next

[1] *Counsel to a Mother*, p. 156. [2] South's *Household Surgery*.
[3] See 'Water,' p. 377.

day,[1] and then skim the lard from the top (skim with a knife) and put the lard in a jar, and press it down. Useful for infants and children, for chapped skin ; in the absence of cold cream it answers the same purpose. Dr. Chevasse writes :[2] 'Prepared lard—that is to say, lard without salt—is an admirable remedy for burns and for scalds. The advantages of lard are—(1) it is almost always at hand; (2) it is very cooling, soothing, and unirritating to the part, and it gives almost immediate freedom from pain ; (3) it effectually protects and sheathes the burn or the scald from the air ; (4) it is readily and easily applied : all that has to be done is to spread the lard either on pieces of old linen rag or on lint, and then to apply them smoothly to the parts affected, keeping them in their places by means of bandages. Bandages may be readily made from either old linen or calico skirt. I have, for many years, been in the habit of prescribing lard as a dressing for blisters, and with the best effects. I generally advise equal parts of prepared lard and of spermaceti-cerate to be blended together to make an ointment. The spermaceti-cerate gives a little more consistence to the lard, which, in warm weather especially, is a great advantage.

'If there be no other lard in the house but lard *with* salt, the salt may be readily removed by washing the lard in cold water. Prepared lard—that is to say, lard *without* salt—can, at any moment, be procured from the nearest druggist in the neighbourhood.'

Ointment for Cold in the Eyes.

℞ Ung. hyd. nit. ox.	. . . .	ʒj.
Adeps benz.	. . . . .	ad ʒss.
Ottæ rosæ	. . . . .	♏ iv.

This prescription was given me for the eyes when inflamed, and is beneficial, but the eyes should never be tampered with. It is always best to seek advice in good time.[3]

Wash for the Hair.

One ounce of camphor, one ounce of borax. Put the camphor and borax in some convenient vessel, pour a quart of

[1] This takes the salt out. [2] *Advice to a Mother*, p. 254.
[3] See 'Remarks on the Hair, Teeth, &c.,' p. 503.

quite boiling water on them ; let the mixture rest till quite cold, and bottle. This is good for cleaning the hair and making it a nice colour.

HAIR WASH.

One quartern of best rum ;
Two-pennyworth of essence of cayenne ;
Two-pennyworth of essence of horseradish ;[1]
Two-pennyworth of essence of rosemary.
Mix all together.[2]

I can speak very highly of this hair-wash, as I have heard of several cases in which it has been successful in restoring the hair. One case came under my own personal observation quite recently. A lady, who had entirely lost her hair through fever, and was in consequence obliged to wear a wig, has, after a year's use of this preparation, had her hair quite restored, and it is quite thick and long, and its natural colour. The *rum must be the ordinary* spirit (for drinking) ; bay rum will not answer the purpose.

Chaulmoogra Oil.

Prepared by Corbyn, Stacy, & Co.[3] as pearls for internal use. Soap and ointment. ' The curative powers of the oil are perhaps most striking in cases of scrofula in children.'[4] Messrs. Corbyn & Co. send a pamphlet, free of charge, in which will be found full directions for the use of the oil, and the diseases it has been found of benefit with. I have used all the preparations of the oil for the last ten years. I think where the ointment is used with the face it should be washed off with the soap ; using oatmeal water[5] is of service in removing the grease adhering to the skin after its use, as also it has a soothing effect.

[1] Horseradish may to some appear somewhat suggestive of the Sunday roast sirloin. To those who may doubt the efficacy of it as appearing too homely, I will say it is to be found in the British Pharmacopœia (Sp. armoraciæ co.).

[2] Always tell the chemist it is for a hair-wash.

To be rubbed well on the skin of the head with a piece of flannel or sponge at night.

[3] 300 High Holborn, W.C.

[4] Letter from Dr. Mouat to Mr. Lepage, dated January 31, 1878.

[5] See ' Water,' p. 377.

The ointment should be put on at night. It may be used to the face without fear of harming the eyes, of course being careful not to put it in the eyes. I am not an advocate of medicated soaps, having seen much harm resulting from using such with affections of the skin without proper medical advice. Undoubtedly, skin affections require internal as well as external treatment. Dr. Milton writes :[1] 'I therefore state, as the result of my own observations, that strong medicated soaps, containing carbolic acid[2] and tar, *often do a great deal of mischief.* Used when disease of the skin is coming on, they frequently exasperate it to an unexpected degree. Prominent among the affections thus maltreated are eczema, popularly known as scurvy and watery tetter, often, in its nascent stage, doctored by the patient in this way to his cost ; and scalled head, a term perhaps properly restricted to a rare inflamed variety of ringworm, but more generally applied to another form of eczema, for which the mother often flies for relief to Tar Soap, and sets up very troublesome irritation by doing so.'

Dr. Milton adds : 'The use of carbolic acid as a remedial application is practically discontinued in my department at the hospital, observation having shown that, though it may be a good disinfectant, and very well adapted to filling up a stray gap in sanitary science, or for making that kind of dint in the human brain which this organ seems every now and then to require, there is not a single skin disease worth notice that is amenable to its action. Tar, again, of different kinds, has been repeatedly tried and at last given up, being found to possess no curative action, the utmost that it ever did being occasionally to remove some slight affection which would have yielded to more cleanly remedies. Sulphur, too, is used to impregnate soap ; but there are very few skin diseases for which it is required, and to be of service in these it must either be employed in the shape of vapour or be kept perpetually in contact with the skin, conditions for which soap is not adapted.'

[1] *The Hygiene of the Skin*, by Dr. Milton, Senior Surgeon to St. John's Hospital for Skin Diseases, p. 83.

[2] See Appendix.

I have, however, found Chaulmoogra soap quite harmless, even when used as an ordinary soap. I have used it for years when my children have had any little roughness of the skin.[1]

Stings, Bites of Insects, Burns.

The great advantage of any remedy (in case of either a sting from a wasp or if bitten by insects or burns) is to have the remedy at hand, and to be able to apply it immediately. The simpler the remedy, and the more easily applied, the better.

For the Sting of a Wasp.—First, if possible, press the sting, if left in, out, by pressing the barrel of a key over the part stung ; then place a scraped raw onion, or a slice of raw onion, over the place, fastening it on with a light bandage of linen ; keep the onion on for an hour, or even longer, till the inflammation and irritation are allayed. I have never known onion to fail in giving ease to the sting of a wasp, and raw onion in most houses is a handy article. The danger from the sting of a wasp or bee is evidenced by the following :—

'Mr. William Barson, of Carlisle, has died from the sting of an insect. He was stung on the hand while working in his garden, either by a bee or wasp, and his hand commenced to swell. A medical man was called in, but the injuries would not yield to treatment, and exhaustion and death ensued.'[2]

Bites of Insects, Gnats, &c.—Put four tablespoonfuls of eau de Cologne in a cup, add two tablespoonfuls of cold water and one tablespoonful of salad-oil ; pour all together into a bottle and shake till well mixed. Dab the parts affected with a piece of linen dipped in this. It will generally be found to allay the irritation.

Burns or Scalds.

Scrape some raw potato and apply immediately to the part, completely covering. If there is not time to scrape, cut a slice. Fasten on with a bandage of linen. I have seen some very severe burns relieved from intense pain by raw potato,

[1] See 'Remarks on the Hair, Teeth, &c.' pp. 479, 530, 531.
[2] *The Morning Post*, Wednesday, September 5, 1888.

and it is harmless to use while waiting for medical aid. 'Lime-water beaten up with sweet-oil, equal parts,' is a remedy recommended in 'Materia Medica,' page 125, for burns. I have also seen Condy's Fluid and water used to burns with a good effect.

'In cases of burn, no better application can be used than Condy's Fluid, duly diluted.—"System of Surgery," by T. Holmes, F.R.C.S., vol. 1, p. 747.

'*Burns and scalds.*—When recent, apply the fluid of full strength, by painting or dressings, till the pain is reduced. When there is discharge, or a suppurating surface, employ a lotion of two teaspoonfuls of fluid to a pint of water, and renew often till the surface is sweet.—(Dressings, see note to Ordinary Wounds.) "Condy's Fluid is being extensively used at Middlesex Hospital in cases of burns and suppurating surfaces, especially when offensive. A case of very severe burn about the body and thighs of a female is doing well with this fluid. She had carron-oil applied the first day. Condy's Fluid was commenced on the fourth day, with immediate relief to the pain. This fluid prevents any bad smell from the suppuration."—Clinical Records, "Lancet."

'*Note.*—Lint or rag dressings may be kept saturated with the lotion by moistening them frequently with it from outside, without removing or renewing them every time. This saves trouble, avoids irritating the part, and the dressings are kept perfectly sweet by the fluid.—JOSEPH J. POPE, M.R.C.S., Senior House Surgeon, Southern Hospital, Liverpool.' [1]

Pond's Extract of Hamamilis—Vegetable Pain Destroyer is well spoken of by some as a remedy for burns and scalds. It is also useful for other things. Full directions with the bottle.

How to fumigate a Room with Camphor or Keating's Powder.

Place a hot coal (not one that will flare up) in a shovel, and put a small lump of camphor about the size of a threepennypiece on the coal; wave the shovel about till the

[1] *Condy's Manual of Directions.*

room smells of camphor. This I prefer to the Rheuban de Bruges etc. pastille, and other things generally used. In the same manner Keating's Powder may be used, sprinkled on hot coals in a shovel, for the destruction of insects in a room. After illness of a serious and infectious nature, where rooms have to be fumigated, it should be seen to by some thoroughly responsible person.

There is too much laxity, indifference, and want of care as to sources of infection. For instance, people will put away clothes, toys, books, &c., used by those having had scarlet fever, small-pox, and other diseases notably catching from contact with infected objects, without thinking of disinfecting them. The things are taken out perhaps some time after, and the result is a second outbreak of the original illness. Every one is surprised, but the cause may probably be overlooked. I know a case in a house left in charge of a caretaker and his wife, whose children fell ill of scarlet fever during the absence of the family; everything was disinfected as it was thought, yet on closer enquiry two pillows, used by the sick children all the time they were ill, were placed back in the school-room without a word being said and without disinfection. These would no doubt have nullified all the good effects of the other disinfection had it not been discovered. The complete apathy with which all remedial measures connected with the prevention of disease are regarded by the public is a source of great danger to health. Persons in close attendance on the sick and dying from infectious complaints will yet, without the slightest precaution, go to places of worship. 'Going to church,' that covers everything. As I heard a 'sick-nurse' say, 'I am only going to church. God knows what is in my heart. He is almighty. I don't fear anyone catching anything through my going *there*. God would not allow any harm to come from His holy sanctuary.' But are we to be so blindly insensible to the dictates of reason and common sense, and are we to look upon church as a talismanic place, powerful to guard against infection without due precaution?

That articles taken from near contact with the sick suffering from infectious diseases, and persons lately in contact

with such, convey infection, there cannot be a shadow of doubt. In a discussion which took place at the Society of Arts, March 1887, on the subject of infection, Dr. Ondaatje said : 'With regard to the spread of small-pox, he had noticed that on one occasion a small-pox patient had been landed from one of the Peninsular and Oriental steamers in Galle, when Galle was the chief place for arrivals in Ceylon. This patient was placed in the small-pox hospital at Galle, and it so happened that one of the attendants stole a blanket belonging to that patient, and in two or three months there was a rumour that there was suddenly a case of small-pox. Nobody could account for it ; the village was examined very carefully, and upon inquiry it was clearly proved that the disease had been spread through this blanket which had been stolen from the hospital.' And 'Mr. Dickson said in one of the fever hospitals in London there was, on one occasion, a young woman who was being treated for scarlet fever. She passed through the acute stage, when one Sunday afternoon a nurse from the adjacent small-pox ward, in disobedience to the regulations, came into the fever ward and stood at the foot of the bed. Shortly afterwards this patient had a most severe attack of small-pox. He mentioned this in reference to the opening observations of Dr. Carpenter as to the probable means by which the spread of small-pox was effected, viz., from the breath of the person suffering from it. In this instance, however, it was an attendant of the ward, not a patient.'

When children are coming back to a house which has had serious and infectious illness in it too much care cannot be exercised in seeing that *everything* is quite free from infection. Where a house has been left in charge of a caretaker with children, *strict investigation* as to any illness amongst the children during the absence of the family should be made before the return of the children and household. The necessity for this is illustrated by the following case mentioned by Dr. Dudfield, Medical Officer of Health, in his report on the health, sanitary condition, &c., of Kensington, October 12, 1887. 'One illustrative case,[1] however, is too striking

[1] My own case.

to be passed over. It refers to the experiences of a police-constable, who, with his wife and a family of five children, was placed in charge of a mansion at South Kensington. About four weeks before the family was to return to town—a family comprising several children—scarlet fever attacked four of the caretaker's children. The disease assumed a mild form, and no doctor was consulted. It *chanced* (to use a common expression) that an examination was coming on at a local school among the pupils, at which scarlet fever has been very prevalent, and, as it was important to whip-up absentees, attention was directed to the fact—after nearly four weeks—of the absence of one of the constable's children whose attendance was desired. The School Board Visitor found the current address of the family (who had migrated from the Mews mentioned in my last report as furnishing so many cases of scarlet fever), and on visiting the house was informed that the absence of the children was due to scarlet fever. He reported the fact to me at once, and, the house being visited by the Inspector for the district, it appeared that the servants of the occupier had already returned, and that the family was to follow on the next day. The constable and his family were to go home, and did go home, the sick children in a public vehicle (number unknown), on the day when visited. Not one word appears to have been said to the occupier about the illness in all these weeks, and, but for the prompt action of the Inspector in telegraphing, he would have brought his family to a house reeking with infection. The return was postponed until after disinfection of the sick-rooms, and so far all appears to have gone well. Two of the constable's children were removed to hospital on the following day ; the others being so nearly well that it was deemed inadvisable to send them, having regard to the pressure upon the accommodation at the Managers' disposal. The constable, it may be mentioned, continued on duty throughout the illness, but was taken off duty so soon as the Divisional Surgeon became acquainted with the facts. This case suggests one or two observations and reflections. In the first place, the constable should have reported the illness at once—in conformity with Police Orders. (*Vide* my Annual Report for 1882, page

75.) If he had done so, he would have been relieved from duty : the outbreak would have been made known : the children would have been removed : the occupier would have been informed : the house would have been disinfected—in a word, everything would have been done to secure the safety of all parties, and presumably the constable would not have lost the advantages of his position as caretaker. But for notification by the School Board Visitor, the constable and his family would have returned home, and there would have been great risk of a further spread of the disease in the locality.'

The following remarks which I have taken from some most interesting lectures at the Society of Arts, May 1887, are worth noting as to disinfection of rooms, clothing, &c. :[1] 'In the case of illness from some contagious sickness, all clothing, sheets, evacuations, in fact all matters coming from, and materials belonging to, the patient, must be subjected to disinfection before they leave the sick-room. Any materials of no value should, by preference, be burned.'

'In the case of articles of clothing, linen, curtains, &c., these should be subjected to the heating process, which can be arranged for in all well-regulated towns by the medical officer of health. In country or remote districts, where such facilities do not exist, in cases of emergency the clothes, bedding, &c., should be spread out in small chambers or boxes, and subjected to a thorough saturation by sulphur dioxide. If the process of soaking or boiling articles of clothing be adopted, then it is better to add some disinfectant to the water. For this purpose one gallon of strong chloride of lime solution to twenty gallons of water may be employed ; or two parts of carbolic acid to 100 parts of water. Even with the employment of such chemical agents in the water during the washing of the clothes, it will always be found advantageous to subject these articles afterwards to a baking process, where the temperature is allowed to rise at least to between 115° and 124° C.

[1] Cantor Lectures : *The Chemistry of Substances taking part in Putrefaction and Antisepsis*, by John M. Thomson, F.R.S.E., Sec.C.S., Demonstrator of Chemistry, King's College, London. Lecture IV., delivered May 23, 1887.

'In the employment of all such disinfectants we must be certain that they are thoroughly mixed with the material to be disinfected; and this material, if it is to be employed afterwards for any purpose, as in the case of sheets, towels, &c., must be left in contact with the disinfectant for some time. For the purification of rooms after sickness fumigation with sulphurous acid is apparently the best, as it is more easily carried out in ordinary households than employing either nitrous or chlorine fumes. In the case of an ordinary room —clothes, &c., having been carefully removed for treatment in another way—the doors and windows should be shut, some sulphur placed in an iron shovel, or other metallic dish, alcohol or a red-hot coal placed upon it, and the mass lighted. The room should remain thoroughly closed for about three hours; but this, and the amount of sulphur to be used, will depend on the size of the room. A fair quantity of sulphur to be taken is one pound to every 1,000 cubic feet of space to be disinfected, which gives a little over 1 per cent. of the gas in that quantity of air. The late Dr. E. Baxter concluded, after a long series of experiments, that sulphur dioxide was the best disinfectant for air spaces, but that it was necessary that the air should be thoroughly saturated with the gas.'

'*Subsequent Disinfection of the House, &c.*—The infection hangs about a room or house for a very long time, and is difficult to dislodge. Fumigation by sulphur, however, may be employed by anyone, the paper being previously wetted with carbolic acid, stripped off, and burned. A quarter of a pound of brimstone, broken into small pieces, should be put into an iron dish (or the lid of an iron saucepan turned upside down) supported by a pair of tongs over a bucket of water. The fireplace and outer openings, such as the crevices of the windows, are then to be closed by pasting paper over them, and a shovelful of live coals is to be put upon the brimstone. The door is then to be quickly shut, the crevices pasted up with paper, and the room kept closed for five or six hours. Articles of clothing hung up loosely, or left uncovered in the room, are fumigated at the same time.'[1]

[1] *Fumigation*, W. H. Kerr.

No one should sleep in a room immediately after its having undergone fumigation with sulphur. I saw a young girl, perfectly healthy and strong, who was made very seriously ill through sleeping in a room immediately after disinfection. Twenty-four hours should at least elapse, during which time the windows and door should be kept open so as to thoroughly ventilate. Some strongly recommend the burning of fires in rooms after disinfection.[1]

Useful Remedies and Directions for Use.

The following ordinary remedies of general service I copy from a useful pamphlet but little known, 'The A.B.C. of Domestic Medicine,' compiled by W. H. Kerr, having myself found them exceedingly useful :—

Blister to Heal.—Apply cold cream, or spermaceti ointment.

Castor Oil.— Dose for adults from one to two tablespoonfuls ; dose for children from one to two teaspoonfuls.

Castor Oil and Glycerine.—This is a very excellent preparation, as a mild aperient, having all the good effects of castor oil, at the same time a much less quantity of the oil being necessary, and the unpleasant taste being almost entirely disguised.[2]

Constipation, Habitual.—A teaspoonful of confection of senna every night going to bed, whole-meal bread.[3]

Chaps.—On hands or lips—glycerine and rose-water, cold cream, vaseline, &c.

Chilblains.—If not broken should be painted with colourless tincture of iodine ; if broken, antepernio, or healing ointment, applied.

Camomile Flowers.—Tea is made by pouring over an ounce of the flowers sufficient boiling water to cover them ; infuse for thirty minutes and strain. Dose, a wineglassful to give an appetite.

Cod Liver Oil.—Nutritive. One to four teaspoonfuls for a dose in orange wine. Cod-liver oil emulsion is a most agreeable substitute, for children and ladies.

Cream of Tartar.—A refreshing, cooling drink is made by mixing one ounce of cream of tartar, two ounces of sugar, two pints of boiling water ; taken when cold in quantities of a wineglassful at a time for fever and habitual constipation.

Deafness.—May arise from formation of wax; if so, the ear may be

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[1] See 'Fresh Air and Exercise,' p. 343.

[2] See ' Feeding', p. 113.

[3] Inject one teaspoonful of glycerine into bowel. Advice given by a medical man. See pp. 69 and 293 for whole-meal bread.

carefully syringed with warm water to remove the wax,[1] but if arising from any other cause medical advice should be obtained.

Dill Water.—Aromatic and carminative, given to infants for flatulence. Dose, one teaspoonful.[2]

Essence of Ginger.—Flatulence, griping spasms, &c. Dose, ten to sixty drops in a wineglass of water.

Essence of Peppermint.—Flatulence, spasmodic pains in the stomach. Dose, ten to twenty drops on sugar or in water.

Feet Perspiring.—Yeatman's Liebig's disinfecting powder seldom fails to cure. Zinc ointment is also used.[3]

Freckles.—Milk of cucumbers, lime-water, lemon juice.

Flatulence.—Essence of ginger, peppermint, chloric ether, sal-volatile, potash, &c.

Goulard's Extract.—A teaspoonful added to a pint of water forms a cooling lotion for sprains or bruises; made half this strength, is a nice cooling lotion for the eyes.

Grey Powder.—Mild alterative. Dose, three to eight grains, followed by castor-oil or other aperient in about four to six hours.

Gregory Powder.—Mild stomachic and aperient. Dose, one teaspoonful in water for acidity or uneasiness of the stomach, or two heaped teaspoonfuls as an aperient.

Glycerine.—Internally it is taken to prevent the formation of wind and acidity, in teaspoonful doses. Externally, valuable for its emollient properties in roughness of the skin, &c. A little added to poultices keeps them from becoming dry and hard for a long time.

Iceland Moss Tea.—Wash one ounce of Iceland moss in cold water to remove dirt, boil with one pint of water for ten minutes in a covered vessel and strain, then add water to make one pint.

Ipecacuanha Wine.—Use: expectorant, emetic, of much service in croup. Dose as an expectorant, five to twenty drops; emetic, two to eight teaspoonfuls in lukewarm water.[4]

Lavender Oil.—Applied externally, prevents bugs biting the part it is near.

Lenitive Electuary.—For constipation, piles, &c., as a laxative. One teaspoonful every night at bed-time.

Lemonade.—Cut two lemons in slices, pour on them one-and-a-half pints of boiling water, infuse for one hour in a covered vessel, then add two ounces of sugar and strain.

Linseed Tea.—Wash one ounce of linseed in cold water to remove dirt, then pour upon it a pint of boiling water, and allow to stand until cold, stirring frequently; for simple cough, may be flavoured with Spanish juice.

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[1] The practice of putting the top of a hair-pin in the ear is dangerous. See pp. 437–438.

[2] See 'Home Remedies,' p. 474.

[3] A doctor should be consulted before trying to stop the feet perspiring, as it may arise from some cause requiring careful medical treatment.

[4] For an adult. Half that dose for children under six. See *Croup*, p. 432.

Lime Water.—A teaspoonful or two given with milk or food is found beneficial for infants in supplying bone matter, and prevents acidity.

Lime Water and Olive or Linseed Oil for burns, scalds, &c., mixed in equal proportions and freely applied.

Manna.—A mild laxative given to children and delicate females. Dose, one drachm to half an ounce.

Magnesia, Citrate of.—A teaspoonful in water forms a cooling draught, and is slightly aperient if taken before breakfast.

Nettle Rash.—Give an aperient of Gregory powder, and dab the skin with Goulard water. Keep warm.

Nipple Sore.—Borax and honey, cold cream.[1]

Opodeldoc (*Soap Liniment*).—Applied externally for chilblains, stiffness in joints, &c.

Poppy Heads, a Decoction of.—Is useful as a fomentation to allay pain in gout, face-ache, &c.[2] Bruised poppy-heads, one ounce; boiling water, one pint; boil ten minutes and strain.

Sal Volatile.—Stimulant useful in headache, heartburn, faintness, &c. Dose, twenty to sixty drops in a wineglass of water.

Senna Leaves.—Costiveness, worms in children, &c. Add half-a-pint boiling water to half-an-ounce of the leaves, infuse half-an-hour, and strain. Dose, half to two wineglassfuls on an empty stomach.

Skin, Roughness of.—Milk of cucumbers, almond emulsion with cherry laurel water.

Steel Wine.—Useful tonic for delicate children. Dose, one to two teaspoonfuls three times a day with food.

Vaseline Cold Cream.—This application will keep good for any length of time in any climate, and is an excellent application for any of those purposes for which cold cream or spermaceti ointment is of service.

Worms.—Worm cakes are good for worms in children.

Weights and Measures.

Apothecaries' Weight (*Solid Measure*).

20 grains	=	1 scruple.
60 grains	=	1 drachm.
8 drachms	=	1 ounce.
12 ounces	=	1 pound.

Fluid (*Measure*).

60 minims	=	1 fluid drachm.
8 drachms	=	1 „ ounce.
20 ounces	=	1 „ pint.

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[1] See 'Feeding,' pp. 119, 120.

[2] See p. 438.

The following list of ordinary articles of chemistry in French I have found so useful when in France and abroad—for in Germany, Italy, and other parts the chemists often understand French, but no English—that I have added it :—

English.	French.
Acid, carbolic	*Acide phénique*
„ citric	„ *citrique*
„ hydrochloric or muriatic, dilute	„ *hydrochlorique dilué*
„ phosphoric, dilute	„ *phosphorique dilué*
„ sulphuric, dilute	„ *sulfurique dilué*
„ tartaric	„ *tartarique*
Aloes	*Aloës*
Alum	*Alun*
Ammonia liquid	*Ammoniaque (forte)*
Almond oil	*Huile d'amandes douces*
Antimonial wine	*Vin d'antimoine*
Bicarbonate potash	*Bicarbonate de potasse*
„ soda	„ *soude*
Bismuth	*Bismuth*
Borax and honey	*Miel boraté*
Bromide of ammonium	*Bromure d'ammonium*
„ potassium	„ *de potassium*
Belladonna plaster	*Emplâtre de belladonne*
Blue pill	*Pilules bleues*
Chloroform	*Chloroforme*
Chamomile flowers	*Fleurs de camomille*
Chloride of lime	*Chlorure de chaux*
Camphorated chalk	*Craie camphrée*
Camphorated oil	*Huile camphrée*
Charcoal	*Charbon*
Castor oil	*Huile de ricin*
Chloral hydrate	*Chloral*
Chlorate of potash	*Chlorate de potasse*
Cod-liver oil	*Huile de foie de morue*
Colchicum wine	*Vin de Colchique*
Collodion	*Collodion*
Colocynth, compound pill of	*Pilules de colocynthe composées*
Cream of tartar	*Crême de tartre*
Creasote	*Créosote*
Chalk	*Craie*
Calomel	*Calomel*
Compound rhubarb pills	*Pilules de rhubarbe composées*
Decoction of aloes	*Tisane d'aloës composée*
Dover's powder	*Poudre de Dover*
Ergot liquid extract	*Extrait fluide de seigle ergoté*
Epsom salts	*Sel d'Epsom*
Goulard water	*Eau blanche ou de Goulard*
Gall ointment compound	*Pommade de noix de galle avec opium*
Ginger, essence of	*Teinture de gingembre forte*

English.	French.
Glycerine	*Glycérine*
Gum acacia	*Gomme arabique*
Honey	*Miel*
Hartshorn	*Ammoniaque, liquide*
Henbane, tincture of	*Teinture de jusquiame*, twice strength
Hops	*Houblon*
Iodide of potassium	*Iodure de potassium*
Ipecacuanha	*Ipécac*
Iron citrate	*Citrate de fer*
Ipecacuanha wine	*Vin d'ipécac*
Jalap	*Jalape*
Leeches	*Sangsues*
Lime water	*Eau de chaux*
Linseed meal	*Farine de lin*
Licorice powder (compound)	
Laudanum	*Teinture d'opium*, double strength
Mustard	*Moutarde*
Manna	*Manne*
Magnesia	*Magnésie calcinée*
Mendererus spirit	*Esprit de mendererus*
Morphia	*Morphine*
Myrrh, tincture of	*Teinture de myrrhe*
Milk	*Lait*
Opium plaster	*Emplâtre d'opium*
Olive oil	*Huile d'olives*
Opodeldoc	*Baume opodeldoch*
Oil of peppermint	*Essence de menthe*
Poultice	*Cataplasmes*
Poppy-heads	*Têtes de pavôts*
Peppermint water	*Eau de menthe*
Quinine	*Sulfate de quinine*
Quinine, sulphate of	
Sweet spirits of nitre	*Esprit de nitre dulcifié*
Spirit or essence of camphor	*Alcool camphré*
Spermaceti ointment	*Cérat*
Steel wine	*Vin ferrugineux*
Senna electuary	*Electuaire de séné composé*
Saltpetre	*Nitrate de potasse*
Squills	*Sirop de scille*
Seidlitz powder	*Poudres de Seidlitz*
Senna	*Feuilles de séné*
Sal volatile	*Alcoolat ammoniacal aromatique anglais*
Sulphur	*Soufre*
Sulphate of zinc	*Sulfate de zinc*
Soap liniment	*Liniment savonneux composé*
Tincture Calumba	*Teinture de Colombo*
„ of iodine	*Teinture d'iode*
Taraxacum	*Pissenlit*
Turpentine	*Térébenthine*
Tannin lozenges	*Pastilles au tannin*

English.	French.
Thymol.	*Thymol*
Tincture of steel	*Teinture de fer*
„ myrrh . . .	„ *myrrhe*
Vaseline	*Vaseline*
Water	*Eau*
Yellow basilicon or resin ointment	*Pommade de résine*
Zinc ointment	„ *zinc*

Cholera.

It may be said that this is a curious subject to introduce in a book on children, but we English are all, with our families, more or less travellers, and abroad cholera is so often to be found that a word on the subject may be found of use by some one. Having seen, when a girl, a remarkable cure of cholera by the use of spirits of camphor, the subjoined letter, I think, is, perhaps, worthy of note. Cholera is hardly as much dreaded by English as by continental nations, who, aware of its fatal ravages, not only fear its approach, but have little hope when once attacked. *Cholera is too rapid and desperate a disease to admit of delay in obtaining medical aid.* The only thing is, sometimes a little time may elapse in getting a doctor, and spirits of camphor is a simple, portable, and easily applied remedy, and one which, it is said, may be used without hesitation in the absence of a doctor.

The Treatment of Cholera.

TO THE EDITOR OF THE MORNING POST.

Sir,—I have lately met with the remarkable statement that Dr. Rubini, an eminent Italian physician, with four of his colleagues, during the time that the cholera raged in Italy in August and September 1866, treated in Naples 592 cases of Asiatic cholera without the loss of a single patient. Of these, 200 were cured in the Royal Almshouse, eleven in the Royal Poorhouse, and 166 in the 3rd Swiss Regiment, commanded by Colonel Eduardo Wolff. These 377 cases in public institutions were certified to by the following officials :— M. Generale Governatore Ricci, Il Maggiore Commandante Nicola Forni, Il Capitano Commandante Carlo Sodero, and Colonel Eduardo Wolff. They were certified as being all

genuine cases of Asiatic cholera, some of them terribly severe, and that all recovered. Dr. Rubini's method was as follows :— 'When a man is seized with cholera he should at once,' says Dr. Rubini, 'lie down, be well wrapped up in blankets, and take every five minutes four drops of the saturated tincture of camphor. In very severe cases the dose ought to be increased from five to twenty drops every five minutes. In the case of a man of advanced age, accustomed to take wine and spirits, when the drug given in drops has no effect, give a small coffee-spoonful every five minutes, and in a very short time the coveted reaction will occur. Ordinarily, in two, three, or four hours, abundant perspiration will come out, and then cure will follow. The preventive method,' Dr. Rubini adds, 'is this : let those who are in good health, while living in accordance with their usual habits, take every day five drops of the saturated spirits of camphor upon a small lump of sugar—water must never be used as a medium, or the camphor will become solid and its curative properties cease—repeat the dose three or four times a day. Spices, aromatic herbs, coffee, tea, and spirituous liquors should be avoided.' Dr. Rubini allowed his patients to drink cold water in small quantities at short intervals, and when the reactionary fever had passed off he allowed a little light broth and farinaceous diet. The ordinary spirits of camphor of the British Pharmacopœia consists of one part by weight of camphor to nine parts of spirits of wine, but Dr. Rubini's preparation consisted of equal parts by weight of camphor and spirits, and to the power thus obtained he attributed his success in the treatment of the disease. To obtain the saturated spirits of camphor of Rubini, it is necessary to distil spirits of wine, and get rid of so much of its water as will bring it to 60 degrees overproof, in which condition it will dissolve and hold in solution its own weight of camphor. Surely now, when the cholera is so prevalent in some parts of Italy, the successful treatment of Dr. Rubini cannot be too widely known.—I am, sir, yours, &c.,

PHILOCHARES.[1]

[1] *The Morning Post*, Wednesday, September 28, 1887.

The following is from the rules which were adopted by the French surgeons in Paris, and by the English and American doctors there, and which was circulated by the committee of the British Charitable Fund in Paris during the great cholera visitation abroad in the year 1875 :—

'I therefore enclose a printed copy of the rules which were adopted by the French surgeons in Paris last year, and by the English and American surgeons there, and printed and circulated in English by the committee of the British Charitable Fund.

I am, Sir, your obedient servant,

A Member of the Committee.

London : August 26.

'*First Remedies.*—Cholera is generally preceded by symptoms which to get rid of very often suffices to prevent any further development of the disease. The most important of these symptoms is diarrhœa.

'As soon as diarrhœa shows itself a doctor should be called in, and while waiting for the doctor the patient should be put to bed and given nothing except hot tea, with rum or brandy added. An injection of a solution of starch, with, for adult persons, ten drops of laudanum of Sydenham added, is also efficacious.'

Of late years it has become much the fashion to take spirits of camphor for colds. I think, in many instances, it is taken very heedlessly, and if more care were exercised in its use it would be better. The homœopathic (Rubini's) solution of camphor is given to children in very large doses, sometimes for colds, and with in some cases a very ill effect. Because the preparation is homœopathic, it is looked upon as harmless, and that it may be given in any quantity. A complete error. I have been very glad to see, in a letter in the 'Times,' Friday, January 20, 1888, from a physician, a warning as to the dangerous nature of the homœopathic solution of camphor, and the necessity for care in its use. I give the extract from the letter, as I think it should be read by all mothers before giving so powerful a drug to children.

'Of the alarming effects of one of these homœopathic poisons I have had considerable experience. I refer to the so-called "homœopathic or Rubini's concentrated solution of camphor," which is in very general use for the treatment of colds and other ailments. This preparation is a saturated solution of camphor in spirit, and is more than seven times stronger than the spirit of camphor of the British Pharmacopœia. In a recently published volume of "Medical Lectures and Essays" I have given the histories of nine cases of poisoning by this dangerous preparation. The slighter symptoms, resulting from doses of from three to seven drops, have been giddiness, headache, faintness, and drowsiness; but in five cases out of the nine a dose of from fifteen drops to a teaspoonful caused violent epileptiform convulsions and profound stupor. It is probable that in more than one case death would have resulted if the poison had not been speedily ejected by vomiting.

'The patients and their friends were greatly surprised to find that such alarming symptoms should have been caused by a homœopathic medicine, since they had been led to believe that all such preparations were largely diluted, and therefore harmless. The preparation in question is as potent a poison, drop for drop, as the prussic acid of the Pharmacopœia, and it ought never to be sold without a "Poison" label on the bottle.'[1]

'GEORGE JOHNSON.

'11 Savile Row, W.'

[1] *The Times*, Friday, January 20, 1888.

CHAPTER XI.

A FEW REMARKS ON THE HAIR, TEETH, EYES, AND NAILS.

The Hair.

GREAT injury is done to children's hair by the use of hair-washes, greases, and pomades. Children's hair should be kept well brushed and perfectly clean, but should be left as much as possible to nature. Sir Erasmus Wilson, in his popular treatise, 'Healthy Skin,' observes:[1] 'As a general rule, the head cannot be too much brushed, any more than the horse's coat can be too much groomed.' Sir Erasmus recommends hard hair-brushes, and observes: 'You cannot brush the head too much, but, as by clumsy brushing with hard brushes you might over-stretch or tear the hair, and so destroy its beauty, be gentle in your surface-brushing, for here you cannot, in combination with the deep brushing, brush too little.' Sir Erasmus recommends hair-brushes made of 'whalebone fibre.'

Dr. Chevasse, however, writes:[2] 'It is a mistake to use a *hard* hair-brush, as it pulls the hair out by the roots. The hair requires to be gently handled, and not to be tugged at as though the roots of the hair were immovable. There is no part of the human body,' adds Dr. Chevasse, 'that has so much rough usage and so many foolish experiments tried upon it as the hair.' I think (and I have had a long experience with children's hair) a moderately hard brush is best. I have seen the scalp of a child's head painfully tender from the use of too hard a brush. For an infant, of course, *the very softest brush should be used.*

[1] Pp. 289, 290.
[2] *Counsel to a Mother*, pp. 162, 176.

An infant's head should be washed every morning with soap while giving it its bath, unless there is some reason understood on medical authority against it. When there is scurf a little vaseline, fresh butter melted in front of the fire, or salad-oil, should be applied before washing. Children's hair after two years is greatly benefited by being washed occasionally with soap and water—the yolk (not the white with it) of an egg[1] beaten up being first rubbed on the head and hair. It is most essential to use plenty of water when this is done. There should be first the water (if the water is hard, put a very little soda in it, two or three small pieces), with which the head is thoroughly soaped, rubbing well the hair with the hands till there is a lather all over the head. Throw this away when the hair is quite clean, and then well rinse with warm water, using afterwards a second warm water, and then nearly cold water. Soda should not be used in any quantity with children's hair, as it renders it brittle and liable to fall off. The hair should be well dried with clean towels, and afterwards, when quite dry, a little olive oil or brilliantine should be put on the palm of the hand, and after well rubbing the hands together gloss the hair with it, and well brush.

If children are liable to cold, it is well when the hair is dried to rub a little eau de Cologne on the hair (a very little, however, not to wet it at all) before glossing with the olive oil. I have seen most beautiful hair, both in texture and colour, nothing more having been done to it than I have just described. Many were much in favour a short time back of cutting girls' hair short. But the results from cutting the hair short were not so satisfactory as it was imagined they would be. Some, however, still consider that cutting the hair short tends to make it grow thicker and stronger. I have seen very beautiful heads of hair which had *never been cut*. Very often hair depends on the state of health and race.

[1] Some use lemon and egg (one lemon mixed with the yolk of one egg). No soda is necessary if this is used. Others use Condy's fluid. I have found, however, Condy's fluid dries the hair and makes it fall out afterwards, and as to lemon, children complain of the smarting if it gets in the eyes.

When the hair is limp and wanting in life, it is often a sign the health is out of order, and when it falls out it is generally a token of weakness. Dr. Chevasse remarks :[1] 'The state of the hair is a great criterion whether a child be well or otherwise. If his hair be thick, and glossy, and curly, the child is almost sure to be in good health ; while, on the contrary, if his hair be poor, and thin, and out of curl—coming off in quantities when brushed—the child in all probability is out of sorts, and medical aid should be sought to improve his health, which will do more for his hair than all the hair-washes and hair nostrums ever invented.' Hot irons and curling tongs should never be used for children's hair, they are simply ruinous—if not at first, certainly in the long run.

The Teeth.

Children's teeth should not be brushed with *too hard a brush. But they should be brushed at least once a day.* The frequent cause of decay in the teeth is want of cleanliness. The common practice of cleaning children's teeth only occasionally is most destructive to the teeth. Children never clean their teeth properly when allowed to do it themselves. Every mother should attend to and brush her children's teeth herself *every morning.*[2] Very often small particles of food lodge in the teeth, and will even stay for days if the teeth are not perfectly cleaned, helping to cause decay. Food and drinks taken too hot help to decay the teeth. Dr. Chambers says :[3] 'Children's teeth often have the enamel cracked off by too hot food or drink.' *Acids are injurious, as also sweets.*

Captain Marryat speaks of the first set of teeth thus :[4] 'The first set with which kind nature presents us, that in the petticoat age, we may fearlessly indulge in lollipop ;' but I fear this free indulgence in 'lollipop' is not only destructive to these first teeth, but to our health.[5] Dentifrices of all kinds are apt to be injurious, especially if used too often or

[1] *Counsel to a Mother*, pp. 162, 176.

[2] It should be seen that children rince the mouth well with tepid water before going to bed.

[3] *Manual of Diet*, p. 152.

[4] *Jacob Faithful*, p. 3.

[5] See 'Feeding,' p. 292.

in too great quantity ; some, of course, are more harmless than others. For small children a piece of white flannel or lint with a little soap (unscented) and tepid water is best, for older children a soft brush is advisable. When a dentifrice is required,[1] 'camphorated chalk' is good,[2] but should be used sparingly. Soap is necessary for cleaning the teeth. The best way to clean the teeth is, after slightly wetting the brush rub on some soap, and when there is sufficient on the brush dip lightly in camphorated chalk—then brush the teeth from right to left and back. When brushed, rinse the mouth out *well* with tepid water. A very good dentist, and himself possessed of a good set of teeth, told me that he attributed the healthy condition of his own teeth to rinsing the mouth morning and night with bicarbonate of soda, half a teaspoonful in a tumbler of tepid water. I know nothing of this, however, myself. This, he said, not only renders the breath sweet, but prevents decay by helping to destroy any parasites there may be in the teeth. Condy's ozonised water is said to be useful for this purpose. 'Condy's ozonised water forms a perfect mouth-wash and gargle,'[3] and is held to be harmless. I cannot, however, speak for this myself.

Two learned men, Leber and Rottenstein, in a book published, I think, in 1873,[4] proved that 'caries of the teeth is mainly due to a fungus (*Leptothrix buccalis*) in the teeth and gums,' which soap will utterly destroy, leaving the teeth clean and wholesome, and tending to prevent decay, which is really a dying state of the tooth, when thus attacked. Good teeth, however, like other attributes, go by inheritance. When children's teeth grow irregularly, or are decayed, a good dentist should be consulted.

The Feet and Nails.

Children's feet and nails are too often not sufficiently attended to. The toe-nails as well as the finger-nails should

[1] After three years of age.

[2] I have used it with all my children, and some are now in their 'teens,' and all have beautiful teeth. Not one with a single decayed tooth.

[3] *Health*, by Dr. Andrew Wilson.

[4] See also *The Teeth : How to Preserve them and Prevent their Decay*, by S. H. Linn, M.D., D.D.S., Dentist to the Imperial Academy of St. Petersburg.

be regularly looked to. Ingrowing of the toe-nails, corns, bunions, are all the result of neglect, and sometimes of ill-fitting boots. Children's toe-nails, especially, are often allowed to grow week after week without cutting. When cut they should be cut in a rounded manner. The nails, when perfect in shape, are rounded, and to cut them quite straight prevents their being useful in the way intended by nature, viz., as a protection to the sides as well as ends of the fingers and toes. Attention should be given to children's boots to see that they are always a proper size, and that they fit comfortably. High heels are injurious to children, as also boots very round and narrow at the toe.

Shoes with high heels are even worse, as the ankles are not only unsupported, but also, when the shoes are a little time in use, a child is apt to slip the foot on one side in running or walking fast. Light slippers, either without heels or having very small flat heels, are not only most comfortable for house wear, but are most suitable, as the feet are not compressed in any way, and feel freer and easier. In warm weather, especially, light, cool, house slippers are necessary. It is a pity that the tight lacing of young children's and babies' feet beginning to walk is so generally thought to be a support to the ankle. Dr. Humphry writes :[1] 'There can be no surer way of producing permanently weak ankles than by lacing them up tightly during childhood, and so preventing the natural development of their ligaments.' I have found slippers much better for children beginning to walk. Where there is any weakness of the ankles, a doctor should be consulted, as weakness of bone requires internal remedial treatment by a skilled doctor.

It should be seen that children's socks and stockings, as well as boots, are well-fitting and comfortable. It is most cruel, putting little children's feet into too short stockings and too tight boots.

'At this helpless period of life the delicately feeble out-spreading toes are wedged into a narrow-toed stocking, often so short as to double in the toes, diminishing the length of the

[1] *British and Foreign Medico-Chirurgical Review.*

rapidly growing foot. It is next, perhaps, tightly laced into a boot of less interior dimensions than itself; when the poor little creature is left to sprawl about with a limping, stumping gait, thus learning to walk as it best can, under circumstances the most cruel and torturing imaginable.' [1]

The feet not having been properly seen to in childhood has often caused much discomfort in after-life. Did people but realise what a hard-working, useful servant the foot is, they would pay more regard to its comfort and well-being. Children should not be allowed to garter, as it interferes with proper circulation if the garter is at all tight. Suspenders are much better, and also keep up the stockings much more comfortably and tighter.

The Eyes.

The eyes are an exceedingly tender part of the body, and should on no account be neglected if they show signs of weakness, disease, or inflammation. Delay in seeing a surgeon has in many cases of eye disease resulted in a cure being impossible of achievement. For a simple cold in the eyes a harmless and very beneficial remedy is to bathe the eyes well with lukewarm milk and water (equal portions). Rosewater is also useful. If the eyes are inflamed, however, a doctor should be consulted at once. Tampering with the eyes, and using lotions of which the properties are doubtful, is most dangerous. I saw once a lotion used, the nature and use of which was imperfectly known, with the result that the sight of both eyes was completely destroyed.

Colour-blindness in children when suspected should immediately be examined into by one skilled in this melancholy defect. In some few cases a knowledge of colours is a matter of education. In nearly every instance children pick up their knowledge of colours anyhow, but there is no question that a knowledge of the names of colours does not come naturally, and should, therefore, be taught. It is very difficult, if not impossible, for an unpractised person to discover whether colour-blindness is

[1] *The Foot and its Covering*, by James Dowie, London.

a natural defect in the person so affected or a want of teaching in colours. There are also several kinds of colour-blindness. The best tests, and those necessary where it is wished to enter a boy for the navy, where exactitude and quickness in distinguishing colours (and between green and red signals) is of great importance, some think, are colours exhibited by a lantern (a magic-lantern with coloured slides answers the purpose) and the daylight test by cards of various colours. The sorting of coloured wools is one of the tests now most used in England in discovering the nature of colour-blindness. The latter is especially recommended by experts on the subject. Pichard and Curry, manufacturing ophthalmic opticians, 195 Great Portland Street (corner of Devonshire Street), London, W., sell wools such as are supplied to doctors for testing colour-blindness, also other things used for this purpose. A useful volume on the subject is 'Colour-blind Test,' by C. Roberts, F.R.C.S., published by J. and A. Churchill, New Burlington Street.

'A most ingenious and very successful instrument for mixing lights of different colours for experiments in physical optics has been devised by Mr. John Aitken, F.R.S.E., of Darroch. Falkirk.' [1]

That colour-blindness is an established fact now, the following extracts will show :—

'*Colour-blindness in Seamen.*—A report by the Assistant Secretary of the Marine Department to the Secretary of the Board of Trade on the tests for colour-blindness used in examining candidates for masters' and mates' certificates of competency and others in the British mercantile marine has been issued as a parliamentary paper. The colour-test system was introduced in the mercantile marine in 1877. The testing methods adopted are two—a kerosene lantern containing red, pink, green, yellow, neutral, and blue slides for artificial light; and white, black, red, pink, green, drab, blue, and yellow cards for daylight. Any person serving, or about to serve, in the mercantile marine may be examined in colours on payment of 1*s.* fee. The advantages of the system to seamen intending

[1] Chromomictor, *Scientific News*, January 13, 1888.

to take certificates of competency as masters or mates are pointed out. The forms of examination in such cases may either be compulsory, with a view of obtaining an officer's certificate, or voluntary, in colours only. In 1886–7 there were 4,124 candidates examined in the compulsory class, as against 4,215 in the previous year. The number rejected for imperfect colour sense was 25, as compared with 45 in 1885–6. In the voluntary class the number examined was 415, as compared with 294 in 1885–6, the number rejected being 26, as against 18 the previous year. It is stated that, speaking generally, one out of 200 candidates for officers' certificates fails. As to the nature of the mistakes made by the rejected candidates it is shown that in the daylight test with cards 10 persons describe black as green, 17 red as green, 44 pink as green, and 51 drab as green. In the coloured glasses test 107 out of 189 persons described standard green as red, and 24 standard red as green.[1]

'Sir G. Baden-Powell asked the President of the Board of Trade whether he had received a memorandum from Dr. K. Grossmann, of Liverpool, on the subject of colour-blindness in seamen; whether that memorandum advocated the extension to seamen of the mercantile marine of the compulsory examination for colour-blindness at present in force in regard to officers; and whether he would consider the expediency of affording facilities to seamen and railway servants to obtain certificates that they were not colour-blind.

'Sir M. Hicks-Beach said that arrangements were already in existence under which certain persons in the mercantile marine might be examined for colour-blindness. The railway companies had also already taken steps to examine their servants in reference to colour-blindness.'[2]

'That one person out of twenty-nine, or thereabouts, should be unable to distinguish a red from a green without knowing that he had any deficiency of colour sense, and without betraying his deficiency to his friends,' writes Mr. Galton, F.R.S.,[3] 'seems

[1] *The Times*, Friday, November 4, 1887.
[2] *Ibid.*, Tuesday, July 24, 1888.
[3] *Inquiries into Human Faculty*, pp. 45, 46.

perfectly incredible to the other twenty-eight; yet, as a matter of fact, he rarely does either the one or the other. It is hard to convince the colour-blind of their own infirmity. I have seen,' continues Mr. Galton, 'curious instances of this: one was that of a person, by no means unpractised in physical research, who had been himself tested in matching colours. He gave me his own version of the result, to the effect that, though he might perhaps have fallen a little short of perfection as judged by over-refined tests, his colour sense was for all practical purposes quite good. On the other hand, the operator assured me that when he had toned the intensities of a pure red and a pure green in a certain proportion the person ceased to be able to distinguish between them! Colour-blindness is often very difficult to detect, because the test hues and tints may be discriminated by other means than by the normal colour sense. Ordinary pigments are never pure, and the test colours may be distinguished by those of their adventitious hues to which the partly colour-blind man may be sensitive. We do not suspect ourselves to be yellow-blind by candle-light, because we enjoy pictures in the evening nearly or perhaps quite as much as in the day-time; yet we may observe that a yellow primrose laid on the white tablecloth wholly loses its colour by candle-light, and becomes as white as a snowdrop.'

Dr. Jabez Hogg observes:[1] 'It is known to but comparatively few persons that colour-blindness affects the human race in different degrees, is hereditary, is an incurable physical affection, and is chiefly confined to the male branch of families; the average percentage being $3\frac{1}{2}$ to 4 per cent. of males, and only 0·5 per cent. of females. A selected instance or two will serve to impress this fact upon the memory. In a family of seven children, four sons and three daughters, the four sons are more or less colour-blind. The defect is inherited from the grandfather, through the mother, but neither the mother nor any female member of the family is colour-blind. In a family of five, three sons and two daughters, the three sons

[1] *Colour-blindness in the Mercantile Marine*, by Jabez Hogg, M.R.C.S.

inherit colour-blindness through their father and grandfather, while the two daughters, and, indeed, the whole of the female branch of the family, are free from any colour defect.

'My object in directing attention to the hereditary nature of colour-blindness is that of enforcing the duty upon parents —one they owe to themselves and to their children—of making due inquiry into every peculiarity or defect of sight which may have constituted a family failing before yielding to the wish of a child for a seafaring life. The inability of a boy to distinguish colours in common use should at once determine the question of his taking to the sea at all.'

Mr. Charles Roberts says of colour-blindness :[1] 'No decisive results can be obtained as to the efficacy of a person's colour-sense by asking him the *names* of colours. One person's perception of colours may be good, yet his power of expression may be defective, whereas another may be colour-blind, but practice may have taught him the names of colours.' 'The colour-sense,' adds Mr. Roberts, 'is very differently developed in different individuals ; while some are able to distinguish the minutest tints, others have great difficulty in doing so, and some seem to be able only to make a broad distinction between dark and light colours. The line drawn between an average sense of colour and colour-blindness must be deemed arbitrary. For ordinary purposes a person cannot be called colour-blind if he be unable to distinguish the various shades of red or the various shades of green, or between blues and violets with accuracy, and colour-blindness can only be said to exist if decidedly green, red, brown, or grey colours cannot be separated ; also when decidedly blue, violet, or purple colours are not with certainty distinguished from yellow or grey. Much of the confusion which exists with regard to colours, especially among males, is due to ignorance of their names and their relation to each other, and can be removed by a proper education of the colour-sense. This education should form a part of the ordinary training of all school children.'

[1] *The Detection of Colour-blindness and Imperfect Eyesight, with a Table of Berlin Wools and Test-types*, by Charles Roberts, F.R.C.S., pp. 14, 15.

Mr. Roberts mentions there are 'instances of persons wit an inferior degree of complete colour-blindness, or of colour-blind persons who have been exercised in the colours of signals, and who endeavour not to be discovered.' [1] It is, without doubt, of absolute necessity that anyone desirous of entering the navy, and who might ultimately hold a responsible post, or of following any occupation—such as a railway guard, signalman, or engine driver—where a distinct and accurate knowledge and appreciation of colour is necessary, should be *properly tested* as to their sense of colours by one skilled in detecting colour-blindness. There is now Mr. Galton's Anthropometric Laboratory at South Kensington [2] [3] (similar to that at the Health Exhibition in 1884), where they test the sight, as well as noting the general physique. The form on the next page is the paper they give to the person examined. From this one it will be seen the child tested is colour-blind. Also that the power of the right differs from the left eye.

It is to my mind little short of a crime where anyone knowingly enters, or permits anyone they are responsible for to enter, any occupation where they may have the lives of perhaps a large number of persons depending not only on their knowledge of colours, but *on their quick and accurate distinguishing of colours* [4]—knowing, I repeat, that they are permitting one with a defect to undertake a responsible post. The terrible accidents we have had at various times, involving serious loss of life and injury, owing to defective sense of colour, should awaken everyone to a knowledge of their responsibility as to colour-blindness.

Mr. Roberts adds : [5] 'Colour-blindness appears to be largely associated with colour-ignorance the lower we descend in the education scale ; an exception, however, being found in 'Friends,' among whom colour-blindness is more prevalent than among the general population, probably from hereditary causes.

[1] *The Detection of Colour-blindness and Imperfect Eyesight, with a Table of Berlin Wools and Test-types*, by Charles Roberts, F.R.C.S., p. 18.

[2] Free of charge at present, 1888. [3] See p. 519.

[4] See pp. 518, 519.

[5] *The Detection of Colour-blindness and Imperfect Eyesight, with a Table of Berlin Wools and Test-types*, by Charles Roberts, F.R.C.S., p. 10.

Mr. Francis Galton's Anthropometric Laboratory.

The Laboratory communicates with the Western Gallery containing the Scientific Collections of the South Kensington Museum. Admission to the Gallery is free. It is entered either from Queen's Gate or from Exhibition Road.

Date of Measurement	Initials	Birthday Day Month	Eye Colour	Sex	Single, Married, or Widowed ?	Page of Register
10 11 88	H. K. S.	18 11 78	Blue	M.	Single	827

* Head length, maximum from root of nose	* Hair breadth maximum	* Height standing, less heels of shoes	* Span of arms from opposite finger-tips	* Weight in ordinary clothing	* Strength of squeeze Right hand	Left hand	* Breathing capacity	* Keenness of Eyesight: Distance of reading diamond numerals Right eye	Left eye	Snellen's type read at 20 feet	Colour Sense
Inch Tenths	Inch Tenths	Inch Tenths	Inch Tenths	lbs.	lbs.	lbs.	Cubic inches	Inches	Inches	No. of type	? Normal
6 9½	5 7½	54 7	55 4	66	28	28	80	25	22	D 5	Not

Height sitting above seat of chair	Height of top of knee, when sitting, less heels	Length of elbow to finger-tip left arm	Length of middle finger of left hand	Keenness of hearing	Highest audible note	Reaction time: To sight	To sound	Judgment of Eye: Error in dividing a line of 10 inches: in half	in thirds	Error in degrees, estimating an angle of	
Inch Tenths	Inch Tenths	Inch Tenths	Inch Tenths	? Normal	Vibrations per second	Hundredths of a second	Hundredths of a second	Per cent.	Per cent.	90°	60°
28 4	17 1	14 6	3 6	Yes	19,000	18	24	0	1	0	20

One page of the Register is assigned to each person measured, in which his measurements at successive periods are entered in successive lines. No names appear on the Register. The measurements that are entered are those marked with an asterisk (*). Copies of the entries can be obtained through application of the persons measured, or by their representatives, under such conditions and restrictions as may be fixed from time to time.

In Ireland colour-blindness is more common than in England, and it is found to be twice as frequent among artisans as among the well-educated classes. The difference between red-blindness and green-blindness is not always obvious, but the proportion of the two kinds among males generally is as 2·0 of the former to 1·5 of the latter.' A more detailed account as to colour-blindness amongst the Quakers, its conjectured cause and frequency, will be found in 'Inquiries into Human Faculty,' Francis Galton, F.R.S. As to colour-blindness amongst the Irish artisan class, can anyone brought up, I will not say educated, in surroundings of a general grey colour, and in a life of uniform neutral tint, be likely to have a delicate sense—an appreciation of bright colour—beyond the feeling of something agreeable and cheering to look at? Compare the peasant Irishman's general colour education and existence with an Indian's, Italian's, or Australian's. Does or can a knowledge of the distinctions of colour, and a quick appreciation of the several shades of various bright colours, come without outward and visible form being present to the eye?

Three most interesting lectures on colour-blindness were delivered at the Society of Arts, May 1881, by Mr. Brudenell Carter, a specialist on the subject. The pamphlet containing these lectures can be obtained from the Society,[1] and is well worth the perusal of those interested in the subject. Mr. Carter observes:[2]

'It has long been known to those engaged in the pursuit of natural philosophy, and, to some extent, also to the general public, that certain persons are so organised as not to possess the same completeness of colour sensation as the great bulk of the community. Until lately, however, defective colour-vision was considered to be a somewhat rare condition, a matter for philosophical curiosity indeed, but of only slight practical importance. It has been reserved for our own time to discover that colour-blindness affects rather more than four per cent. of the whole male population of civilised countries,

[1] John Street, Adelphi, London, W.C.
[2] *Cantor Lectures* on Colour-blindness.

and that it affects certain classes in a still greater proportion ; while, at the same time, industries have sprung up, and have attained to considerable development, in which the employment of colour-blind persons may easily occasion, and indeed often has occasioned, great calamities. The safe working of railway traffic and of steam navigation is almost entirely dependent upon the use of colour signals ; and for these signals the colours chiefly employed are red and green, the very two about which the colour-blind fall into perpetual error and confusion. There is a general consent among practical men that these two colours cannot be replaced for signalling purposes by any others ; and hence it has become imperatively necessary to exclude the colour-blind from occupations in which the lives of large numbers of people may be offered up as sacrifices to their incompetency. There are, in Great Britain, about 9,200 men employed as engine-drivers ; and there must be, among these, about 400 who are colour-blind, and whose work is a source of never-ending peril both to themselves and others.

'As far as regards railway and marine signalling, the state of complete red-blindness or of complete green-blindness should be regarded as an absolute disqualification ; while the existence of complete violet-blindness, which involves no liability to confusion between red and green, may be entirely disregarded. A practical difficulty will sometimes arise in the case of incomplete red- or green-blindness ; and the examiner may be asked whether a given person is red-blind or green-blind in a sufficient degree to be a source of danger to himself or others. We have here to deal with a question of degree only ; and all that the expert can do is to reduce the degrees of incomplete colour-blindness to numerical standards. When this has been done, it will be for the authorities to draw the line of safety.

'The violet-blindness is a comparatively rare condition, and, in the present state of industry, we are not aware that it is a source of harm or danger to anyone, although it may possibly sometimes be responsible for errors of colour in pictures, in decorations, and in dress. The complete forms of red- and

green-blindness, on the contrary, have been contributory to much destruction of life and property in railway travelling and in steam navigation ; and are sufficiently common to have a pressing interest for us all.

'That colour-blindness constitutes a real peril in the conduct of navigation is curiously illustrated in the report for the current year of the railroad commissioners for the State of Connecticut, who say : We hear less frequently the question so common six months ago, "Who ever heard of an accident from colour-blindness?" Many accidents which, when the fact of colour-blindness was less known, seemed unaccountable are now found to have all the characteristics which would be expected in accidents from colour-blindness, and in some instances the proof is conclusive. . . . It is much to be wished that an Act could be obtained which would compel all railway companies to have their servants tested for colour-vision by scientific methods ; although it might fairly be left to the companies themselves to employ the colour-blind, if they chose to do so, in any capacity in which their defect was not a source of danger. But colour-blindness should at least be made known ; and there should be no possibility of lives and property being sacrificed through ignorance of its existence.

'Considering the extent and character of these risks, and the inadequacy of any other defence against them, I think it is not too much to require that the colour-blind, for the future, should be absolutely excluded from railway or naval employment. The absolute number of persons affected by such a provision would, no doubt, be large, but the comparative number would be small ; and there is no real hardship in excluding four per cent. of the male population from duties which they are not qualified to fulfil. The subject is one which might with great advantage be taken up by the Amalgamated Engineers and other trade societies, or, better still, by school boards, with a view to the early testing of the colour-vision of children and of candidates for apprenticeship, and in order to exclude the colour-blind from occupations for which they are unfit before they had spent time in preparing for them.

'I trust, however, that the time is not far distant when proper examinations during childhood will prevent persons from taking the first steps in pursuits for which they are manifestly unfit.'

Mr. Carter remarks as to the education of the colour-blind in colours 'that, whereas there is nothing intrinsically impossible in the supposition that incomplete colour-blindness may be improved by cultivation and practice, there is great weight of evidence, as well as all analogy and probability, in support of the belief that complete colour-blindness is an unalterable condition, upon which educational efforts are simply thrown away. If there are no nerves capable of responding to a given stimulus, the mere repetition of the stimulus will have no tendency to create them.'

Mr. Carter continues : 'It is astonishing how few persons, even of fair education and ordinary intelligence, are at first able to emancipate themselves from the confusion incidental to the correct or incorrect use of colour-names, which, as I have already pointed out, have no necessary connection with colour-vision. The names of colours are naturally the expressions of sensations ; but, on the other hand, they are regulated by the system of normal sight, and cannot, consequently, agree with that of the colour-blind. They can, nevertheless, be learned by the latter, and even applied correctly in many cases. It is the want of a clear understanding upon this point which has given rise to the most serious embarrassments and errors. The normal use of colour-names has been and still is one of the chief causes of our erroneous ideas on the subject of colour-blindness existing in the masses, because such use is the veil under which the defect usually conceals itself from our observation in every-day life, and under which, even to the last moment, it will succeed in escaping discovery in cases where, as frequently happens, the methods of exploration employed are indecisive, or are based upon erroneous principles.'

Of the detection of the colour-blind, and the mistakes made by them, Mr. Carter says : 'When we first think of the condition of the colour-blind it is difficult to understand how

they can fail to be immediately detected when in the company of men endowed with normal sight ; but daily experience shows us that they do escape. In testing the persons employed upon a railway, for example, who are required night and day to give attention to coloured signals, we usually find that a number of colour-blind are discovered, although their defective sense had not previously been suspected either by themselves or others, and the majority had correctly performed their duties. But, as I shall hereafter have to show, the fact of having avoided mistakes for some given period does not afford to the colour-blind signalman the slightest security for the future. His defect will some day surely find him out, and that at the very time when he is least suspicious of its influence.'

Mr. Carter adds : 'If we turn now to the actual mistakes made by the colour-blind in daily life, as consequences of their defect, we shall find these to be less numerous and less remarkable than might have been supposed, insomuch that nothing has come as a greater surprise to many persons than the recently acquired knowledge of the great prevalence of the condition. Dalton, the chemist, was totally red-blind ; and when we hear that he said that the bright upper side of a laurel leaf was to him a perfect match for red sealing-wax, while the back of the leaf was an equally good match for the darker colour of a red wafer, we are at first sight inclined to think it impossible that such a state could escape recognition, even for a single day. He compared the colour of a florid complexion to a film of diluted ink spread over white paper ; and said that blood was not unlike the colour which he heard called bottle-green. Although a member of the Society of Friends, he wore in the street, with perfect complacency, the bright scarlet gown of a Doctor of Civil Laws ; and said, when asked by Whewell what it resembled, that it was of the same colour as the leaves of some evergreens outside the window, and that the lining, which was of pink silk, was undistinguishable from sky-blue. It would be tedious to enumerate errors of the same class which have been recorded of different colour-blind persons by various observers, and which depend, usually

speaking, upon some unexpected test being applied to them in an unusual manner. I am acquainted with a family in which the father sent one of the sons, then a boy of nine or ten years old, into the next room to fetch him a book, which he described as of a green colour. The boy brought back a book like this (a red one), and his mistake led to an investigation, which disclosed that he and all his brothers were red-blind. In a general way, however, the colour-blind manage to avoid mistakes, because they soon learn to supplement their defective sense by the study of other peculiarities of objects. Among children bred in the country, the first thing which teaches a colour-blind to feel or suspect a difference between himself and other people is, usually, the difficulty which he experiences in seeing any difference between ripe fruit or red berries and the leaves which surround them. Even here, it must be remembered, he sees *a* difference, although not *the* difference ; because the colour to which he is blind presents to him a surface which is deficient in luminosity when compared with others, although he conceives it to be identical in colour. Thus, to quote an illustration from Dr. Joy Jeffries, a child hears people speak of the flowers or buds of the corn poppy as red, and of the leaves and stems as green. He does not perceive any ground for this broad distinction ; but, seeing that it is made by those around him, and that he is laughed at if he is mistaken with regard to it, he sets himself to work to study carefully the appearances of the flowers and of the leaves respectively, and to fix in his memory slight differences, such as an eye capable of perceiving the great difference might easily overlook, and which will, nevertheless, represent to him the former. Thus, he notices slight differences in apparent luminosity of surface, and interprets these as being the same things which others call differences of colour. Unless he happens to be accidentally tested, like the boy of whom I have spoken, with nearly pure red or green, he may not only for a long time escape the detection of other people, but he may even remain unconscious of his own defect. It must be remembered that he sees certain things, and hears them described as red ; and that the appearance which they present

to him will give him his notion of what it is that other persons mean when they call things red. He may only be detected when some casual event serves to render useless all the fine distinctions which he has acquired ; as when the gentleman who was travelling wrote a letter to his family, commencing and completing it at different halting-places, half of it in red ink and half in black, without being himself conscious of the difference.'

I know a boy who escaped detection as to his being colour-blind for many years, and he was going to be educated for the navy. While at school, finding he could not put his paints right in his paint-box, he always got one of his school-fellows or someone else to do it for him. One day, however, having himself re-arranged his colours, he painted quite unconsciously some green leaves a bright red, which led to an investigation—a visit to a specialist—with the result that the boy was found to be colour-blind. Mr. Carter relates of the prevalence of colour-blindness in England that 'until the present year[1] nothing has been known of the actual prevalence of colour-blindness in England, although Wilson, who wrote in 1854, pointed out its frequency, and asserted that it was more frequent among the Society of Friends, and also among the Jewish community, than in the general population of the country. In the course of last winter the Ophthalmological Society of London appointed a committee to inquire into the prevalence of various defects of vision, among which colour-blindness occupied a prominent place ; and that committee, of which I have the honour to be a member, made arrangements for testing the colour-vision of the Metropolitan Police, of some of the household troops, and of pupils at various schools. By the indefatigable industry of our honorary secretary, Dr. Brailey, seconded by a large number of gentlemen who gave up the requisite time to the work, no less than 18,088 persons were examined by Holmgren's method in the course of five months. Of these, 16,431 were males, and 1,657 were females. Certain classes of people were especially examined, in the

[1] 1881.

expectation that they would furnish a larger proportion of colour-blinds than the general population. Omitting these classes, we have 14,846 males, with 4·76 per cent. of persons with colour defect, and 489 females, with 0·4 per cent., so that in this country the colour-blind females are only one-tenth the number of the colour-blind males. In fact, the rarity of colour-blindness among women renders them less indulgent towards it than they are towards any other distinctive male weakness ; and one of the examiners told me that, in his experience, the first impulse of a mother, when she saw her son picking up a drab to go with a green, or a chocolate with a purple, was to box his ears. I have myself found the impossibility of keeping a mother quiet in such circumstances, and have been compelled to ask her to withdraw into another room until I had satisfied myself upon the point at issue.

'The above-stated percentage of 4·67 includes the incompletely colour-blind as well as the complete cases, and the former alone would amount to something like 3·5 per cent. If we confine ourselves to these, and compare the results with those afforded by the selected classes, namely, the members of the Society of Friends, the Jewish community, and the inmates of deaf-and-dumb asylums, we find that complete colour-blindness among the Friends amounts to 4·9 per cent., among the Jews to 5·9 per cent., and among the deaf-mutes to 13·7 per cent. In these selected classes the subjects were all school children, and the Jewish children were drawn from a poorer class than the rest, a fact which may to some extent account for the larger numbers which they yielded. For while, in England, an examination of 4,932 men of the Metropolitan Police, and of 1,729 children of the same class, gave 3·7 per cent. of complete defect, 2,671 children in middle-class schools afforded only 3·5 per cent., 435 medical students and sons of doctors afforded only 2·5 per cent., and 769 Eton boys afforded only 2·46 per cent. The examinations show clearly that the defect has no tendency to cure itself, or to be removed in the course of growth ; for, among people of the same class, the percentage was the same in adults as in children. In the same way, among the classes which presented high percent-

ages, there were more female colour-blinds than among the general population, but the relative proportion of females to males underwent no increase, and the female cases were nearly all slight or incomplete. Among the whole number examined, three of total colour-blindness are said to have been discovered, and a few of violet-blindness ; but the latter were included among the partial cases and were not made the subjects of any special experiments. Upon the whole, therefore, it may be assumed that, among the classes from which railway drivers and naval look-out men are chiefly derived, a percentage of more than four and a half may be regarded as the normal proportion of the completely or incompletely colour-blind.'

Mr. Carter, after remarking on the extreme necessity for the examination of the colour-blind by competent, skilled persons, specialists of extended experience, adds: 'In the report drawn up by Dr. Brailey for the committee of the Ophthalmological Society, from which I have already quoted the statistics of colour-blindness in England, I find the following passage, which is based upon his observation of the examination of more than 18,000 persons by sixteen highly competent observers. He says :—"The value of the service rendered by the examiners has in most cases been enhanced by its having extended over the whole five months during which the facts have been accumulated ; so that increasing skill has been attained, and more uniformity of result has been secured. Your secretary becomes more and more convinced that a competent examiner is not made in a day, or even in a month ; and that, even with large experience, much judgment and capacity are needed to interpret rightly the acts of the examined, whether educated or uneducated. This necessity is perhaps most strongly exhibited in the case of the partial colour-blinds of intelligence ; who, although they may have a much feebler appreciation of the difference between red and green, for example, than the normal, may, after accurate observation and comparison, separate the red wools from the green. When tested, however, with coloured lights,[1] their defects come out strikingly ; and it becomes clear that they are totally unfit

[1] See p. 504.

for responsible posts in which rapid appreciation of colour at a distance is required."

Galton remarks in 'The Nineteenth Century,' No. 144 : '*Colour Sense.*—A full and rigorous examination of this requires costly apparatus and much time, but the rough way of testing it by means of coloured wools is easy enough, especially with the instrument I have long used.' [1]

When people unacquainted with the nature of colour-blindness speak of children growing out of it,[2] it is difficult to explain to them how this is not possible. Colour-blindness is described by a specialist on the subject as a physical defect—the non-existence of something in, or deadness, in fact, of a part of the eye, which those not so affected have, and which in the perfect eye is peculiarly sensitive. Mr. Carter observes of this : 'If we pass on now to the effects of these colours upon the sense of sight, we shall find that the healthy human eye, as it is organised in the great majority of people, not only recognises the quantitative arrangement of the light in the pictures which are formed upon its retina or nervous screen, but also recognises differences in the rapidity and amplitude of the wave movement of which this light is composed ; seeing, in other words, not only form and light and shade, but colour also. There are others, very few in number, whose eyes are so organised that they take no note of the rapidity or magnitude of the vibrations, and who are not conscious of any differences of colour at all, seeing nothing but light, and shade, and form. To such people, to repeat my former illustration, the world which we inhabit is a black and white exhibition. There are others, and, as we shall see presently, a considerable number of them, who are insensible to one of the three primary colours, generally either to red or green, but occasionally to violet ; and these people see all colours differently to their fellows, because they lose in every mixture the effect of one of the elements which enters into its composition. For instance, a person who was blind to red, on looking at the

[1] Those who wish for further information respecting this will find it in *The Nineteenth Century*, No. 144, February 1889 ; 'The Sacrifice of Education to Examination,' Francis Galton, No. iv. p. 307. [2] See p. 521.

geranium petal of which I have already spoken, would be unconscious of the large amount of red light reflected from it, as if this was not there, and would see only the small amount of green and violet contained in the white light reflected from the absolute surface. The amount of this white light would probably be small in relation to the extent of the surface, and so this surface, appearing dimly lighted, would look dingy and dark. Hence, a red-blind person will often select a deep olive green, or a dark chocolate brown, as a match for the most vivid red which can be shown to him.

'In speaking of these phenomena, Professor Holmgren has made use of Helmholtz's diagram, and has modified it in such a manner as to exhibit the effects of colour-blindness. I could not present the whole question to you in any other way so well as by quoting his words, which I take from the American translation published by the Smithsonian Institution. He says:—"To explain the abnormal sense of colours by the theory of the normal, we can, in advance, suppose various possibilities. Let us conceive that one of the three fundamental perceptions is wanting, or that one of the primitive colours is absent: it is clear that the whole chromatic system will be upset. It is evident, therefore, that this system must be completely different, according to the absence of one or the other of the three primitive colours. It is virtually just in this way that it has been attempted to explain cases of a strongly marked defect in the chromatic sense, or genuine types of blindness to colour, found in real life. The term colour-blindness has been justified by this, as it indicates in each case a genuine blindness to one of the primary colours. In this way, therefore, we distinguish, according to the kind of element wanting, three classes of blindness, viz.: red-blindness, green-blindness, and violet-blindness."

'According to the theory, blindness to red is due to the absence or paralysis of the organs perceiving red. Red-blindness, then, has but two fundamental colours, which, adhering strictly to the theory, are green and violet.'

Romanes, in his 'Mental Evolution,' p. 102,[1] remarks:

[1] See also Mr. Grant Allen's *Colour-sense*, p. 13.

'Colour-blindness is explained by supposing that the retina of the individual so affected has a neutral point either above or below the normal,' and further quotes Professor Preyer, that 'an over-warm eye must be blind to yellow and blue; an over-cool one must be blind to red and green.'

Respecting colour-blindness being curable, I received the following letter :—

'Dear Madam,—There is no known cure for colour-blindness, but a specialist might give useful advice about professions to be followed by those who are colour-blind, and you might be glad of . . . . being tested by another person.

'Go to a firstrate man, if to any.—Yours truly,

'FRANCIS GALTON.

'July 11, 1889.'

Colour-blindness, some think, is much on the increase in England.

Mr. Priestly Smith, who is in the front rank of English ophthalmic surgeons, says of preventing short sight :[1] '*To prevent short sight, prevent young people from using their eyes too long and too closely on near objects.*' Mr. Priestly Smith adds : 'That is a simple rule, but it is not easily put into practice at the present day. Please notice that what we want our schoolboy to do is to work in a natural, healthy position, with his shoulders square, his head upright, and *his eyes at least twelve inches from his book.* You can't make him do this by scolding him, but you can make him do it by more reasonable means. These are the means: he must have a comfortable seat, with a support for the lower part of his back. He must work at a sloping desk, not at a flat table. He must be so placed that there is plenty of light upon his work, and that he is not dazzled by light in his eyes. His books must be printed in good, large, clear type, so that he may be able to read them without the slightest difficulty at the proper distance. He must be accustomed to read with the book propped well up in front of him, so that he may not need to stoop over it. He

[1] *Eyesight, and how we lose it.*

must be taught to write sitting square to the desk and upright, not twisted to one side and bending over it. These things must be attended to at home as well as at school.' I think a good deal of defective sight in after-life might be traced to reading, writing, working, studying, in the winter evenings for a length of time, with a flickering gas-burner, or lamp of strong and glaring light, unshaded, which is both trying and injurious to the sight.[1] But I am astonished at the apathetic disregard to the inconvenience to their children of short sight that so many mothers display. A little time ago a lady remarked to me, 'I really cannot let my boy wear glasses, it spoils his appearance so.' Yet this poor child, through short sight, is almost as badly off as one blind.

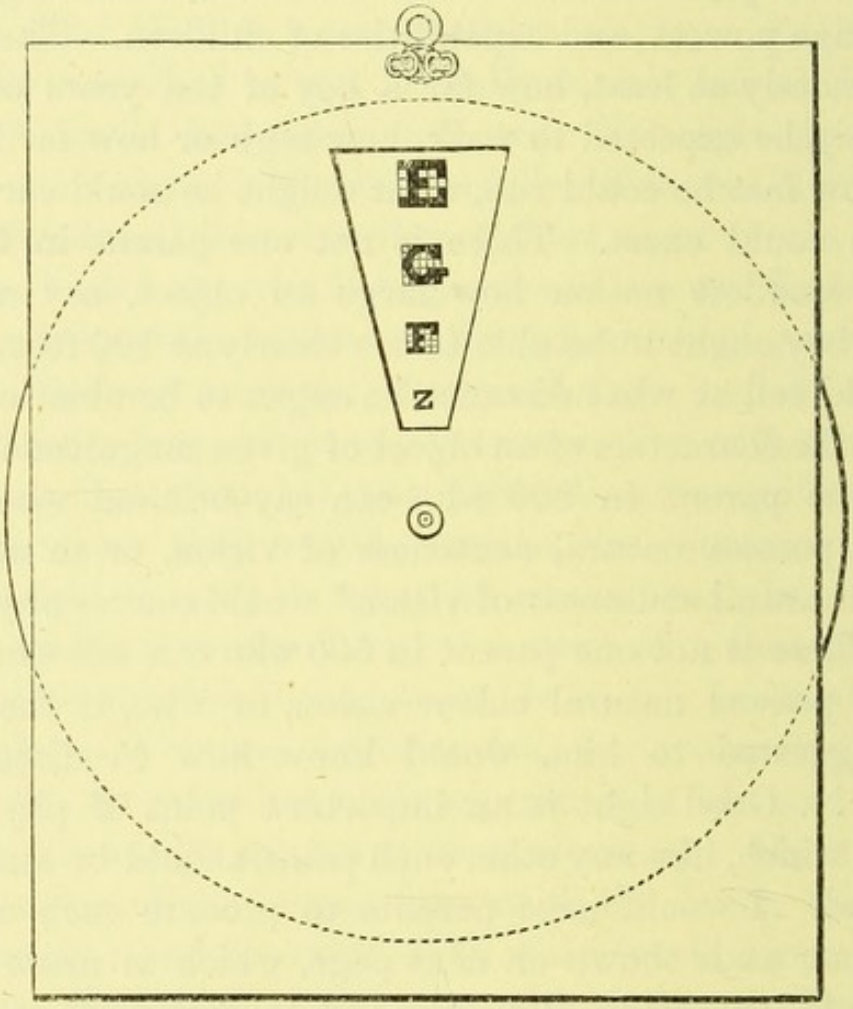
Mr. Brudenell Carter writes of short sight:[2] 'Is the evil a real one? No one who is engaged as I am can doubt that it is. I am frequently amazed at the ignorance of parents with regard to the very existence of visual defects in their children; and, still more frequently, at the tranquillity with which they will tell me that a child is short-sighted—a tranquillity such as that with which they would mention the colour of his hair. A short-sighted child, it must be remembered, is one whose accurate vision is confined within a circle of a foot, or a yard, or it may be of a few inches, from his eyes. Inclosed by this limited physical horizon, he often fails to develop the power of observation, he gains but little experience of life, and acquires but little knowledge of character or of events. He is blind to the expression of the human face, or to the larger beauties of nature or art; and his mind, even when intelligent and acute, is apt to display an acuteness which expends itself upon details, and exhibits but a restricted power of grasping principles. Moreover, the popular notions that short-sighted eyes are "strong" eyes, and that they improve with age, are entirely erroneous. . . An eye which is short-sighted in a high degree, if not actually diseased, is at least always on the threshold of disease.' Mr. Carter adds: 'What I may fairly

[1] See 'Repose,' pp. 313, 333.

[2] *The Influence of Civilisation upon Eyesight*, by R. Brudenell Carter, F.R.C.S.

describe as national neglect of the culture of the eyes, and of efforts to improve the faculty of seeing, is chiefly due to the prevailing absence of knowledge concerning the proper range and scope of the visual function, and hence concerning the powers which the eyes ought to possess. Few things are more remarkable than the common want of information about all matters which relate to the use and functions of these important organs. In most other respects it may be said that the majority of parents have a fair notion of what ought to be the average powers and capabilities of children. They know, approximately at least, how far a boy of ten years old could reasonably be expected to walk, how high or how far he could jump, how fast he could run, what weight he could carry, what force he could exert. There is not one parent in 500 who has the smallest notion how large an object, say a capital letter, a boy ought to be able to see clearly at 100 feet away, or who could tell at what distance he ought to be able to see and describe the characters of an object of given magnitude. There is not one parent in 500 who can say offhand whether his children possess natural acuteness of vision, or to whom the phrase "natural acuteness of vision" would convey any definite idea. There is not one parent in 500 who can tell whether his children possess natural colour-vision, or who, if the inquiry were suggested to him, would know how to discover the truth. . . . Good sight is an important point of physical excellence, which, like any other such point, should be assiduously cultivated. I would urge parents to procure such a testing instrument as is shown on next page, which is made by Mr. Baker, of 244, High Holborn, and to ascertain, as soon as their children know the alphabet, whether they can decipher the letters at the proper distances. I would urge upon them, in the case of every child whose vision is subnormal, to ascertain the cause and nature of the defect, and to regulate not only the studies but also, as far as possible, the future career in accordance with it. I would urge upon all who have the control of schools that the vision of every new pupil should be tested on admission, and that the tasks required should be controlled in accordance with its capabilities. I would urge

that all lesson books for very young children be printed in large type, and that the children should be compelled to keep such books at a distance (the type in which we often see texts of Scripture printed to be hung up in railway waiting-rooms would be a good size for the purpose). I would urge that many of the school-books now in use should be abandoned; and that new editions should be prepared, in type of at least twice the size and twice the legibility (the latter de-



pending much upon the shape and design of the letters) of that which is now in use.'

I am sorry to say also diseases of the eyes are not considered so much as they should be; for instance, with ophthalmia there is often great neglect of due precautions, and its contagious nature is often entirely lost sight of. I have known several instances in which people would not believe in the extreme necessity for the separation of children suffering from ophthalmia from the healthy. When I remarked to a mother

once on the danger to the other scholars of sending her little boy, who was affected with ophthalmia to school, the reply I received was, 'I don't see why I should cry out "stale fish," and after all it is not a positive fact that ophthalmia is catching. Other people must take care of themselves. Of course if they send the child home I must keep him from school.' And this was an educated woman of the upper class ! But I think it's monstrous that anyone should have the power to inflict harm on helpless children ; and that there should be such an insensibility to all feeling of right (to say nothing of compassion for others, not to cause preventible and needless suffering to them) appears to me extraordinary. I also know of a case where a governess affected with ophthalmia did not hesitate to keep an engagement with young children, and thus imperilled the health of her young charges.

It is a matter for rejoicing to see that some definite steps are going to be taken to try and stamp out this distressing complaint in one part where it has become a very serious matter. But the educated classes are as much in fault in being so heedless as to the real nature of ophthalmia as the poor, who often haven't it in their power to help themselves.

'*Ophthalmia in Poor Law Schools.*—An inspection has just been made of the Central London District Poor Law Schools at Hanwell, with a view to ascertain what remedy could be found for the present serious state of affairs arising from the contagion of ophthalmia among the children. Dr. Bridges, the medical inspector of the Local Government Board, and Mr. Smith, the architect, have issued their report, which was read at the meeting of the managers of the schools on Monday. From this report it appears that out of 2,649 distinct cases of ophthalmia at the schools during the last thirteen years only 539 could be traced as being imported, the remainder having arisen from contagion within the school buildings, and that, although iron huts had been erected and a comparative separation of ophthalmic cases effected in 1875, the above figures showed that the results had not been successful. Dr. Bridges is of opinion that ophthalmia is not a necessary evil in Poor Law schools, and he alludes to Anerley Schools, where, by the

adoption of a complete system of separation and special attention to this particular disease, it was practically stamped out, there being no cases of ophthalmia at Anerley at the present time. Dr. Bridges now proposes that the managers of the Hanwell Schools should provide separate buildings for the treatment of ophthalmia, or that a separate establishment should be erected for infants, and that, under any circumstances, three large attic rooms at Hanwell Schools, containing 300 beds, should at once be abandoned as dormitories. The main building, Dr. Bridges suggests, should be recast into three portions—a centre block for administrative purposes, and two wings adapted for boys and girls respectively. Several schools are mentioned in the report as having been erected on improved lines to cope with the disease—Hornchurch for Shoreditch, Leytonstone for Bethnal Green, Leicester, King's Norton, and Birmingham.'[1]

Care should always be observed, in washing children's faces, not to let the soap get in the eyes. Some people are most cruel in washing children's faces, and cause much injury by being so heedless as regards letting the soap get into the eyes. Dr. Routh writes :[2] 'I think it cruel, however, to allow the face and eyes to be washed over with it[3] in the coarse and rough way in which I have often seen it done. The nurses have almost appeared to me to take a sort of morbid delight in its employment in this way. Even to an adult soap in the eyes is a very painful ordeal to go through ; in the end it inevitably produces chronic, sometimes acute, ophthalmia. I think, therefore, children should be spared this barbarity, and the eyes at least carefully avoided.' In washing children's faces with soap a fine flannel should be used, not using the soap with a sponge, or the corner of a towel, as many do. A doctor writes to me, 'Ophthalmia is chiefly spread by the use in common of towels, basins, sponges, &c.'

[1] *The Times*, Wednesday, October 31, 1888.
[2] *Infant Feeding*, p. 475. [3] Soap.

The Face.

It would hardly be thought in this age of sense and enlightenment that there would be people foolish enough not only to paint, powder, and use washes to their own faces with the mistaken idea of beautifying, but who are actually thoughtless and senseless enough to paint and use powder to their daughters' faces. Yet this is a fact. Many use cosmetics and face-washes with the idea of improving their children's complexions. How cruel the practice is never occurs to them; or that they are teaching young people what can only be a source of trouble to them in after-life. Anyone who habitually paints and uses cosmetics is invariably compelled to continue the practice, and often what has been begun from choice ends in being done from necessity, and it is, besides, making oneself a slave to a habit which is not only detestable in itself, but at times—in travelling, for instance—will be found both inconvenient and troublesome, and also, although it may not show for a long time, is highly injurious to the skin and health.[1]

What is more beautiful than the skin of a little child? No cosmetics, washes, or paint can rival nature in producing a beautiful complexion, or make a child's skin more perfect. The perfection of a child's skin is indicated in Naaman's cure. 'His flesh came again like unto the flesh of a little child.'[2] It would be better, I sometimes think, if instead of trying by artificial means to alter the colour of their hair, complexion, &c., and instead of always troubling so about their poor bodies, people tried to alter the state of their minds, and endeavoured to improve their dispositions. A face under the habitual influence of good emotions, however plain, becomes pleasant to look at. Plain people might with advantage find a place in their mind for the poor French girl's soliloquy, who, comparing herself with those she saw around, said confidently, 'Je ne suis pas belle, mais agréable; plus agréable ce n'est pas possible.'[3]

[1] See 'Water,' p. 367. [2] 2 Kings v. 14.

[3] 'I am not beautiful, but agreeable; more agreeable is not possible.'

A face, however lovely, is disfigured and rendered repulsive when constantly subject to the impression of the lower and baser emotions. Envy, bad temper, distrust, avarice, jealousy, all leave their impress on the countenance, just as a cheerful, open-hearted, good-tempered, amiable person, by the expression of the face, shows clearly the general condition of the mind and the nature of the disposition—just as certain employments and professions alter persons, so that, although dissimilar in appearance, yet all get, after a time, the same general look. As drilling makes all the soldiers of a regiment resemble one another, so that even without their uniform one can generally distinguish a military man from a civilian, so equally those who constantly let evil passions and habits have the dominion over them show in their appearance what guidance they are following. An old writer[1] says: 'The bad have all one face—an ugly one.' Who does not know the shuffling, cringing, deprecating manner and walk of the habitual beggar, as compared with the free, easy, straightforward manner of those who, conscious of their own rectitude, and feeling on good terms with humanity, face their fellow-creatures with the pleasing consciousness of well-doing?

It is curious to observe how painting the face has been a fashion in many ages. Even in the time of the early Bible days we read: 'She painted her face.'[2] Shakespeare's writings serve to show that painting the face was not unknown in his day. Viola, speaking of Olivia's beauty of face and complexion, remarks: 'Excellently done, if God did all,' to which Olivia replies, ''Tis ingrain, sir; 'twill endure wind and weather;' Viola adding, ''Tis beauty truly blent, whose red and white Nature's own sweet and cunning hand laid on.'[3] And again, in 'The Winter's Tale,'[4] Shakespeare makes Perdita say, 'No more than were I painted, I would wish this youth should say "'twere well."'[5] In Canterbury Cathedral,

[1] Froissart.
[2] 2 Kings ix. 30.
[3] Shakespeare, *Twelfth Night, or What you will*, act i. sc. 4.
[4] Act iv. sc. 3.
[5] Tell her, let her paint an inch thick,
To this favour she must come.
Hamlet, act v. sc. 1.

on a monument to the memory of a young lady who died, aged twenty, in the year 1714, the epitaph mentions : 'Her beauty had not that adulterate paint which some crafty artificers make up, which perishes in the evening ; but her beauty was bestowed by Nature's hand,' indicating that painting the face was not uncommon in those days.

Pallid faces are often the result of impure atmosphere and overheated rooms or delicate health, and if attention were only paid to the three essential things for good health—fresh air, good food, and proper repose—there would be sufficient natural colour without resorting to any artificial aids. One can quite understand that for the stage painting and the use of powder and cosmetics is necessary, but in private life there can be no reason for the use of anything but good soap and water ; and if people are unwise enough to paint and use cosmetics themselves they should not habituate their children to that which is not only useless but injurious.

One could wish good Dr. Primrose's summary destruction of his daughters' 'wash for the face'[1] would be the end of all such useless mixtures. 'As we expected our landlord the next day, my wife went to make the venison pasty ; Moses sat reading, while I taught the little ones ; my daughters seemed equally busy with the rest ; and I observed them for a good while cooking something over the fire. I at first supposed they were assisting their mother, but little Dick informed me in a whisper that they were making a wash for the face. Washes of all kinds I had a natural antipathy to ; for I knew that instead of mending the complexion they spoiled it. I therefore approached my chair by slow degrees to the fire, and, grasping the poker, as if it wanted mending, seemingly by accident overturned the whole composition, and it was too late to begin another.' A condition such as the Vicar of Wakefield describes—'Our windows again, as formerly, were filled with washes for the neck and face. The sun was dreaded as an enemy to the skin without doors, and the fire as a spoiler of the complexion within'[2]—is not to be desired. Rather would one return to the Arcadian simplicity referred to by Pepys :

[1] Goldsmith's *Vicar of Wakefield*, chap. vi. [2] *Ibid.* chap. x.

'My wife away down with Jane and W. Hewer to Woolwich, in order to a little ayre, and to lie there to-night, and so to *gather May dew to-morrow morning*, which Mrs. Turner hath taught her is the only thing to wash her face with.'[1] The wish to beautify is still the same. The age alters, but human nature remains the same.

Some use soap in washing children's bodies, but merely use water with the face.

The idea that the complexion is improved by not using soap is a complete error. The regular use of soap and water to the face, on the contrary, not only removes the dirt and makes the skin fresh and clean, but will even tend to improve the complexion. Good soap will never cause irritation to the skin unless there is a tendency that way.

Sir Erasmus Wilson, in his book 'Healthy Skin,' says of soap, page 173: 'Soap is accused of being irritative to the skin, but this is an obvious injustice done to soap, *for soap never irritates the delicate skin of infants.*' 'Depend upon it,' Sir Erasmus continues, 'that when soap does cause irritation the error is in the condition of the complainant, and betokens either an improper neglect of its use or a state of susceptibility of the skin verging on disease of that membrane. If we would have health we must use soap. If soap act as an irritant we must train to its use by beginning with a small quantity and increasing it gradually.'

Sir Erasmus adds, page 174: 'As regards the frequency of ablution, the face and neck, from their necessary exposure to the atmosphere, and the impurities which the latter contains, cannot escape with less than two saponaceous ablutions in the twenty-four hours. No harm can arise from too frequent ablutions; much evil may result from their neglect. Other means than soap for the cleansing of the skin are highly objectionable, such as the various wash powders and grease; they are sluttish expedients, half-doing their work, and leaving the corners unswept. Another, and a weightier objection, obtains against them: from having no power of removing the

[1] *Pepys' Diary*, May, 1667.

superficial laminæ of the scarf-skin these become unnaturally thick and stained, and then the skin has the appearance of being mottled with irregular brown or olive-coloured spots In washing the face you have three objects to fulfil : to remove the dirt, to give freshness, and to give tone and vigour to the skin. The use of soap is certainly calculated to preserve the skin in health, to maintain its complexion and tone, and prevent it from falling into wrinkles.[1]

Sir Erasmus adds further, page 173 : 'And if any unpleasant sensations are felt after its use [1] they may be immediately removed by rinsing the surface with water slightly acidulated with lemon juice.' The occasional use of dermaline is advocated by some authorities on the skin for those troubled with a tender or irritable skin. Cimolite soap is also recommended for those so affected.[2] Vinolia soap [3] (Blondeau et Cie., London, Paris, and New York) is a soap much used by the French and Americans for tender skins, and in some affections of the skin it is found beneficial.[4] It is an emollient, non-irritating soap. I have found it a very pleasant soap, especially in cold weather, when the skin chaps easily. Vinolia, a cream of vegetable milk, is also an unguent (of a soothing nature) recommended by French dermatologists.[5] I myself have found oatmeal-water—half a breakfast-cup of fine oatmeal to a wash-hand basin half or three-quarters full of *hot water*—of great service in irritation of the skin, especially with children. Matthews' fuller's-earth powder is of benefit, lightly dusted over the face after washing.

Dr. Frazer recommends home-made violet powder. The receipt given by ' Dr. W. Frazer (in his " Treatment of Diseases of the Skin ") is as follows :—" Rice, or potato starch, or arrow-root, 4 oz. ; powdered iris root, ½ oz." '

Some are advocates of using only cold water with the face ; but there can be no doubt that the use of hot water assists the removal of dirt and the oleaginousness which exercise and

[1] Soap. [2] See 'Water,' p. 385.

[3] Sold by Roberts & Co., 76 New Bond Street, London.

[4] This soap and Vinolia cream are sometimes found beneficial in eczema.

[5] Roberts & Co. have a pamphlet on the use of this cream and soap.

the various emotions and efforts of life tend to produce. 'Warm water,' writes Dr. Macpherson,[1] 'softens and cleans the skin more readily than cold.' Dr. Milton remarks of the use of hot water to the face :[2] 'When it is necessary to take great care of the skin, warm water should be used for washing, except in the height of summer, and even then if there be actual disease of the skin, while for this state water as hot as it can be borne is demanded in cold weather. Warm water in the latter case has simply a negative value—that is to say, it obviates the mischief which would be done by cold ; to secure a curative effect we must employ heat. Ladies suffering under the eruption on the face known as acne should use hot water even in summer. It sometimes inflames the spots for the moment, but sooner or later the beneficial effects of the practice are visible.'[3]

Dr. Milton remarks of beer as affecting the skin :[4] 'I would advise every young lady who values her complexion, and particularly when she suffers under a tendency to eruption of any kind, to eschew beer as a worse poison than she could find in Apothecaries' Hall. *She is violating the rules of hygiène by putting an undue strain upon her system and her skin*, which latter it is just as possible to overtax as it is to overload the stomach or work the brain too hard. . . . In diseases of the skin beer is a perfect poison for most persons, and does the others no good.'

Plunging the face into cold water when overheated by exercise (a common practice with young people) is exceedingly dangerous. Dr. Chevasse says of washing the face, when hot and perspiring, in cold water :[5] 'It is most dangerous to do so. I have known instances where such a proceeding has brought out a most disfiguring eruption on the face, and which has

[1] John Macpherson, M.D., *Baths and Wells of Europe*, p. 63.

[2] J. L. Milton, M.D., Senior Surgeon to St. John's Hospital for Diseases of the Skin, *The Hygiene of the Skin*, pp. 87, 88.

[3] Vinolia soap and cream are very soothing in this troublesome affection of the skin.

[4] Pp. 63, 64.

[5] *Counsel to a Mother*, p. 171.

sometimes been most difficult to cure . . . If the face, neck, and hands be washed while in a free state of perspiration, warm water should be used, which will prevent any untoward consequences.' I have seen nurses wash little children's faces in cold water when very warm with exercise, thinking, because it was summer, it would not harm. But the same holds good (not to wash in cold water when hot) summer or winter.

The Back.

When children are growing (especially with girls) there is often a great tendency to weakness of the back, showing itself in a habit of stooping. Bathing the back with Tidman's sea-salt is useful. Many are unaware that it is possible to obtain sea-water in London from the Great Eastern Railway Company, who undertake, I believe, to deliver it. Lying flat on the back during a portion of the day is beneficial in resting the spine where there is weakness. Where there is much tendency to stooping I have found the 'Empress' chest-expanding braces, which are merely a support for the back, are very useful; but it must be seen that the braces are made in two long pieces, coming right down the back to the end of the waist. It must also be seen that the braces are not fastened too tightly.

It is best to have a child measured and have the braces made to order, as, ready-made, they sometimes fit badly. The braces which are made in only two little pieces for the shoulders are useless as a support for the back. I think, in England, when children are babies, they are not allowed to play on the floor enough, they are kept in a chair too long, and are allowed to sit in such too soon. In the South (Italy, Spain, France), and in warm countries, there is a great absence of spinal weakness, round shoulders and stooping being conspicuous by their absence, and but rarely—in fact, I may say never—does one hear that remark common amongst English girls, 'My back aches so.' The habit southern people have of reclining when fatigued—children as well as grown people—seems to have an especially beneficial effect on the spine. What is the use of telling a girl at other times to sit straight

when, each day perhaps, she is compelled to sit in a crooked position, drawing or writing for a length of time, so that the effect on the body is such that, despite her efforts at other times, it results in one shoulder being higher than the other, or the back being stooped? The inane remarks, 'I am sure we have done all we could for the child,' 'I don't stoop, I don't see why she should; children generally take after their parents, and we are upright enough,' are senseless. The child possibly may be much weaker than its parents, and it is people's duty to do all they can for their children's welfare. 'I suppose it's weakness of some sort.' The number of things which are put down to weakness, teething, and the weather! It is a thousand pities so much is put down to weakness, and that the real cause of so many deformities is not enquired into. It is a very remarkable fact that the middle and lower classes, although their children have less care, are yet freer from deformities of the back than the upper and wealthier classes.

Dr. Strange writes:[1] 'Education, as conducted in most of the "establishments for young ladies of the higher classes," requires that the body should be kept in the erect position, or in the upright sitting posture, for many hours of the day. The music-stool, the drawing-chair, lessons, walks, occupy, upon a moderate calculation, ten hours a day, during the whole of which the spine, with its soft and yielding bones, its tender and delicate muscles, has to support the whole weight of the head, and most of that of the trunk, without resting, or throwing the weight upon any other means of support. The action of the spinal muscles, being all this while in the same direction, becomes monotonous and fatiguing in the extreme. The remedy in this, as indeed in all cases of the same nature, is to be sought in a thorough change in the habits of tuition as applied to girls. Whilst at work, more free and easy attitudes should be allowed, and the upright position, whether standing or sitting, should be constantly alternated with the recumbent posture. By this means a frequent change of the action of the muscles of the spine, and a longer time during

[1] *The Seven Sources of Health*, pp. 192, 194.

which the weight will be removed from pressing perpendicularly downwards, will be secured.'

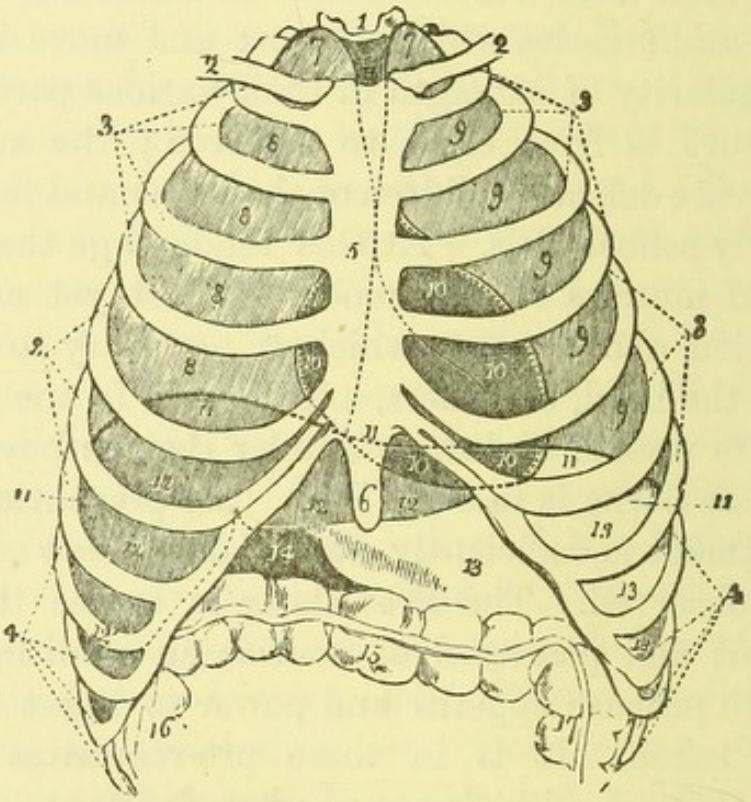
Dr. Strange adds : 'After much discordant theory and long discussion, the following, I believe, may be taken as the most useful directions for avoiding the occurrence of spinal curvature and its accompanying distortion of chest and limbs, and for remedying it when once formed. In nineteen cases out of twenty, crook-back results from weakness of some of the ligaments and muscles which support and move the spine, or from irregularity of strength in their various parts. The age of curvature is from eight to eighteen; the subjects most liable to it are delicate children of the upper and middle classes, particularly school-girls. At this tender age the bones, ligaments, and muscles of the spine have not yet acquired that consolidation and firmness which is necessary to support the weight of the head, shoulders, and chest. In the girl, too, the muscles are weaker and more slender than in boys, whilst the weight to be borne is scarcely less. The prevention of this sad disappointment is sufficiently easy, if only a few common-sense rules be observed. The first thing is to see that the food is sufficient and possessed of nourishing qualities,[1] and that exercise, to procure appetite and power to digest the food, be regularly taken. It is in these pre-requisites for healthy structure that school-girls are so often deficient. The starting point is want of *active* exercise.'[2]

'Food may be taken in sufficient quantity, but it is not properly digested, nor is good red blood elaborated from it. Then comes the standing or sitting posture, often in a constrained position for many hours a day, in writing, drawing, or playing musical instruments. Now it is that the weakened muscles of the back give way. The child naturally throws the weight of the body on to the stronger side by standing on one leg, or leaning sideways over the desk or table. The spine is drawn over to the side of the stronger muscles, and one curvature is now formed, whilst, in order to balance the weight of the body, and keep the head in an erect position, a *second* curve im-

[1] See 'Feeding,' pp. 245–249.
[2] See 'Education,' pp. 628, 629, 665.

mediately follows the first. The prevention and remedy for this disease are as simple as is the mode of its production. The muscles must be strengthened by regular exercise ; and that is the best exercise which calls all the muscles on each side of the spine into action. Nothing beats the old skipping-rope for this purpose ; in fact, it is the perfection of exercise. The

FIG. 1.[1]



swing of the arm expands the chest and strengthens the respiratory muscles, thereby giving room for the admission of

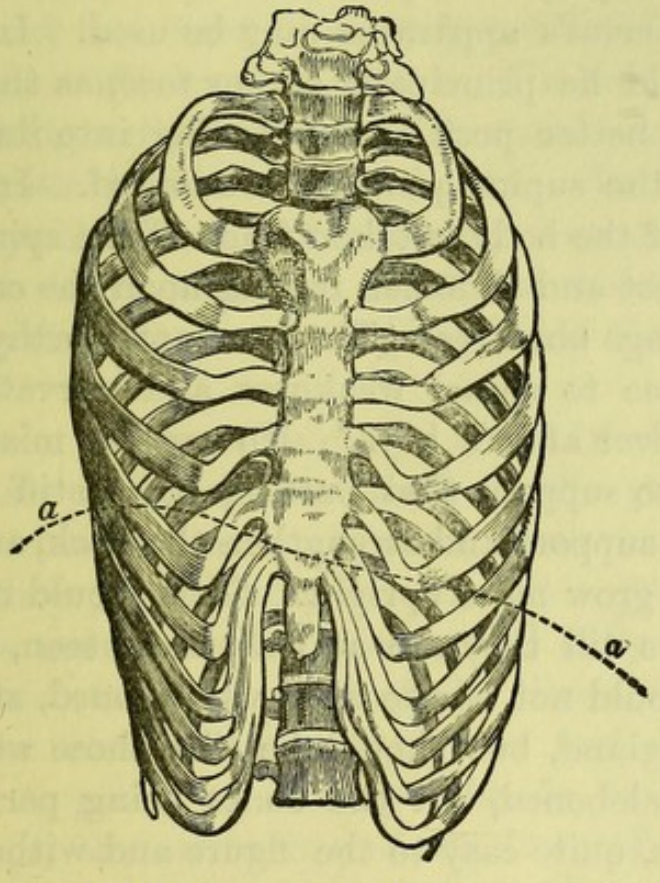
[1] Fig. 1.—A diagram showing the natural form of the healthy chest, and the proper position of the organs which it contains.

1, The spine. 2, 2, The collar-bones. 3, 3, The seven upper, or true ribs. 4, 4, The five lower, or false ribs. 5, The breast-bone, with which the true ribs are joined. 6, The sword-shaped extremity of the breast-bone. 7, 7, The upper part of the two lungs rising into the base of the neck. 8, 8, The right lung, seen between the ribs. 9, 9, The left lung, seen in like manner, between the ribs. 10, 10, The heart. 11, 11, A thin layer of muscle, the midriff, which divides the upper from the lower part of the chest. Medically, that part only is the *chest* which lies above the midriff. The midriff is arched, and forms a kind of dome, upon which the heart and lungs rest. This circumstance, and the occupation of the cavity of the dome by the liver and stomach, cause the lower and front part of the lungs to lie in front of the upper portion of the liver, and the stomach, in like manner, to lie, in part, behind the

a larger amount of air to the lungs. The rapid bending of the body, and the jump, exercise every muscle of the back and hips equally. Lawn-tennis, now so fashionable, is also an excellent means of strengthening the muscles of the back.

'When curvature has already occurred the patient must not be taken to a quack or a specialist, to have all sorts of

FIG. 2.[1]



irons and cramping bandages applied. Gentle, but frequent and regular, exercise must be used, *always short of fatigue* ; a

heart. 12, 12, The liver. 13, 13, The stomach. 14, The continuation of the stomach, termed the duodenum. This is the first part of the bowel, and is the frequent seat of pain. 15, The transverse portion of the large bowel or colon. 16, The upper part of the colon of the right side, bending inwards to become the transverse colon. 17, The commencement of the colon of the left side, being the continuation of the transverse colon.

[1] Fig. 2.—Figure distorted from continued pressure from childhood. If this figure be compared with the preceding, the effects of pressure will be seen at once. The figure is drawn from one in the possession of the late Sir Erasmus Wilson. The letters *a a* refer to a dotted line, which indicates the position of the midriff. How miserably the space allotted to the liver and stomach is curtailed! These diagrams were given to the author by the late Sir Erasmus Wilson.

little skipping, light dumb-bells, or the swing-rope, will answer the purpose better than long walks. The patient must maintain the erect position, but for a *very short period at once*; and then the horizontal position must be immediately resorted to. Alternations of *short* periods of activity with *long* ones of repose, several times a day, succeed the best. For repose, a sofa with a hair-mattress, and with a cushion to rest the arms and forehead upon, is far preferable to the old-fashioned back-board, or Verral's apparatus may be used. In any case, the patient should lie principally on her face, as the spine is thus placed in a better position for falling into its normal shape than when the supine posture is adopted. In this position the weight of the body is taken from off the spine and thrown upon the chest and abdomen resting upon the couch.'

Dr. Strange observes: 'The most noteworthy circumstance with reference to spinal weakness and curvature is that it seldom or never afflicts boys.' No greater mistake was ever made than to suppose that putting tight, stiff stays on girls will tend to support and strengthen the back, and will help to make them grow more upright. Girls should not be put into regular stays till they are at least seventeen, and even then the stays should not be the stiff, whaleboned, steeled stays in vogue in England, but should be like those worn by French women—whaleboned, but the bones being perfectly flexible. Corded stays, quite easy to the figure and without bones,[1] are the kind of stay most advisable for children up to womanhood. It is universally acknowledged that French women's dresses always fit well and without wrinkles. The reason, apart from exactitude in making, I believe, is simply that their stays are always flexible, and give with the movements of the body.

Sir Erasmus Wilson writes:[2] 'It is obvious that the stay

[1] When girls are over twelve, small, narrow whalebones down the back of the stay afford support without harming, but there should be none in the front. The 'Rational' corset bodice is a good kind of stays for girls after twelve years; but the bones in front sold with them should be taken out, and a fly down the back, underneath the lacing, is an advantage to have added. The bones at the back may be left.

[2] *Healthy Skin*, pp. 163, 166.

is an appurtenance of woman only when she has arrived at a state of full development. The natural waist is broader from side to side than from before backwards; in other words, it is slightly flattened. God has made us so; must we not say, wisely? Dare we say, unbecomingly? What right then have we to dispute Nature's laws, and set up an idol for ourselves? What right to establish a standard for the human form, as we would a fashionable shape for a bonnet or a coat? Or if, as adults, we persist in a right to mortify ourselves, let not our children be made sufferers for our sins. The truth is that the round waist, being a distortion of the natural shape, is painful rather than agreeable to the eye of man. An argument in defence of stays that I find too prevalent among women, and too mischievous in its tendency to let pass without a reply—is that because the stays are not tightly laced they cannot be hurtful.

'Stays restrict the motions of the trunk of the body, and consequently set an immediate limit to the growth of the muscles, which become in consequence weak and powerless. Besides this, they prevent the growth and expansion of the chest, and by a gentle, but continuous and daily repeated, resistance they maintain the waist of the dimensions of childhood while the rest of the body grows and enlarges into womanhood. A girdle of infancy is made to encircle the heart, the lungs, the stomach, and the liver of womanhood, and these important organs are constrained to seek accommodation in their narrow cell by mutual displacement. I could forgive the adoption of stays at adult age, and would then sanction any amount of constraint the votaries of tight-lacing might think an improvement on nature—the process would be found too torturing to endure; that which I desire to see checked is the detestable refinement of cruelty that begins the proceeding in infancy, before the intelligence of the child is sufficiently developed to resist this cruel infringement on woman's happiness and woman's health. The undue and inharmonious development resulting from the use of stays produces puny mothers and a puny offspring.'

Dr. Duglison says :[1] 'A strong constitution is considered to be dependent upon the due development of the principal organs of the body, on a happy proportion between these organs, and on a fit state of energy of the nervous system, whilst the feeble or weak constitution results from a want of these postulates.' Dr. Ellis writes :[2] 'So much has been said against stays for girls that I feel almost in despair at finding any allusion to such destructive contrivance being still as much needed as ever. When it is known that stays shorten life, interfere with and injure the most important functions of the body, and are wholly unnecessary and artificial things, it might be thought that no parent would permit their use to her children ; such, however, is not the case.'

Dr. Chevasse observes :[3] 'A child's ribs are principally composed of gristle, and, like clay in the potter's hands, can be moulded to almost any shape, so that when they do become bone they will retain, like clay baked in the fire, the form given them when gristle.'

Dr. Chevasse adds :[4] 'Many a girl who dies in early prime ought, if truth were to be told, to have inscribed on her tombstone that she died from the effects of tight-lacing . . . It should be borne in mind that long-continued pressure on any part of the body arrests development.' I was talking a little while ago to a very well-informed, well-educated, clever, intelligent woman, and, the fashion of long-waisted dresses being mentioned, the subject of stays came up. 'Of course,' said the lady, with an air of profound conviction, 'you cannot expect girls to have good figures unless you *mould* the figure to a proper shape, and you must begin early if you want young people to have good figures when they grow up.' Wishing to be better informed on the subject of '*moulding* the figure,' I said, 'But how is this "*moulding*" of the figure to be done?' The following conversation then took place : 'Well, as I remarked, *you must begin early* ; in fact, with a

[1] Quoted by Sir Erasmus Wilson in *Healthy Skin*, p. 167.
[2] *Disease in Childhood*, p. 170.
[3] *Counsel to a Mother*, p. 76.
[4] *Ibid.*, pp. 185, 186.

girl when she is an infant. You must put a proper, good, strong band round the baby's body, fastened quite straight and *not loose*. (I give the lady's exact words.) This must be continued (for it makes the baby's body straight, you see, instead of that horrid little, round, bulging-out stomach being so observable as it generally is when people don't attend to the baby's figure) till the child is at least eight or ten months. When a proper age, you must see the child has nice tight, straight-cut stays of strong corded material, with stout whalebones front and back. When ten or eleven, you must put her in whaleboned stays with steels in front. If the child's figure is treated in this way, when she grows up she will have a charmingly small waist. Such a beauty, you know!' Being curious to find out a little more about 'the moulding,' I observed, 'I suppose, however, this is only a theory. You have not tested it by practical experience?' With great complacency, 'Oh dear, yes; I have only one daughter, but she has had the full benefit, I am glad to say, of proper bandaging and stays. I cannot agree with those mad enthusiasts who describe stays as injurious to girls and children sufficiently old for them, and who would do away with them.'

Poor—poor, unhappy girl! thought I. Misguided, foolish mother! Not an unkind mother—far from it—only mistaken: acting, as she thought, and as hundreds think, for her child's ultimate benefit, and knowing absolutely nothing of the fearful injury she inflicted on her child.

The conversation was continued as follows:—

'Your daughter's figure is good?'

With still greater satisfaction: 'My daughter has really the smallest, most elegantly slight waist you ever saw.'

'She is strong, robust, has good health?'

With a sigh: 'Ah, I wish she were, but growing girls up to twenty—my daughter is nineteen—are often delicate. I have a great dislike to robust, vulgarly strong girls, with complexions like a dairy-maid—what people call a rosy colour—and I have the best medical advice for my daughter.'

'You have consulted a doctor?'

'Two or three. In fact, I have taken my daughter everywhere likely to be of benefit and to strengthen her. We are trying massage now.'

Tentatively: 'Perhaps *the moulding* and the stays may have something to do with your daughter's feeble health?'

With great acerbity: 'Certainly not; I don't for one moment think so. In fact, I told one doctor I took my daughter to, who suggested this, that the idea was completely ridiculous. What has figure to do with health?'

And I quite believe one might have proved to a nicety that 'moulded'—in this good lady's fashion—'figure' had more than a little to do with 'health,' but she would not have been convinced. And this is the nineteenth century! And we call ourselves a sensible people! And we laugh at the follies of what we call savage nations in their endeavours—by putting rings in their noses, drawing out the under lip, tattooing, &c.—to make themselves handsome according to their theories and standards of beauty! Are we not, as a supposed enlightened people, in reality placing ourselves on a lower level than these so-called savages?

It seems to me that putting a ring through the nose, although it is rather suggestive of a 'cochon,'[1] is for its harmlessness to be commended in comparison with these 'moulded figures.' For in the one case no detriment to health ensues, but in the other, on the contrary, very serious consequences are involved. People say, 'But no one ever dies from tight-lacing.' The subjoined will refute this untenable argument in favour of tight-lacing:—

'A single woman, thirty-two years of age, living at 109 Gloucester Road, Regent's Park, died suddenly on Sunday evening last as she was leaving Park Chapel. At the inquest yesterday the house surgeon of the North-West London Hospital, who had examined the body, said the deceased was a woman who laced very tightly. In fact, she could hardly breathe, and, the lungs not being allowed free play, a blood-vessel had burst, producing syncope. Verdict accordingly.'[2]

'Mr. Carttar, West Kent coroner, has held an inquest at

[1] Pig. [2] *The Times*, Friday, June 17, 1887.

Greenwich on the body of Miss Emily Eleanor Woodward, aged twenty years, of 10 John Street, South Crescent, Greenwich. The evidence went to show that between six and seven o'clock on Tuesday evening last Miss Woodward went upstairs to dress to go out. A few minutes afterwards her sister Lavinia called to her, and not receiving an answer ran upstairs and found the deceased lying on the floor. Dr. Cox was called, but Miss Woodward died almost immediately. Dr. Cox, who had made a *post-mortem* examination of the body, said the deceased was a healthy young woman, with the exception that the heart was overladen with fat. The stomach was full of undigested food, and this pressing on the heart caused fatal syncope. Miss Woodward had dressed very hurriedly, and she was very tightly laced, which, combined with over-exertion, accelerated death. The jury returned a verdict of "Death from natural causes," and the coroner remarked upon the danger of hurrying directly after a hearty meal, and the baneful effect of tight-lacing.'[1]

I myself have seen a young girl rendered quite an invalid after her marriage through tight-lacing, and have heard of two or three deaths quite lately from the same cause. But one must not be too hard on the gentler sex, and condemn their folly in unmeasured terms in following the prevailing custom of pinching in the waist. Men, who are supposed to be superior to blindly following fashion, and especially where it entails any restriction on the freedom of the body, and are thought to utterly scout the idea of putting on any article of attire which interferes with freedom of movement, are now[2] taking to the use of stays, so that in time, no doubt, they also will 'mould' their figures to an ideal shape. Mr. Turveydrop has left successors 'pinched in and swelled out, and got up, and strapped down, a cane, an eye-glass' (in lieu of a snuff-box, a cigar-case), 'rings, wristbands, everything but any touch of nature; gummed, cosmetiqued, pomatumed, scented.'[3] Mr. Turveydrop's kind may be seen any day by strolling into Hyde Park. Masher collars and various other eccentricities of dress,

[1] *The Times*, Saturday, December 10, 1887.

[2] 1887. [3] Charles Dickens, *Bleak House*, p. 135.

owing to their discomfort, have had but a short reign. It is to be hoped that of *tight corsets* will be equally short. The following, which I cut from one of the daily papers,[1] illustrates the follies of fashion. After speaking of a fashionable style of dress, it mentions the manner of making the body of the dress so that, as the paper describes it, 'the waist came in a sharp point, and thus apparently lengthened it to even the highest standard of fashion in this respect, at a moment when waists are worn abnormally long.'

Now the beauty of these long thin waists brought to a point is not discoverable to ordinary observers. I saw a girl with one of these 'abnormally long' waists, and with her fur cape on. I declare her body looked more like a broom-handle than anything I ever saw, so that the beauty of the young lady's figure certainly was a matter of taste; for myself, I could only think so distorted a shape was extremely painful to see.

In all ages Fashion has been an inexorable goddess, but when it is a question of health Fashion should give place to common sense. "But is it possible to deny that 'never has a stone image, consecrated by cunning priests, exercised a more magic influence on a superstitious heathen's mind than the invisible Fashion Fetish on the modern feminine intellect?"'[2]

'Il faut souffrir pour être belle'[3] is applicable to all who blindly follow fashion without regard to the laws of health, the enjoyment they may derive from imagining themselves *belle* being the sole reward for often a great amount of discomfort and even injury. Where civilisation with its tight-lacing and high heels has not reached, the women are upright and have a graceful carriage. No greater or more cruel injury could be done to growing girls and children than to put anything on them that will compress any part of the body. At various times the medical profession have strongly denounced the most pernicious practice of compressing the body—especially at an early age—in order to produce a small waist, and have pointed out the various evils resulting from pressure

[1] *The Daily News*, Tuesday, February 21, 1888.
[2] Mr. Finck, *Romantic Love and Personal Beauty*.
[3] 'It is necessary to suffer to be beautiful.' *Old French Proverb.*

being applied so that the chief and most important organs of the body have not perfect freedom, not only to develop, but also to continue their various functions uninterruptedly. But still misguided people undergo themselves, and, what is worse, make their poor children undergo, as much discomfort in their efforts to attain what they imagine a beauty as the Chinese do to produce small feet, the helplessness caused by which is only equalled by their ridiculousness to our European taste.

'In speaking of the domestic habits and customs of the Chinese, we must not omit to refer to the small feet of the women, which have obtained such a world-wide and unenviable notoriety. The foolish and utterly senseless practice of compressing the feet, which condemns such vast numbers of the weaker sex to needless torture and incurable deformity, is generally commenced when the girl is about six years old, or perhaps a little later; and if the operation be carefully and skilfully performed at that age the unfortunate patient is spared much inconvenience and pain. The operators are women, who devote themselves to this profession in much the same way as among ourselves special practitioners do to the more humane task of relieving and, if possible, removing the deformities of the human frame. A medical writer who has had special opportunities of observing the manner in which the girls are treated states that long bandages of cotton cloth, about an inch wide, are folded round the foot and brought in a figure of eight from the heel across the instep and over the toes; then carried under the foot and round the heel, and so on, being drawn as tight as possible. The process is of course carried out very gradually by a skilful operator. The disfiguring effect of this ludicrous custom, or fashion, is almost indescribable; and its *raison d'être* is the more inexplicable, as most Chinese women naturally have small feet, as well as small and well-shaped hands. The origin of the practice is wrapped in obscurity, and it is hopeless to attempt to reconcile the great discrepancies in the dates given. By one account the custom is a comparatively modern one, and originated about A.D. 970, at the court of a licentious prince, then held at Nanking. A second tradition places the origin some three hun-

dred years earlier. A third fable goes back to what may be called the prehistoric age of China, and ascribes the origin of the practice to a wicked empress who lived about B.C. 1100, and had the misfortune to be club-footed. Some European writers, again, have asserted that the ruling Tartar dynasty introduced the fashion in the seventeenth century. This, however, is manifestly incorrect ; for if it were true it would be recorded in the historical works, which relate, with much minuteness, every occurrence since they seized the throne of China ; in addition to this, the feet of Tartar women are always of the natural size and shape. Whatever may have been its first origin, this fashion or custom has obtained a wonderful hold on the Chinese, who positively affect to admire these small feet, and call them "three-inch gold lilies."' [1]

Often Nature is not only interfered with in the vain attempt to produce by artificial means what Nature has apparently not given, but in consequence health is injured, sometimes seriously, as I have endeavoured to show. It is much to be deplored that so few consider the grave injury caused to health by tight-lacing ; and in reality a disproportionately small waist is no beauty. It is impossible ever to improve on Nature ; and, as the human body is made in exact proportions, it is unreasonable to imagine that one can alter any of these proportions without causing harm to ensue. To interfere with Nature, with children, is decidedly to cause injury. Those parts of the body on which health depends, above all should be left alone.

> Accuse not Nature, she hath done her part :
> Do thou but thine.[2]

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[1] Edward Duffield Jones, *Habits and Customs of the Chinese.*

[2] Milton.

CHAPTER XII.

EDUCATION.

(On various matters of various import connected with education, and their influence on happiness, usefulness, and health.) [1]

AMID the many great and pressing questions of the day education undoubtedly holds a most prominent place. It is a subject of vast, varied, and vital importance, and has within the last twenty years been more fully dealt with in various ways, both nationally and privately. The number of theories, schemes, plans, designs, projects of all kinds, which have been broached within the last few years to improve the various systems of education, have been legion. How shall we best educate our boys and girls? is a question which comes home to all who have children, no matter what the position or means; and, although education for the middle and lower classes is now attended to in a great measure by the State, and the lower classes especially have little or no choice in the matter, it is still in the power of the upper classes to, in some measure, choose for their children what kind of education they may think most suitable, and, if the choice does not turn out happily or beneficial for the child, still parents have a discretionary power which might be wisely exercised.

'The importance of education has ever been acknowledged by all civilised communities. To the diffusion of knowledge, and its influence on the economy of life, may be traced the superiority of one age and country over another; and it is the neglect or the cultivation of their minds which forms the

[1] This was originally written for separate publication.

only true distinction between man and his fellow. The education of their youth was esteemed by some nations to be so intimately connected with the public weal that they placed the children of the subjects under the superintendence of teachers chosen by the State, a practice which, no doubt, inspired a political patriotism, but at the expense of many better feelings, and with the risk of enfeebling, if not dissolving, those parental ties on which the conduct and happiness of life must greatly depend.'[1] 'Quoniam refert a quibus et quo quisque modo sit institutus.'[2] [3] 'How shall we best educate our boys and girls?' is asked every day by anxious fathers and mothers. The little, helpless, pretty babies, the entire charge of mothers and nurses, needing no thought except as to food, rest, air, and clothing, develop into thinking, reasoning creatures, needing serious consideration as to other things besides bodily wants soon supplied.

How to best educate our boys and girls? On every side the words re-echo. This is an age of educational movement amongst all classes. What have been called 'the good old days,' when not to know how to read and write was of no consequence so long as people knew their trade or work, are nearly gone, and now for even the humblest and poorest not to know how to read and write is or will soon be 'a thing of the past.' Years ago it was of common occurrence (amongst the working classes especially) to find that people could not read or write; this, according to modern ideas, was 'benighted darkness,' although in every other respect the persons might be fully qualified for their position in life, and might not feel the need of any better education. That the movement to promote knowledge among the masses has done good, few are inclined to doubt. Everywhere, at home and abroad, one hears it said, 'I must give my children a good education to fit them for the world,' and in most instances people are only too anxious to educate their children well They, however, too often disregard all matters which do not particularly relate to education, and

[1] Rev. E. Bickersteth, *Education.* [2] Quintillian.
[3] Translation: 'It is of great moment by whom and in what manner every one is educated.'

in many instances they do not sufficiently regard the bearing the education given may have on health, happiness, and future capability for the duties of life.

Sir James Paget observes :[1] 'We want more ambition for health,' and adds : 'I do not know whether health or knowledge contributes most to the prosperity of a nation ; but no nation can prosper which does not equally promote both ; they should be deemed twin forces, for either of them without the other has only half the power for good that it should have.

'I spoke of the pattern healthy man as one who can do his work vigorously wherever and whatever it may be. It is this union of strength with a comparative indifference to the external conditions of life, and a ready self-adjustment to their changes, which is a distinctive characteristic of the best health. He should not be deemed thoroughly healthy who is made better or worse, more or less fit for work, by every change of weather or of food ; nor he who, in order that he may do his work, is bound to exact rules of living. It is good to observe rules, and to some they are absolutely necessary, but it is better to need none but those of moderation, and, observing these, to be able and willing to live and work hard in the widest variations of food, air, clothing, and all the other sustenances of life.

'And this, which is a sign of the best personal health, is essential to the best national health. For in a great nation, distributed among its people, there should be powers suited to the greatest possible variety of work. No form or depth of knowledge should be beyond the attainment of some among them ; no art should be beyond its reach ; it should be excellent in every form of work. And, that its various powers may have free exercise and influence in the world, it must have, besides, distributed among its people, abilities to live healthily wherever work must be or can be done.

'Herein is the essential bond between health and education.'

Mr. Froude writes on this subject : 'Do we clearly know

[1] *National Health and Work*, p. 6.

in what a nation's greatness consists? Whether it be great or little depends entirely on the sort of men and women it is producing. A sound nation is a nation that is composed of sound human beings, healthy in body, strong of limb, true in word and deed, brave, sober, temperate, chaste, to whom morals are of more importance than wealth or knowledge; where duty is first and the rights of men are second; where, in short, men grow up and live and work, having in them what our ancestors called "the fear of God."

'It is to form character of this kind that human beings are sent into this world, and those nations who succeed in doing it are those who have made their mark in history. They are Nature's real freemen, and give to man's existence on this planet its real interest and value. Therefore all wise statesmen look first, in the ordering of their national affairs, to the effect which is being produced on character; and institutions, callings, occupations, habits, and methods of life are measured and estimated first and beyond every other consideration by this test. The commonwealth is the common health, the common wellness. No nation can prosper long which attaches to its wealth any other meaning.'

Dr. Richardson says:[1] 'If education does not go hand-in-hand with health, it is vain to expect that education will bring forth the firstfruits of knowledge, and, what is more important, of wisdom . . . . or produce the mental product that is required for the steady and powerful progress of the nation.'

If one listens to people discussing educational matters, in nearly every instance one will hear the school, the kind of teachers, the manner of instruction, and the education given at the particular school in question very fully gone into; the manner of living at the school, if it is a boarding-school, the effect on the health of the diet, also what kind of feeding there is at the school, the effect on the health of the manner of imparting knowledge, the companions the children are in daily intercourse with, and their influence, being, however, either entirely ignored or else only spoken of as of secondary import-

[1] *Ministry of Health.*

ance. With both boys and girls it is of essential value that they should have good early companionship.

'The general sentiments of boys and youths in the great public schools and colleges of England—thanks to the high-minded masters who have been at their head—is, on the whole, good and honourable. It may be taken for granted that a boy from Harrow, Eton, Rugby, Winchester, Westminster, or Uppingham, and, *à fortiori*, a man from Oxford or Cambridge, will despise lying and cowardice and admire fair play and justice. How grand a foundation for national character has thus been laid! What a debt do we owe alike to the Masters and the *Tom Browns* who have communicated the contagion of such noble emotions! In Continental *lycées* and academies public opinion among the boys is, by all accounts, wofully inferior to that which is current in our great schools. There has never been an Arnold in a French Rugby.

'As regards girls, their doubly emotional natures make it a matter of moral life and death that their companions (of whose emotions they are perfectly certain to experience the contagion) should be pure and honourable-minded.'[1]

Often, without observation or enquiry, people send their boys and girls to small daily preparatory schools, under no supervision whatever, and subject to no inspection as to sanitary arrangements, and these poor children are all day exposed perhaps to a more or less vitiated atmosphere, arising in some cases from defective drainage, in others from having too many children in small rooms with imperfect ventilation. The children do not, perhaps, perceptibly suffer, and may not for some time show any very apparent deterioration of health, but that they are affected cannot for a moment be doubted. Mothers say, 'I cannot make out why so and so looks so pale.' With a sigh of relief, 'I suppose it's because he or she is growing so fast.' It is wonderful how often children's losing colour is attributed to 'growing.'

Other causes, however, are invariably the real reason, and when children lose colour it should not be put down without

[1] Frances Power Cobbe, *The Education of the Emotions.*

investigation to 'growing fast,' hot weather, or other causes convenient to assign that to which might otherwise give reason for grave anxiety. We are all too ready to give our minds a quietus, even though we may have a lingering doubt, whether it may not result in ultimate worry and trouble. Alas! how we all follow every little *ignis fatuus* that comes across our path, and how blind we often are to what most concerns us! It would be a national blessing if private schools were put under some sort of supervision as regards drainage, water-supply, over-crowding, ventilation, feeding, &c.[1] Any child breathing contaminated air all day long *is undergoing slow poisoning*. It is of no use people being so very careful as to all sanitary arrangements in their own houses when they send their children to schools—without any enquiry—that are defective in this respect. There should most certainly be some restriction on the taking of children at little private schools, crêches, &c. Their stretching powers as to accommodation for children are often more regulated by £ *s. d.* in the one case, and mistaken philanthropy in the other, than is at all advisable.

Education is too generally regarded as a complete system of 'book learning,' and often it is more or less useless knowledge which is put into a child's mind by tuition. The studies in many instances are one dreary, dry, wanting-in-interest round of unvaried monotonous books, not one subject being made more interesting or more comprehensive. No explanation is given where it is most necessary, poor children having to tax their brains needlessly to puzzle out what a little timely explaining would render quite clear and better and more easily learnt. Sir John Lubbock, in speaking at the opening session of the Bromley (Kent) Association for the Extension of University Teaching, October 1887, said :—

'There used to be two ideas with reference to education which were, or he hoped soon would be, quite exploded. One was that anyone's education was ever complete. On the contrary, they ought to go on learning as long as they lived. The

[1] See 'Colds, Chills, and Rheumatism,' pp. 414, 415; also 'Water,' pp. 356–359, and 'Feeding,' p. 246.

second error was that subjects were better mental training and therefore educationally more valuable, if they were dry and uninteresting. He once heard a very distinguished schoolmaster say that he did not consider botany a good subject from an educational point of view, because it was so interesting. It would be almost more true to say that, except perhaps the rudiments of reading, writing, and arithmetic (though he should not himself except even them), education which was not interesting was positively mischievous.'[1]

It is a great pity so many delightful and interesting subjects of study are rendered dry and disagreeable by the manner of instruction. Lord Derby, in speaking on technical education, November 7, 1887, said : 'Those who learn only because they must will learn no more than they must, and will very soon forget the greater part of that.' Lord Derby added, the best years for education are those between fourteen and twenty, earlier application leading up to the more matured and advanced studies, suitable to a more developed mind.

'Nobody will deny,' said Lord Derby, 'that the years between fourteen and twenty are the most important years of life, those most capable of being utilised on the one hand and most likely to be wasted or abused on the other.'

Professor Huxley, speaking at a meeting held at the Town Hall, Manchester, in November 1887, in support of the National Association for the Promotion of Technical Education, said 'that the system of our primary education had the defect which was common to all the educational systems we had inherited. It was too bookish and too little practical. The child was brought too little into contact with actual facts or things, and as it stood at present it constituted next to no education of those particular faculties which were of utmost importance in industrial life—the faculties of observation, of accurate work of dealing with things instead of with words. He laid great stress on the teaching of drawing for children, not artistic drawing, but drawing rather of the nature of plans and sections. They might take the commonest objects and

[1] *The Times*, Tuesday, October 11, 1887.

lead a child from the foundation to truths of a higher order.' [1]

Mr. Mundella, in speaking of the 'improved state of education generally in this country,' observed: 'The conviction that the masses of the people were receiving so good an education would cause the class above them to look into their own schools to see how far they were keeping pace with those improved schools that were under the supervision of school boards and voluntary bodies. He highly commended Professor Huxley's recent address at Manchester, and agreed with every word of it. It was quite true that our elementary education was somewhat too bookish and hardly sufficiently practical. It relied too much upon the memory and too little upon oral demonstration and object lessons. There was a tendency to teach the children rather to remember than to think. He advocated the teaching of drawing in every elementary school. He did not mean artistic drawing, but something approaching to geometrical drawing would prove of infinite value in every industrial pursuit.' [2]

How few things are taught well, agreeably, or thoroughly—music, for instance! How many, although taught for a length of time, ever play a single tune so as to please anybody? Take French, again: does anyone learn it so that when they go abroad the natives can understand them? Or take the English language: is it so taught that anyone could write a *thème* worth reading on any given subject? In reference to the latter, it is a pity dictation, and the proper mastering of the various meanings of words, and to pronounce and spell them correctly, does not enter more largely into the system of education of both boys and girls. It would prove of great service to many if children were taught spelling by a system of dictation instead of by the time-honoured spelling-book—long rows of words, both words and meanings equally difficult to fix in the mind, are learnt by rote, and the memory is taxed and fatigued to very little purpose. I have seen children repeat page after page of spelling, learnt with great difficulty by

[1] *The Times*, Wednesday, November 30, 1887.
[2] *Ibid.*, Friday, December 2, 1887.

heart, and the week after, there being nothing to fix the words in the mind, they were not able to spell a single word learnt; the meaning of the words being equally absent. It is a great misfortune for many young people in after-life that they are not trained to more thoroughness. If all did what they had to do to *the best of their ability*, there would be fewer mediocrists in the world.

Too many subjects are, as a rule, undertaken, and the labour which would be better concentrated on a few necessary studies to be thoroughly mastered is allowed to overspread many and unneeded subjects, so that time is lost and labour wasted. One of the gravest errors and greatest misfortunes to a boy is to give him the idea that he will have a competence, and so it matters little whether he works well at his studies or not. This has been the ruin of many. Brought up with large ideas of future ease, depending on already provided wealth, adverse fortune has stepped in to find the deluded expectant totally unprepared for the battle of life; and where is the time for getting ready when the war cry is near? Make a boy work conscientiously and honestly at his studies, whether it is likely he will have sufficient to live on without his own exertions or not. A good education is never useless. Often people become teachers of subjects they are only imperfectly acquainted with themselves. Persons with the most rudimentary knowledge of French and music attempt to teach these intricate subjects.

French, especially, is often taught in a way that it is simply of no use whatever—the pronunciation often being altogether wrong. The ludicrous rendering of the word 'goût' by pronouncing it the same as a Frenchman would pronounce 'the enemy of old gentlemen'; 'jamais' as if it were a near relation of our good English preserve; 'joli,' jolly, as if mirth were indicated, are specimens of pronouncing that much-murdered language, French, which are not desirable. How many ever see—by being even occasionally present—how their children are taught? The children have their governess. Her reference (perhaps, without its being known, given by a relative) is good—*ergo* the children are well taught. As

regards engaging foreign nurses, governesses, and teachers, the greatest care should be exercised in seeing that they are in every way suitable persons. Why the mere fact of anyone having a different nationality should gift them with unknown virtues and qualifications is one of those strange hallucinations the absurdity of which is only exceeded by its dangerous nature. Why it should be deemed necessary to enter into all sorts of explanations and to make all kinds of inquiries if the person seeking the post of governess is English, yet, if they are French, Swiss, or German, less inquiry should be thought needed, is one of those curious anomalies of which life is full. That it is of great importance to fully enter into all details as to character, disposition, and acquirements, whether the nationality of the person undertaking the engagement is foreign or not, will manifest itself to any thinking and reflective mind. That anyone, whether English or foreign, without due inquiry should prove to be perfectly suitable for the position they wish to undertake is to take matters for granted in a manner which is very unadvisable.

It is a great mistake looking upon masters and governesses as teachers only, and having no influence in the formation of character. 'A professor or governess is engaged to instruct boys or girls, let us say in Latin, history, or physiology, and it is assumed that he or she will act precisely like a teaching machine for that particular subject, and never step beyond its borders. A little common sense would dissipate this idle presumption—supposing it to be really entertained, and that the mania for cramming sheer knowledge down the throats of the young does not make their elders wilfully disregardful of the moral poison which may filter along with it. Every human being, as I have said, exercises some influence over the emotions of his neighbour, but that of a teacher, especially if he be a brilliant one, over his students, often amounts to a contagion of enthusiasm throughout the class.'[1]

Many people are under the impression that if they get any sort of person, provided they are Swiss, French, or German,

[1] Frances Power Cobbe, *The Education of the Emotions.*

their children will not only learn the language the person speaks, but will learn it properly as well as fluently. This is often found to be a great mistake. As there are many different ways of speaking English—in fact, what is called an educated and an uneducated manner of speaking—so equally, in foreign languages, there are many quite opposite modes of speaking German, French, Italian, and other languages—for instance, those coming from the provinces do not speak so well as those from the capitals. In many instances it has been found that the language taught to children by a person of inferior education has had, with much difficulty and trouble, to be re-learnt. Many who would, in their own country, be only regarded as having the education of a servant are in England placed in the position of instructor. It is of the greatest importance in order to acquire any language—so as to speak it with purity and elegance—to learn it from those who not only speak the language fluently, but also grammatically and with a good accent.

In his opening address as Chairman of Council of the Society of Arts, November 1887, Sir Douglas Galton, K.C.B., F.R.S., remarking on languages in relation to commercial education, said : 'In dealing with the chief requirements of a commercial training he would point out that in addition to the elements of a good English education the most important consideration was that of foreign languages, which must be taught especially in relation to the commercial expressions used. Next would come instruction in commercial geography ; but competent teachers of this might be said as yet scarcely to exist. Then came the question of commercial museums, which should be found in all higher elementary and modern secondary schools. In the higher elementary schools book-keeping should be taught as a branch of commercial arithmetic, and in these and higher schools instruction should be given in the principles of political economy. Evening classes should afford opportunities for practice in speaking and writing foreign languages, and should supply good instruction in commercial arithmetic, book-keeping, shorthand, and commercial geography.' [1]

[1] *The Times*, Thursday, November 17, 1887.

In a discussion on a recent paper on 'Commercial Education' by Sir Philip Magnus at the Society of Arts, December 1887, it was observed that 'the English had an excellent business training and knowledge, had more stamina, more fibre, a better outward bearing, but they lacked the mental training which was so needful for the young men of the present day. They were taught the dead languages, which were very valuable accomplishments, and which no one who had the advantage of possessing would undervalue, but they were luxuries, and for the purpose of enabling young men to earn their living they wanted not dead but living languages. It was only when you could enable living persons not to study with a dictionary at their side, but to write, if possible, in shorthand, the words which were hurriedly dictated in any language, that you would put your own people on a level with the foreigner, in whom you had no such interest.'

I have myself often been much struck, when abroad, with the necessity for learning foreign languages so as to be able to speak them *colloquially*. This does not imply learning a language so as to speak it vulgarly. I had an instance of this brought forcibly once under my notice—a clergyman who had taken charge of an English church abroad. He read, translated into good English, and wrote the language of the country he was in, but was quite unable to make a single individual comprehend what he said, and was in consequence at times placed in very awkward dilemmas. One of the speakers at the meeting [1] remarked : 'Every boy who wished to enter commercial life should acquire a knowledge of foreign languages. But there was one great defect in the teaching of Latin and Greek in England, inasmuch as they were taught to be pronounced as if they were English. He was taught Latin in such a way that it helped him to learn French, Spanish, Italian, and Portuguese, and Greek so that he was able to read and write modern Greek.'

Sir John Lubbock, M.P., in an address on Commercial Education, observed : 'What I should like to urge on the

[1] At the Scciety of Arts, December, 1887.

Oxford and Cambridge School Examination Board would be to grant no certificates for boys up to sixteen except to candidates who satisfy them in Latin, French, German, or some other modern language, arithmetic, history, geography, and elementary science. That would be only six subjects. It will be observed that they admit only French and German. No doubt these two languages are most generally useful, but surely others ought not to be excluded. We have important relations with other countries, and if we were educating all our boys on a definite system, while we should no doubt teach the majority French or German, we should certainly devote some to Italian, Spanish, and so on. If that were done I think it would certainly have a very salutary effect on the curriculum of our schools.' [1]

Sir John Lubbock added: 'As regards modern languages there are over forty schools in which either no modern languages are taught or less than two hours per week are given to them, and in more than half our schools less than four hours a week are allotted to them—an amount which is obviously quite insufficient; and there are only thirty schools out of the whole number in which as much as six hours per week are devoted to modern languages, literature, and history. Moreover, at some of the largest and in many respects best schools French and German, when taught at all, are taught as dead languages. . . . The result of the inquiries made by the London Chamber of Commerce has been that "it is the almost universal testimony of those who have responded to the question, that foreigners, and especially Germans, are employed in this country to do work which Englishmen ought to perform, and would be employed to perform if they were properly educated. Moreover, there is no reciprocity in foreign houses, and the German clerks, who are so largely employed in London, do not make room for any similar class of young Englishmen in foreign counting-houses." . . . Again, the Consular Reports show that we are losing trade for want of a knowledge of the requirements of foreign markets and the places to which goods

[1] *The Times*, Thursday, November 24, 1887.

might advantageously be sent. They state one after the other that the German commercial travellers are gradually and rapidly extending German commerce and the use of German manufactures. In Italy and Spain, for instance, there are thirty German commercial travellers to one Englishman, and thus, as "The Times" says, "Germany is rapidly securing the major part of the imports into these countries on account of its superior commercial travellers." How can it be otherwise? At present there is scarcely a school in England where a boy would acquire such a knowledge of Italian and Spanish as would enable him to undertake such a post. Indeed, not one Englishman in a hundred can speak any language but his own. We hear a great deal now about technical education, and it is almost as important that education should be wisely directed towards a judicious preparation for commercial pursuits as towards those connected with productive industries. (Hear hear.) As Sir Philip Magnus well puts it, 'For the maintenance of our trade and commerce, fitting instruction must be provided for those who are to be engaged in distribution as well as in production.'

Sir John Lubbock further remarked: 'Reading, writing, arithmetic, book-keeping, a thorough knowledge of geography, a fair acquaintance with history, a good grounding in physical science, and as much mastery—literary and colloquial—as possible of two or more languages, form nowadays the much more sensible equipment with which a youth of fifteen or sixteen leaves school for business.'

Dr. Percival, head-master of Rugby School, said: 'He ventured to say that the great majority of those Germans who were competing so successfully with us in the various departments of industry and commerce did not owe their success to the fact of their having been brought up in any peculiar commercial or technical school so much as to the excellence of their general education and the adaptability of that education to the pursuits of life.'

Milton's[1] 'We do amiss to spend seven or eight years merely in scraping together so much miserable Latin and Greek as might

[1] *Essay on Education.*

be learnt otherwise easily and delightfully in one year. . . . Though a linguist should pride himself to have all the tongues which Babel cleft the world into, yet, if he have not studied the solid things in them as well as the words and lexicons, he were nothing so much to be esteemed a learned man as any yeoman or tradesman competently wise in his mother dialect only,' is as worthy of attention in these modern times as in the days spoken of by Milton. Education should be a forming of the mind, a developing of the faculties, the gaining of a knowledge bearing on the practical details of life, books being an aid, but still not being used to the entire exclusion of the teaching of those useful homely things of every-day life which some day or other, it may be found, it is necessary to know. Why are darning, plain sewing, hemming, cutting out of garments, seldom or never taught to girls now? The knowledge of the proper way to do these simple things might be of great use at some time in life to many who have but slender means. Mrs. Fenwick-Miller writes :[1] 'The girls of the whole country are taught needlework in a way that is useless to them for their future lives, that is, injurious to their eyesight, and that squanders a large proportion—generally one-fifth—of their too brief school-time.'

Mrs. Miller adds : 'Needlework is taught in Board and denominational schools, not as a domestic art to be used in private life, but as an industrial art to be followed for money. All girls are compelled to sacrifice time and eyesight to learning this art in our schools, while there is but small demand for it, and therefore the remuneration to be got for it is cruelly low.'

Books ! Does anyone ever thoroughly realise what they are to us? We are so used to our newspapers and our pet books[2] that I suppose none of us ever give a thought how much pleasure in life we owe to them, or what part books take in adding to the pleasurable enjoyment of life. 'It is chiefly through books that we enjoy intercourse with superior minds, and these invaluable means of communication are in

[1] *The Illustrated London News*, April 14, 1888.
[2] See 'General Remarks,' p. 6.

the reach of all. In the best books great men talk to us, give us their most precious thoughts, and pour their souls into ours. God be thanked for books! They are the voices of the distant and the dead, and make us heirs of the spiritual life of past ages. Books are the true levellers. They give to all who will faithfully use them the society, the spiritual presence, of the best and greatest of our race. No matter how poor I am; no matter though the prosperous of my own time will not enter my obscure dwelling: if the sacred writers will enter and take up their abode under my roof, if Milton will cross my threshold to sing to me of Paradise, and Shakespeare to open to me the worlds of imagination and the workings of the human heart, and Franklin to enrich me with his practical wisdom, I shall not pine for want of intellectual companionship, and I may become a cultivated man, though excluded from what is called the best society in the place where I live.'[1] Free access to good literature is an essential element in the education of children and young people. They should be given to read and to study those good and valuable works contributed by our great authors, as nothing will so help to form and cultivate the mind. 'Books, as Dryden has aptly turned them, are spectacles to read nature. Æschylus and Aristotle, Shakespeare and Bacon, are priests who preach and expound the mysteries of man and the universe. They teach us to understand and feel what we see, to decipher and syllable the hieroglyphics of the senses.'[2]

Sir John Herschell writes:[3] 'If I were to pray for a taste which should stand me in stead under every variety of circumstance, and be a source of happiness and cheerfulness to me through life and a shield against its ills, however things might go amiss, and the world frown upon me, it would be a taste for reading. I speak of it, of course, only as a worldly advantage, and not in the slightest degree as superseding or derogating from the higher office and surer and stronger panoply of religious principles, but as a taste, an instrument,

[1] W. Ellery Channing. [2] Hare.

[3] *Address to the Subscribers to the Windsor and Eton Public Library*, 1833.

and a mode of pleasurable gratification. Give a man this taste, and the means of gratifying it, and you can hardly fail of making a happy man, unless, indeed, you put into his hands a most perverse selection of books. You place him in contact with the best society in every period of history—with the wisest, the wittiest, with the tenderest, the bravest, and the purest characters that have adorned humanity. You make him a denizen of all nations—a contemporary of all ages. The world has been created for him. It is hardly possible but the character should take a higher and better tone from the constant habit of associating in thought with a class of thinkers, to say the least of it, above the average of humanity. It is morally impossible but that the manners should take a tinge of good breeding and civilisation from having constantly before one's eyes the way in which the best-bred and the best-informed men have talked and conducted themselves in their intercourse with each other. There is a gentle but perfectly irresistible coercion in a habit of reading, well directed, over the whole tenor of a man's character and conduct, which is not the less effectual because it works insensibly, and because it is really the last thing he dreams of. It cannot, in short, be better summed up than in the words of the Latin poet: "Emollit mores, nec *sinit* esse feros." It civilises the conduct of men, and suffers them not to remain barbarous.'

Lord Derby, speaking on education in 1887, observed: 'In our climate many evening hours must be spent indoors. Where will they be spent, and how? Upon the answer to that question the future of a life may depend. I will not dwell in detail on what is, perhaps, the most hackneyed of all subjects of popular discussion, the value and the use of books. I say, from my own experience and feeling, what Lord Macaulay said many years ago, in better words than I can command, that a genuine taste and love for reading is in itself a greater source of happiness than any external advantages of favour or fortune whatever.'

The training of every child should begin from an early age. According to a child's early bringing up, the qualities

necessary for a happy, prosperous existence will be developed, or it will be, when grown up, like a badly manned ship, subject to the storms and buffetings of life without suitable knowledge for guidance. In fact, the pressing need of the day is that education shall be not so much 'book-learning' taught by mere routine, a cramming of useless knowledge, as the mastering of useful subjects, having a direct bearing on ordinary daily life. Any education to be of service should help to train a boy or girl so that when thrown on their own resources they may have those qualities developed which will enable them to rely on and be helpful to themselves.

Education is valueless when it consists in merely a certain quantity of useless knowledge being acquired. Education should be the acquirement of knowledge having a direct bearing on the *future position* of the scholar. How is it that so many young men have to go under a regular course of instruction when their education is supposed to be finished? In many cases spelling, arithmetic, history, and other simple subjects have to be learned with much trouble by young men because some public examination demands a thorough knowledge of these things, and they don't know them, or perhaps only superficially know them, although their whole early life has been passed at school. Any coach or tutor for the public examinations can testify how utterly misdirected and neglected is the fundamental and English education of many a young man. 'Mr. Anderson said, in his opinion, Englishmen were particularly fitted for acquiring a knowledge of foreign languages, and English mechanics who went abroad on any job were generally able to make the natives understand them in about six months. He had had a great number of young men from Harrow, Rugby, and Eton, and he found that they knew English imperfectly, while as to the other languages they knew nothing at all about them, although they went abroad to foreign countries as engineers.'[1] Young girls' education is equally the same, vast sums of money being spent with no result—time and money literally thrown away.

[1] Discussion on Mr Swire Smith's paper on 'The Technical Education Bill,' *Society of Arts*, Wednesday, February 29, 1888.

Milton's lament is as true in our day as in his. 'These, writes Milton, 'are the errors, and these are the fruits, of misspending our prime youth at the schools and universities, as we do, either in learning mere words or such things chiefly as were better unlearned.'[1]

It is very sad, but it often happens that those holding fair positions live up to their incomes, and often, knowing perfectly well that when they die they will leave their family very inadequately provided for, yet make no effort to educate their children in such a manner that if their parents die suddenly, leaving them thus unprovided for, they can, if old enough, find remunerative employment.

It is so hard to grasp the idea of death as concerning oneself. In some cases parents, dying suddenly, leave their poor children in a deplorable plight. Girls, in view of being left without means, always seize the idea that they could without any difficulty become governesses, forgetting that some amount of training, aptitude for imparting knowledge to others, and self-denial are necessary. It is very curious, but nevertheless a fact, that the most incapable and most incompetent persons wish to become governesses, and think a governess's life not only the easiest life, but the one needing the least qualification for the discharge of the duties connected with it—just as persons who fail at everything else think they will do admirably as nurses. It is almost a universal belief that anyone and everyone is capable of being either a children's nurse or governess. Thus it is that so many poor, slovenly, useless, unfit persons try for these positions, knowing absolutely nothing of the nature of the duties attached to the posts they wish to undertake. In their opinion, 'Possunt quia posse videntur,'[2] and they are much surprised when they find the service they have entered full of unthought-of difficulties.

It is emblematic of human nature that it is always 'cruel fate' that is at fault, not ourselves, and we are all ready to believe that we are very ill-used when we do not succeed,

[1] *Essay on Education.*

[2] 'They are able because they think they are so.'

because we are under the impression that we ought to. There has been a great deal of talk at various times as to the employment of ladies in domestic service. The idea, however, although based on philanthropic principles and thought to be capable of being worked out, has not proved satisfactory. Domestic service requires different qualifications to those possessed by reduced ladies, who are often idle, listless, unmethodical, and unfitted for the kind of work necessarily involved in the duties which those engaged in household servitude have to perform.

It is urged that ladies would be well fitted for nurses. Theoretically, the idea has much to commend it, but reduced to a practical reality it not only does not answer, but is found even to involve much household trouble and disquietude. The homely commonplace details of nursery work the ordinary nurse of average ability fulfils not only to the benefit of those entrusted to her care, but to the satisfaction of her employer, as a rule.[1] From all I have seen, I am inclined to believe that no young lady would fill a nurse's place as comfortably or as well as the ordinary nurse. When old enough, when you want education, by all means put children in the hands of a lady, but for the nursery undoubtedly the humble nurse of time-honoured antiquity, who in honest fidelity to her little charge fulfils without question and quietly her various duties, is best.

If young ladies as nurses had merely to go out in a carriage with a beautifully dressed infant, it would be all very well. But baby is not a wax doll, and requires assiduous care, and much that can be best rendered by someone used to the prosaic details of life. I am sorry to say young ladies too often take life on its surface view, and form from this quite erroneous ideas of what is required of them, to the great annoyance of those employing them, and occasionally to the detriment of those committed to their charge. They mean to do their duty, and, indeed, have very grand ideas—only they are abstract—of duty. They mean very well, but, as the American said, 'I guess there's more talk than do.' In all the instances which have come under my notice lady-nurses

[1] 1 Thessalonians ii. 7.

have not answered. In some cases they were physically unqualified for the work required to be done. In others they either could not or would not give that undivided attention to the work which is needed. The one monotonous round of nursery duties is not calculated to be delightful to a young lady.

The ordinary nurse has the little distractions of gossip with her fellow-servants, and other means of varying the dreary round and sameness of nursery life, which the young lady cannot have. Sick-nursing, undertaken on religious grounds, is enveloped with an enthusiasm which thus invests the dry details with a halo of agreeable sensations. But with the ordinary nursery life this is all absent. Sick-nursing, a woman is apt to feel that the thought of the goal of life—marriage—may be cherished as a destiny possible, nay probable ; but, put on a level with servants, a woman feels she has slipped down in the social scale, and invariably laments the destruction of many a budding hope by the stern reality of life embodied in her daily existence. Any education which unfits a child as it grows up for its sphere, and renders it, as the years roll on, discontented, or ashamed of what it is born to, and so cannot help, and yet totally unfitted for, and unable to attain to, any better position, is an education, which is of no benefit whatever.

Why is it that people who have made money in trade are so ashamed of the fact of its being made by commerce ? England at various times has been designated a 'nation of shopkeepers.' 'To found a great empire for the sole purpose of raising up a people of customers may at first sight appear a project fit only for a nation of shopkeepers.'[1] 'And what is true of a shopkeeper is true of a shopkeeping nation.'[2] Why should individuals so abhor what only applies to them as it does to a large community ?

People treat others (children even treat other children, following the example set them) with contempt, because the one, or the parent of one, is able to attain to the learned pro-

[1] Adam Smith's *Wealth of Nations*, vol. ii. book iv. ch. vii. part 31,775.

[2] Tucker, Dean of Gloucester, *Tract* 1766.

fessions, and the other is obliged to be contented with 'that odious business'—not, however, that it is at all respect for the learning or cleverness which has reached the envied height. It is only that trade is looked down upon as a means of living by those more fortunately (as they imagine) circumstanced. We can't all be great people. Where are 'the hewers of wood and the drawers of water' to come from? And are we relatively worse because our father kept a shop perhaps?[1] Or are we in any essential respect worse because nature has only gifted us with a small modicum of brains, and we cannot attain to the heights which are reached by learning and talent only? There have at all times been instances of people who have by either their great talent or by the force of circumstances risen to positions which at the beginning of their existence it would have seemed impossible they could reach, but these are exceptional cases, and in the majority everyone has to live the life they are born to, and education can after all only help to fit them for it.

Everyone is formed by surroundings, and in but few instances is there any possibility even of breaking away from the ordinary course of human affairs as affecting each individual. Education if rightly directed will not produce discontent, although it may, and with advantage, create a desire to do better in life. Education should be a help, not a drawback. It should give the power and the capability of employing and using the faculties God has endowed His highest creation with. Education should help to develop all those good qualities on which so much of the happiness and comfort of life depends —patience, perseverance, courage, humanity, firmness, truth, purity, honesty, goodness. Nothing is sadder than to see someone to whom God has been very bountiful—endowed

[1] Euripides was the son of a fruiterer, Virgil of a baker, Horace of a freed slave, Anoyat of a currier, Voiture of a tax-gatherer, Fletcher of a chandler, Massillon of a turner, Tamerlene of a shepherd, J. J. Rousseau of a watchmaker, Ben Jonson of a mason, Shakespeare of a butcher, Sir Thomas Lawrence of a custom-house officer, Collins of a hatter, Sir Edward Sugden of a barber, Thomas Moore of a grocer, Rembrandt of a miller, Garfield and Abraham Lincoln of poor farmers. Demosthenes, the famous Grecian orator, Ray, the naturalist, and Thomas Cromwell, Earl of Essex, were all sons of blacksmiths.

with youth, health, and many other good gifts, such as wealth, position, friends, and a good home probably, and having no real cause for unhappiness—yet all that can be said is, 'Omnia vanitas et vexatio spiritûs.'[1]

'Life is as tedious as a twice-told tale.'[2] Life is not worth living. Life not worth living!—when all around there is so much to make it happy. Education is, indeed, a sad failure when it does not produce a better utterance by forming the qualities, and giving the knowledge which will help to do away with that enemy to all contentment, *ennui*. 'For I have learned, in whatsoever state I am, therewith to be content.'[3] How few of us can say this! Even when we have the very cream of existence there is always a lurking dissatisfaction with life as we find it. 'Man never is, but always to be blest.'[4] 'How small a portion of our life it is that we really enjoy! In youth we are looking forward to things that are to come; in old age we are looking backward to things that are gone past; in manhood, although we appear, indeed, to be more occupied in things that are present, yet even that is too often absorbed in vague determinations to be vastly happy on some future day when we have time. Men spend their lives in anticipations, in determining to be vastly happy at some period or other *when they* have time. But the present time has one advantage over every other, it is our own. Past opportunities are gone, future are to come. We may lay in a stock of pleasures as we would lay in a stock of wine; but if we defer the tasting of them too long we shall find that both are soured by age.

'Let our happiness, therefore, be a modest mansion which we can inhabit while we have our health and vigour to enjoy it, not a fabric so vast and expensive that it has cost us the best part of our lives to build it, and which we can expect to occupy only when we have less occasion for a habitation than a tomb. It has been well observed that we should treat futurity as an aged friend from whom we expect a rich legacy. Let us do nothing to forfeit his esteem, and treat him with

[1] 'All is vanity and vexation of spirit.'
[2] Shakespeare.
[3] Philippians iv. 11.
[4] Pope.

respect, not with servility. But let us not be too prodigal when we are young, or too parsimonious when we are old, otherwise we shall fall into the common error of those who, when they had the power to enjoy, had not the prudence to acquire, and when they had the prudence to acquire had no longer the power to enjoy.' [1]

'Some pass their life away—an idle, wasted, unhappy, profitless life—in idle dreaming, speculating on an improbable future. The present, instead of being taken up with the ordinary daily duties conscientiously performed, is wasted in useless speculation on what can never happen. This most lamentable state is in many cases begun in early youth, and in mature years, the habits of life being formed, no hope can be entertained of amendment. "Once a dreamer, always a dreamer," says a Spanish proverb.

'It is a subject of frequent regret to me that so many circumstances of our youthful days are entirely obliterated from my memory which it would have been pleasing or mournful or salutary occasionally to review, and I attribute this loss very greatly to the habit, early formed and deeply rooted, of imaginative musing (vulgarly called castle-building). If I had twenty voices I would raise them all to warn my children and young friends against this pernicious luxury. It indisposes to immediate duty, shuts the eye to the living world, renders tasteless the wholesome viands of domestic life, eats out the heart and essence of prayer, and leaves a dense fog to obliterate pages and volumes of useful memory and valuable acquirements.' [2] Of all acquired things, education which expands and enlarges the mind is the most to be desired.

It is seldom if ever thought of, how home life influences education. Home and school are hardly ever associated together in people's minds as regards education; school life being so dissimilar from home life, the two are invariably considered apart, yet the two are in reality inseparably connected—the one having a direct bearing on the other. The first developing of the mind and general knowledge begin at home,

[1] Colton, *Lacon*, pp. 135, 136.

[2] *Life of Ann Taylor.*

and as soon as a child is old enough to observe. It is in the years of home, not of school life, that the tastes and habits of life are formed. What is learnt at home leaves an indelible impress on the mind. Home is the place where the lesson of life is first learnt.

'Just as the twig is bent the tree's inclined.'[1] There is no eye so keen as a good mother's, and she should never permit her eyes to be useless when her children are in question. Children sometimes have to undergo many little but still trying ills at school which it would often be well if parents were made acquainted with.

Much of the reticence of children as to themselves comes no doubt from the absence of that thoroughly confidential feeling which ought in every case to exist between parent and child. Girls will sometimes confide in a friend what they will hesitate to tell their own mother, but is not this greatly to be deplored, and should such a state of things ever exist? It is best, except in cases of extreme delicacy of health, or some distressing bodily deformity or affliction, for boys, when old enough, to go to school. By mixing with other boys of their own age boys become more fitted for the world.

'The great mass of mankind want the same elements of education. The *pabulum vitæ* is common to human nature; specific medicines are for disease. It must be a mistake to constitute an entire dietary medicinally. Such violence might indeed stamp out any disease, but it could only be followed by a morbid condition of life.'[2]

For girls a different training to that given to boys is advisable, and in some instances girls will grow up best at home—that is, of course, supposing that they can be well educated at home—and are best subject to the softening, refining influence of domestic life. They should, however, have in their home regular and agreeable employment, and should learn domestic duties calculated to be of service to them when they grow up. In educating girls, as with boys, what will probably be their future life should be considered. Girls who will have to more

[1] Pope.
[2] Lord Norton, *The Nineteenth Century*, January 1887, p. 115.

or less 'rough it' when they grow up will probably be best placed at school. By mixing with other girls, and by coming in contact with a life totally dissimilar to home life, they will acquire, not only self-confidence, which will be of service to them in 'the battle of life,' but will as well gain a more robust state of mind, and will more or less lose that timidity which home life is apt to create. Girls also who have a craving for excitement, and are of a restless, unquiet spirit, are generally much improved by going to school, the routine, regular employment, and repressive influence of school life being of much service in inducing a quiet, orderly tone of mind. Many girls are of such a nature that to place them at school is absolutely necessary; entirely brought up at home, they become unfitted for, and impatient of, that subjection to control and obedience to rule which are of so much service in helping young people to grow up well. There are so many congenial employments at school rendered delightful by the companionship of those of a similar age and capacity that the beneficial effect of school life on both boys and girls is apparent.

'Youth insists on being amused, and clever youths find intellectual amusements the most fascinating of any; but, as children say, it is dull to play with oneself, and if the game is spoilt for want of school-fellows the delightful play of young minds, instead of leading up to still more delightful work, gradually loses its charm, and one more of the clever girls, who might have grown into an able woman, drops out of the field altogether, and spends or wastes her brain-power in some quite different direction. If women are to do any kind of literary or other intellectual work, however humble, it is for the interest of the community that they shall be taught and required to do it as well as their natural faculties will allow. The world and even its immortals exist, after all, for the many, not the few, and in the case of both men and women alike the main business of education must be to teach the many to understand and enjoy, while the very, very few who can originate or impart will educate each other, if we leave them free to do it, and guard against having the light of any promising capacity snuffed out

by discouragement in the tender years of youth with their irrecoverable treasures of vitality.' [1]

Training girls merely with a view to their shining in, and being fitted for, society, is a mistake sometimes ending in utter ruin of life and happiness. 'The chief end to be proposed in cultivating the understanding of women is to qualify them for the practical purposes of life. Their knowledge is not often, like the learning of men, to be reproduced in some literary composition, nor ever in any learned profession : but it is to come out in conduct ; it is to be exhibited in life and manners. A lady studies, not that she may learn to debate, but to act. She is to read the best books, not so much to enable her to talk of them, as to bring the improvement which they furnish to the rectification of her principles and the formation of her habits. The great uses of study to a woman are to enable her to regulate her own mind, and to be instrumental to the good of others. Study, therefore, is to be considered as the means of strengthening the mind and fitting it for higher duties, just as exercise is to be considered as an instrument for strengthening the body for the same purpose.' [2]

A crying evil of the day is bringing girls up with the idea that marriage is the one and sole end of woman's existence—the idea that marriage means a 'good establishment,' greater liberty of money, less control, and more freedom of action to do everything ; and whatever is self-pleasing is so rooted sometimes in young girls' minds that when they are awakened to the real duties of married life—its household cares, responsibilities, trials, and worries—they are not only sadly disenchanted,[3] but are too often, by want of having had proper education and training, totally unfitted for what they have (so lightly and thoughtlessly, perhaps) undertaken, and the result is lamentable to themselves and others. A serious duty rests with all mothers to educate and train their girls so

[1] Edith Simcox, *The Capacity of Women.*

[2] Hannah More, *Female Education.*

[3] 'Le mariage est comme une forteresse assiégé ; ceux qui sont dehors veulent y entrer et ceux qui sont dedans veulent en sortir.'—Un proverbe Arabe. Quitard, *Etudes sur les Proverbes Français.*

as to make them—if it is their lot in life to marry—good wives and good mothers.

> The reason firm, the temperate will,
> Endurance, foresight, strength and skill
> A perfect Woman, nobly planned to warn,
> To comfort and command.[1]

'There is surely something in the deep heart of woman capable of a nobler ambition than that of merely securing as husband the man she most admires. To make that husband happy, to raise his character, to give dignity to his house, and to train up his children in the path of wisdom—these are the objects which a true wife will not rest satisfied without endeavouring to attain. And how is all this to be done without reflection, system, and self-government? Simply to mean well may be the mere impulse of a child or an idiot, but to know how to act well, so as that each successive kind impulse shall be made to tell upon the welfare and the happiness of others, is the highest lesson which the school of moral discipline can teach. Nor is it only by the exercise of a high order of talent that this branch of wisdom can be attained. It is by using such talent as we have, by beginning early to observe and to think, to lay down rules for self-discipline, and to act upon them, so that in after-years they shall have become too familiar and habitual to require an effort to maintain. Thus it is unquestionably better that the great work of mental discipline should be commenced after marriage than not at all; but the woman who delays this work until that time is not much wiser than the man who should have to learn to walk after he had engaged to run a race.' [2]

Speaking of the marriage of young people, Dickens writes: [3]

'Before marriage, and afterwards, let them learn to centre all their hopes of real and lasting happiness in their own fireside; let them cherish the faith that in home, and all the English virtues which the love of home engenders, lies the only true source of domestic felicity; let them believe that round the household gods contentment and tranquillity cluster

[1] Wordsworth. [2] Mrs. Ellis, *Wives of England*, pp. 59, 60.
[3] *Sketches of Young Couples.*

in their gentlest and most graceful forms, and that many weary hunters of happiness through the noisy world have learnt this truth too late, and found a cheerful spirit and a quiet mind only at home at last.

'How much may depend on the education of daughters and the conduct of mothers ; how much of the brightest part of our old national character may be perpetuated by their wisdom, or frittered away by their folly ; how much of it may have been lost already, and how much more in danger of vanishing every day—are questions too weighty for discussion.'

'We must all have trials and vexations ; but if one's *home is happy* then the rest is comparatively nothing.'[1]

It is not well to bring girls up to feel above the ordinary duties and ordinary life of humanity. They should on the contrary be trained so as to fit them for the little cares, the little pleasures, and the little daily routine of commonplace existence which is the lot of most.

A creature not too bright or good
For human nature's daily food,
For transient sorrow's simple wiles :
Praise, blame, love, kisses, tears, and smiles.[2]

Alas ! how few women consider how much they influence the happiness of those around them—how much their daily life affects those they are brought in contact with ! With many life is a search after happiness and pleasure which often proves as delusive and illusory as a mirage in the desert.

If solid happiness we prize,
Within our breast this jewel lies,
And they are fools who roam.
The world has nothing to bestow ;
From our own selves our joys must flow,
And that dear hut—our home.[3]

Still to ourselves in every place consigned
Our own felicity we make or find.[4]

It is a great pity to see girls aping the manners of the

[1] Letter from Her Majesty Queen Victoria to the late King of the Belgians.
[2] Wordsworth. [3] Nathaniel Cotton. [4] Johnson.

opposite sex, and being educated and trained in a way suited to a sex intended for a totally different manner of life to that for which a woman is by nature formed—her natural instincts, propensities, proclivities, and aspirations stifled and subdued, and those substituted and encouraged which do not adorn her sex.

'It is the fashion now to consider the abilities of women as being on an equality with those of men. I do not deny that there may be many women whose abilities and still more their powers of conversation are superior to those of the generality of men, but there never was among women a Milton, a Newton, &c. It is not surprising that so few, so very few, geniuses appear in the world, if we consider how many circumstances are necessary to their production; for it is not enough that nature has given a bold and enterprising spirit, capable of the greatest undertakings, if the shell it inhabits is rooted to one spot, and compelled to labour for daily bread: it is not enough that she has created a poet if the mind, full of ardour and enthusiasm, be doomed to plod the dull round of trade. She has in vain bestowed the faculty of deep investigation and of tracing the hidden cause of things on one who, in the constant hurry of action, finds no leisure for meditation: or given to a woman a spirit of curiosity, able to make useful discoveries in every branch of science, which, from a narrow prejudice, must be confined to the affairs of her neighbour. . . The progress of understanding is like learning to play on a musical instrument. Education does not create it any more than a music master creates fingers; it only gives us the power of using them rightly.'[1]

Nothing is more charming to see than a young girl, simple, natural, gentle, refined, unaffected, and polished in mind and manner. Children should be early taught politeness; not politeness and manners put on with the best dress. True politeness is that which springs from a nice mind and a kind heart, which refuses to wound others by acts of discourtesy. True politeness is rare, and more valuable than, perhaps, is

[1] Smith's *Fragments*, A.D. 1809.

often imagined. Children should be taught to cultivate a nice manner of speaking, a good accent, and a refined enunciation. The proper pronunciation of words should especially be attended to. The necessity for children learning to speak well in early life is obvious. The children of each do not only pick up the manners of the class they live with, but their tone and speech as well. It is a very curious fact that it is easier to alter anything than speech. A particular way of speaking will last a lifetime, despite all efforts to change it.

The accents of different counties are soon detected. If one observes servants—those who wait at table, for instance, and who are constantly brought in contact with educated people—yet their own manner of speech remains unaltered, not even being affected in the slightest degree. You will see servants live for years with educated people, and constantly hearing them talk, yet they personally are no different. It is the same as people continually hearing a musical instrument being played, yet they themselves do not learn how to play it by hearing the sound and seeing it played. The man who blows the bellows of an organ, although he hears the sound when it is played and sees even the mechanical movement, gains no knowledge of the instrument thereby. Speech is a matter of learning and tuition, and should be begun at an early age.

The follies of fashion are so numerous that one ceases to wonder at the vagaries of its votaries, but why it should be thought good breeding to mispronounce ordinary words is very strange. The fashionable drawl one has long been familiar with, but the present mode of calling *bridge bidge*, *rail wail*, *cab keb*, and so on, is not only wanting in the good taste fashionable people lay claim to, but is utterly ridiculous. That young people should be taught thus to spoil the English language—a language of so much force and beauty—is exceedingly foolish. What is more delightful than to converse with those who are well educated, and whose cultivated accent and clearly pronounced words strike with as agreeable a sound upon the ear as melodious music?

'Much has been said and written to prove a self-evident fact—viz., that it is an advantage to read and speak well.

However, I believe the time has at length arrived when elocution is considered to be a necessary branch of study in the vast majority of schools. Certainly it is a necessity for all entering the ministry of the Church, the Bar, or the Senate House. In every-day life is it not disagreeable to witness the futile efforts of the schoolboy when asked by his family to read a passage in the daily paper? Does he render it correctly and without hesitation? or rather, does he not stumble through the article, finding every unusual word a break-neck fence, and running sentence into sentence in the most ludicrous manner, until finally he is asked to cease altogether, for the powers of human endurance are limited?'[1]

Shakespeare says:[2]

> Practise rhetoric in your common talk;
> Music and poesy use to quicken you:
> The mathematics and the metaphysics.

And adds:

> No profit grows where is no pleasure ta'en.

A man of great learning and attainments incurred general ridicule at a meeting once by mispronouncing a word. A sarcastic smile passed round the assembly. Perhaps the derision would not have been so general had it occurred to anyone that, after all, language is merely a vehicle to convey our thoughts; and, although learned people are supposed to be well acquainted with pronunciation, spelling, and all those so-called 'small items' of education, yet, with a great depth of knowledge in one particular branch of study (probably acquired in later life), there is sometimes a woeful absence of knowledge as regards many smaller, and, because smaller, neglected matters, which are familiar to less-educated people. After all, if persons convey their ideas, and their ideas are good, the mere outer husk of speech is a small matter for consideration. I merely give the above to show the necessity for the proper instruction of children in correct speech.

'There is also with young and old a prevalent and bad

[1] John A. Jennings, M.A., F.C.D., *The Modern Elocutionist*, p. 21.
[2] *The Taming of the Shrew.*

habit of talking of persons rather than of things. This is seldom innocent, and often pregnant with many evils. Such conversation insensibly slides into detraction, and by dwelling on offences we expose our own souls to contagion, and are betrayed into feelings of pride, envy, and jealousy ; and even when we speak of others in terms of commendation we are sure to come in with a "but" at the last, and drive a nail into our neighbour's reputation! The disuse of good conversation proceeds from poverty of ideas no less than from want of heart religion. Persons select light and trivial subjects because they have no materials for a higher interchange of sentiment. If more pains were taken to cultivate the mind, there would be less difficulty in speaking to edification, and less need of having recourse to amusements, which differ little in their effect and influence from others which by common consent have been denounced as inconsistent with vital religion. Children are apt to trifle, and relate all they have heard without discrimination, and they need an elder to guide and give tone to their conversation.'[1]

People with a 'but' always mingling with their praise of others—is there a more harmful race? Who never quite destroy a reputation—only just blacken it a little. Mrs. So-and-so, such a charming person, you know, 'but'—and in the 'but' how much wrong to one's neighbour! Like the P.S. to a letter, which often contains the pith of the letter. He is a dear friend. I like him immensely, "but," you know, I wouldn't &c., &c.' And so it goes on, with wise look implying what sometimes has no foundation whatever. Far, far better the plain-spoken, honest man who says 'Tomkins is a rascal' (he thinks so, and therefore says so openly) than those people who, without a thought, sometimes smirch a fair reputation and always do incalculable underhand mischief. And if of the living we should speak well, how much more should we refrain from speaking ill of the dead? 'De mortuis nil nisi bonum.'[2]

The melancholy cadence of the lamentable plaint, 'You

[1] Rev. E. Bickersteth on *Conversation*.

[2] 'Let nothing be said of the dead but what is favourable.'

scarce can right me thoroughly then to say you did mistake,'[1] finds a place in the hearts of all who are unjustly wronged by the aspersions of the careless or thoughtless. 'You scarce can right me thoroughly then.' Whatever reparation may be made, it can never undo the suffering inflicted by injustice. 'To say you did mistake.' What balm is this to the sorely-wounded heart? What comfort to the cruelly-tried spirit? The sun may shine again on the broken snowdrop, but can it undo the mischief caused by the ruthless wind? Can it raise the crushed and drooping head of the dying flower?

That so useful a thing as speech was given to us to lie dormant, and allowed to get like a rusty, useless sword in a scabbard, is not reasonable. No doubt speech can be and is abused, and St. James's 'If any man offend not in word, the same is a perfect man, and able to bridle the whole body,'[2] implies a condition of perfection difficult of attainment, yet can we all try and cultivate speech so that our tongue is agreeable, pleasant to hear, and useful. An evil tongue proceeds from a bad heart and evil mind, and it is these which need attending to and altering. In a medical aspect speech is regarded by the French as being useful in preventing chest complaints by admitting a continued supply of fresh air to the lungs. Their idea is that the want of conversation and laughter amongst the English conduces to the prevalence of chest complaints in England.[3]

M. Reveillé-Parise is of the opinion that 'exercise of the lungs is the best mode of maintaining health, and thus prolonging life.' 'Je suis convaincu,' he writes,[4] 'que la vieillesse commence et s'accroît par le poumon, que c'est dans cet organe essentiellement vasculaire et perméable, qui absorbe l'air, qui le digère en quelque sorte et l'assimile à notre substance, que se trouve le point de départ de dégradation de l'organisme : et s'il était possible d'entretenir *l'hématose* ou sanguification, dans son état de perfection, je ne doute pas qu'on ne trouvait ainsi

[1] Shakespeare, *The Winter's Tale.* [2] St. James iii. 2.
[3] See 'General Remarks,' p. 57.
[4] *Physiologie et Hygiène des Hommes livrés aux Travaux de l'Esprit*, i. pp. 237, 238.

le vrai moyen de prolonger la vie humaine. Les générations futures décideront cette question, s'il est jamais permis à l'homme d'en donner la solution.'[1] Certainly with the French there is nothing to complain of in the matter of speech. All, rich and poor, high and low, gossip and talk and laugh to their hearts' content. Voltaire's 'Ils n'employent les paroles que pour déguiser leurs pensées'[2] will not find a hearty assent from a generous man, who would more readily concur with : *Speech was given us to communicate our thoughts, and to realise in the expression of them our higher aspirations.* Some persons rather pride themselves on having brusque manners, and it is sometimes said by such that they are abrupt in speech and manner because they are candid,[3] frank, and simple ; but too often brusqueness is simply rudeness, and in every case rudeness of manner betokens want of culture, refinement of mind, and gentle feeling. 'Manners are what vex or soothe, corrupt or purify, exalt or debase, barbarise or refine us by a constant, steady, uniform, insensible operation, like that of the air we breathe.'[4]

One of the great results of education is the formation of good manners. In nothing is the effect of culture so observable as in the suavity, urbanity, and courteousness with which people greet and converse with each other. St. Peter's 'Be courteous'[5] is a maxim which all should study.[6] Some seem afraid to be polite. They seem to fear it will cause those they

[1] Translation : 'I am convinced that old age commences and advances through the lungs, and that it is in this organ, so essentially vascular and permeable, which absorbs, digests as it were, and assimilates the air, that the starting point of organic degeneration is to be sought; and if it were possible to keep up the *hematosis*, or manufacture of blood, in its full perfection I have no doubt the true method of prolonging human life would be found. Future generations will decide this question, if ever it is vouchsafed to man to arrive at its solution.'

[2] Translation: 'They use words only to conceal their thoughts.'—Voltaire, *Le Chapon et la Poularde*, Dialogue xiv.

[3] Give me the avow'd, the erect, the manly foe,
Bold I can meet—perhaps may turn his blow ;
But of all plagues, good Heaven, thy wrath can send,
Save, save, oh save me from the *Candid Friend.*
George Canning, 1770–1827.

[4] Burke.

[5] 1 Peter iii. 8.

[6] 'The best condition'd and unwearied spirit in doing courtesies.'
Shakespeare, *Merchant of Venice*, act 3, scene 2.

are civil to to take liberties with them. A pleasant, kindly bearing, however, seldom meets with other than a kindly return, and gruff, churlish people generally 'meet with their equal.'

There is an obligation lying on everyone to be friendly and helpful to others, but more especially is this obligation laid on those professing Christian principles. 'Let the spirit of sympathy show itself even in casual and desultory ways, an aroma of heartiness and cheerfulness—"to do good to all men as they have opportunity."' 'Whoever is placed in a position of superiority, whether of superior knowledge, superior wealth, superior strength, or superior influence, is bound to use it, if he can, for the benefit of those less favourably situated. To teach and encourage us to do so is the very reason why Providence has caused so many inequalities to exist. The little captive maid at Damascus discharged this obligation when she told her master of the prophet in Israel that could cure his leprosy.'[1] We should not wrap ourselves in an icy mantle of selfish disregard for others. 'Sometimes one meets with people, for whom one is sorry, really desirous of doing good, but deficient in the power of expressing their feeling, having a stiff, cold manner that, till they are thoroughly known, chills and repels. It is a difficult question whether, once established, an ungenial manner can ever be got rid of. But there can be no doubt that it should be firmly battled with on the part of those who have fallen under it, and that young persons should be carefully trained to avoid it. As love and humility grow in the heart the genial manner becomes more natural.'[2] 'A man that hath friends must show himself friendly.'[3]

O tempora, o mores![4]

This is decidedly not an age of elegance of manners. Everyone is more or less inclined to rough, curt speech. The old-fashioned courtliness is fast dying out. Amongst all classes there is less civility. Within the last thirty years many things

[1] W. G. Blackie, D.D., F.R.S.E., *Heads and Hands*, p. 52.
[2] *Ibid.*, pp. 228, 229.
[3] Proverbs xviii. 24.
[4] 'Oh, the times and the manners!'

which used to be thought necessary to good manners are no longer practised.

The habit, too prevalent, of making acquaintances, and what is called 'dropping them' when they no longer please, is to be deprecated. You see persons, what is popularly termed, 'cut people' sometimes for no reason but caprice or the fancy of the moment—whether the person so cut is hurt or not, not signifying apparently. Are we, however, at liberty so to trifle with our neighbours' feelings? Do we owe our neighbour no duty? 'To hurt nobody by word nor deed'—who considers that now? In these days of advanced progress how much consideration is shown for the rights of others? 'I met So-and-so with a well-bred stare, and passed on. One really can't know those people, now they've lost their money and are so poor.'

> Old the lesson is, though hard:
> Failing purse, of friends debarr'd.[1]

Is there such a thing as a well-bred stare? Good breeding implies courtesy to all. 'Ceremonies are different in every country, but true politeness is everywhere the same. Ceremonies, which take up so much of our attention, are only artificial helps which ignorance assumes in order to imitate politeness, which is the result of good sense and good nature. A person possessed of those qualities, though he had never been at court, is truly agreeable, and if without them would continue a clown though he had been all his life a gentleman usher.'[2] 'Domestic manners are everywhere composed of the same elements if we eliminate from our daily life the occurrences dependent on chance, and those circumstances which, even if recurrent, are in reality occasional. All the world, in fact, sings the same tune, though each community has its own pet variation. Every family is bound to evolve a *modus vivendi*: it cannot help making rules of conduct for eating, and drinking, and sleeping, for work, and intercourse, and recreation, as these are matters that, happen what may, must be attended to every day of our lives.'[3]

[1] *Greek Anthology.*
[2] Oliver Goldsmith, *Citizen of the World*, Letter xxxviii.
[3] Capt. Richard Carnac Temple, *Everyday Life of Indian Women.*

But the sad part to my mind is bringing up generous-hearted young creatures to show an absence of consideration for the feelings of others—taking the first bloom off the guileless nature of childhood, and by example, that most powerful factor in the moulding of human life, teaching the young, innocent, unworldly, and ingenuous to be time-serving. It is strange to see human nature so inflated, so puffed up with pride of a few perishing earthly possessions, when one day—how soon we know not—all the richest or greatest will be able to claim will be 'the little portion of mother earth' where, to dust returned, poor atoms of humanity, we shall be forgotten. 'O eloquent, just, and mightie Death! whom none could advise, thou hast persuaded; what none hath dared, thou hast done; and whom all the world hath flattered, thou only hast cast out of the world and despised; thou hast drawne together all the farre-stretched greatnesse, all the pride, crueltie, and ambition of men, and covered it all over with these two narrow words: *Hic jacet!*'[1]

When one considers how none have the power of choosing their own lot in life, does it not seem absurd to look with contempt on others because their position or their wealth are not equal to our own?

One touch of nature makes the whole world kin.[2]

Still more to be condemned is the fashion of bringing up young people to be obsequious to those better off than themselves.

By proper training and education children can be made not only pleasant, but sensible, intelligent companions.

That great observer of human nature, and powerful delineator of life, Charles Dickens, has most touchingly described how companionable children can be made, and has most pathetically recorded the eagerly looked-for return of a father to his home, and the happiness caused to his children by the tender sympathy and cordial love with which he greets them. He also describes with much pathos the companionship be-

[1] Sir Walter Raleigh, *Historie of the World*, book v. part i. *ad fin.*
[2] Shakespeare.

tween the children and their father ; his co-operation in their innocent gaiety ; and gives a beautiful domestic picture of the bereaved father solaced by the companionship of his eldest little daughter. 'It was easy to know when he had gone out and was expected home, for the elder child was always dressed and waiting for him at the drawing-room window or in the balcony, and when he appeared her expectant face lighted up with joy, while the others at the high window, and always on the watch too, clapped their hands and drummed them on the sill, and called to him. The elder child would come down to the hall, and put her hand in his and lead him up the stairs, and Florence would see her afterwards sitting by his side, or on his knee, or hanging coaxingly about his neck and talking to him, and, though they were always gay together, he would often watch her face as if he thought her like her mother that was dead. The children and their father were all in all. When he had dined she could see them through the open window go down with their governess or nurse, and cluster round the table ; and in the still summer weather the sound of their childish voices and clear laughter would come ringing across the street into the drooping air of the room in which she sat. Then they would climb and clamber upstairs with him, and romp about him on the sofa, or group themselves at his knee—a very nosegay of little faces—while he seemed to tell them some story. . . . The elder child remained with her father when the rest had gone away, and made his tea for him—happy little housekeeper she was then !—and sat conversing with him, sometimes at the window, sometimes in the room, until the candles came. He made her his companion ; and she could be as staid and pleasantly demure with her little book or work-box as a woman.' [1]

The good resulting from free, unrestrained, happy intercourse of thought, sentiment, and individual co-operation between parent and child was recognised long ago by Sir Thomas More (1509), a man in thought and ideas far in advance of his age. 'The reserve which the age exacted

[1] Charles Dickens, *Dombey and Son*, p. 176.

from parents was thrown to the winds in More's intercourse with his children. He loved teaching them, and lured them to their deeper studies by the coins and curiosities he had gathered in his cabinet. He was as fond of their pets and their games as his children themselves, and would take grave scholars and statesmen into the garden to see his girls' rabbit-hutches, or to watch the gambols of their favourite monkey. "I have given you kisses enough," he wrote to his little ones, in merry verse, when far away on political business, "but stripes hardly ever."' [1] 'If you allow your people,' again wrote Sir Thomas More,[2] 'to be badly taught their morals, to be corrupted from childhood, and then, when they are men punish them for the very crimes to which they have been trained in childhood, what is this but first to make thieves and then to punish them?'

What is correct of the State is true of family life, which is in a more limited proportion, but still in all essentials, the same. Life, whether collectively or individually considered, is composed of the same moving principles of action. With a State certain things bring certain results; with family life it is equally so. High principle, noble aims, pure living—these have a corresponding, reacting, reflective power. If a child sees low, ignoble motives, the mainspring of the life of those around it will take the same tone, and be sensibly, affected by those demoralising but all-powerful factors in human existence. Your child is false, is cruel, is selfish, is untruthful. You punish, but, after all, what is this but the reflection of the life around as the child gauges it? I do not believe it is possible for children to grow up unworthy whose early years are passed with good people. What beneficial results would arise from parents making their children more their little companions, and trying to be less strangers to their daily outward as well as inward life, few can estimate.

If parents in educating their children would enter more fully into their children's lives, as to their thoughts and feelings, it would have an influence which might lead to great

[1] Green's *History of the English People*, p. 310.
[2] *Utopia, or Nowhere*, by Sir Thomas More, p. 312.

good both as to happiness and preparedness for useful work in the world in after-life. 'Constant communion with a mind highly refined, severely cultivated, and much experienced, cannot but produce a beneficial impression, even upon a mind formed and upon principles developed: how infinitely more powerful must the influence of such communion be upon a youthful heart, ardent, innocent and unpractised.'[1] 'No school can ever do as much for a sensitive boy as the influence and example of parents of scholarly tastes, with whom the habit of reading is as regular as eating or sleeping.'[2]

It is an incalculable blessing when a father gives attention to the instruction of his children. Sons, especially, are helped on in life by the co-operation, sympathy, and personal interest taken in them and in their studies by a father. When children grow up to look on their father with disregard and disrespect, their best sensibilities are blunted. 'The old governor,' 'The old dad,' are expressions which imply a good deal, although, perhaps, they do not altogether argue contempt, being often merely the flippant, thoughtless mode of expressing themselves of the youth of the present day; still, there is a lack of respect about such expressions which springs in some measure from early want of personal good feeling between father and son. Boys should not either be allowed to show disrespect to their mother—('a foolish man despiseth his mother').[3] 'He that wasteth his father and chaseth away his mother is a son that causeth shame, and bringeth reproach.'[4] 'Despise not thy mother when she is old'[5]—or sisters, but should be taught to treat with consideration those who, closely allied by the ties of kindred, demand their cordial love and regard. He who shows contempt for the feelings of those who are weaker and more feeble than himself, and will not look leniently on their little pardonable foibles and weaknesses, is not only choking and destroying the most kindly attributes Heaven has gifted him with, but is encouraging the cruel exactions of selfishness. Those who are weaker than ourselves should, by

[1] Lord Beaconsfield, *Vivian Grey*, p. 3.
[2] Mr. W. H. Rideing, *The Boyhood of James Russell Lowell.*
[3] Proverbs xv. 20. [4] *Ibid.* xix. 26. [5] *Ibid.* xxiii. 22.

their very weakness, appeal to our better nature. Those are noblest in disposition who have most pity for the feeble.

> Then gently scan your brother man,
> Still gentler, sister woman;
> Though they may gang a kennin' wrang,
> To step aside is human.[1]

Mothers should do all in their power to encourage friendly and sympathetic feelings between their children and him who should be their guide, instructor, friend, and helper in all the affairs of life, till such time as they are old enough to take upon themselves the responsibilities of life. It is a bad system of education or training, which in any way renders a father and his children, or a mother and her children, antagonistic to or uninterested in each other. The good feelings which are created in children towards their parents in childhood and youth are never effaced; time only more strongly proving the depth of the affection.[2] But with little children they must feel that they are loved, not merely clothed and looked after—loved—really loved. If this is not felt, too truly it will be :

> And this the burthen of his song
> For ever used to be :—
> I care for nobody, no, not I,
> If no one cares for me.[3]

'Endeavour, from first to last, in your intercourse with your children, to let it bear the impress of *love*. It is not enough that you *feel* affection towards your children—that you are devoted to their interests ; you must show in your manner the fondness of your hearts towards them. Young minds cannot appreciate great sacrifices made for them ; they judge their parents by the words and deeds of every-day life. They are won by *little* kindnesses, and alienated by *little* acts of neglect or impatience. One complaint unnoticed, one appeal unheeded, one lawful request arbitrarily refused, will be re-

[1] Burns, *Address to the Unco Guid.*

[2] 'Talk of fame, honour, pleasure, wealth, all are dirt compared with affection.'—Letter of Darwin to J. D. Hooker, July 2, 1860; see *Life of Darwin*, vol. ii. p. 323.

[3] Isaac Bickerstaff, *Love in a Village.*

membered by your little ones more than a thousand acts of the most devoted affection.'[1]

Your child—your boy, it may be—comes to you, his mother, for comfort. He does not feel very well. Don't instantly wound his feelings by declaring there is nothing whatever the matter with him. Don't tell him 'he fancies he's ill,' in a tone of voice which discovers to him the hidden sneer. 'He must not give way to foolish feelings,' and send him away to find consolation elsewhere. Try to find out how it is the poor boy complains. If he is not very well, although it may not be much, he needs sympathy, and who should give him comfort but his mother? I do not believe any child complains without cause. I do not believe in what people talk of now—'hardening children's feelings to better face the world.' Can anyone say a mother is doing right when she takes her child back to school and systematically runs the child down to his teacher before his face? The child cannot defend himself, but he feels the injustice done to him, so instead of having a loving heart towards her, a mother, thoughtlessly it may be, plants some bitter seed which will grow so rapidly that all good feeling towards her will soon be covered by it.

If I keenly resent being held up to ridicule and feel annoyed when I am put in a position of contempt, have I any right to inflict such pain on my helpless child? The saddest part of early life is when children are held up to scorn by their parents, who should be the first to shelter and protect them. 'I am a poor little fellow.' 'Are you, my dear, who says so?' 'Oh, ma says so, and, you see, she knows.' How unanswerable in its terse bitterness! If you think your child is a poor little thing, keep the knowledge to yourself, and try and make life as pleasant as you can for the child. Don't cast undeserved reproach on your own flesh and blood. I often wonder mothers can be so thoughtless—I might say, heartless. Many girls and boys are sent to school with the idea of beginning there what should be done at home. 'Oh, when you go to school,' one will sometimes hear said to a child, 'you will learn very different there.'

[1] *The Protoplast.*

But why should the life of the nursery or schoolroom be such that a child is to be revolutionised, when he or she goes to school? Should not rather the home life be the beginning of that training and education which are to fit the young creature for contact with the world? How is the young mind at first starting in life, everything new, everything to be learnt, to discern what is right, and to do it unaided? Is it reasonable to suppose that children will not be influenced by their surroundings? To imagine that they can grow up well without any help, any training in the right direction! It should never be forgotten that children are little spectators, and are always very ready to copy whatever they see around them. There is no doubt that many evil habits in grown people are caused by early contact with vulgar-minded persons, and many have much cause to deplore having been left to the entire care and control of servants during their early years. Sometimes, when removed from the charge of servants, children are irremediably spoilt. 'Innumerable mischiefs arise to children from too close an intimacy with domestics. A foundation is often laid, here, for opinions and habits difficult to be afterwards eradicated; not only are coarse and vulgar tastes imbibed, but vices of an appalling character are learnt, in the stable or the kitchen where ready instruments are frequently found to concur in deceiving a parent, or gratifying some bad propensity in the minds of children. As a rule, intimacies of this kind (with servants) are productive of evil, and no good can arise from too close a connection between our children and dependants. A Christian parent will feel extremely jealous of the modern practice of exposing youth to a prurient knowledge of evil, of removing parental superintendence at too early an age, and of allowing an unrestrained freedom of association attended with great danger.'[1]

The home life of England is much spoken of by the English, but with the upper classes too often it is the servants' life their children share—the servants' thoughts they acquire, their daily life in early years in many instances being almost entirely passed with servants in nurseries, or

[1] Rev. E. Bickersteth, *Domestic Portraiture.*

with people little above servants in education—good sound principles also often being entirely absent, their parents seeing them either only occasionally or for a few moments each day, a time totally insufficient for any good to result. How often are children, well-born, and who will some day perhaps have to hold a position of responsibility, rendered unfitted for for any such future position by long and early contact with unsuitable people ! For the proper discharge of what may in future life be onerous duties, demanding self-control, mental culture, and perhaps patient self-denial, a good early training is necessary. There are and have been cases where, under very adverse circumstances, a great, good, noble nature has been formed, but it is the exception, not the rule in life. How often do nurses and governesses spoil what might be nice dispositions, and render the life of children almost insupportable by a most thoughtless—nay, cruel—system of repression, and ill-directed useless control ! Were it not that young natures are gifted with a great amount of vivacity, and that children, if strong and in good health, are not easily depressed, many would not be able so easily to accommodate themselves as they do to what is sometimes (if older people were compelled to be in their place they would find it so) a very irksome, trying time.

The children, too, of many wealthy people are often far worse off than the children of poorer persons as regards the temper of those who are over them. All children are subject to the good or the bad temper of those who are over them. In the case, however, of poorer persons' children, they are more or less with their own family, and are thus never subjected to the influence of a person—who is a stranger—placed directly over them with complete authority, and who with the authority may join a tyrannical temper, and who, having no love for those who are under their power, may exercise that power very harshly. How often have the children of people with means to bear with all the trying effects of a cross, or perhaps irritating, temper in a nurse or governess, unsoftened by any feeling or interest ? When children are young is the time to subject them to good influences. If you wish to train a tree in a particular manner, it must be done when the tree

is young, and, equally, if you want to train children well, you must begin when they are young.

It is to the first years of life, when the nature is plastic and capable of receiving impressions easily and retaining them, that the efforts of those having the charge of children should be directed to bring up, guide, and train in the way best calculated to promote happiness in the future. Nothing is more beautiful than the guileless nature of a young child. No sight is sadder than a young innocent nature spoilt. In many cases the training of those over young children seems directed to bring out all the worst instead of the better qualities of human nature. Some natures are sweeter, more amiable, better than others, but, alas! *humanum est errare*; poor human nature at its best even is prone to evil. Again, people sometimes say to children, 'You will love your home when you go to school and see how different everything is there;' but if the love of home is not developed by the agreeable nature of the home, going to school, however disagreeable the school may turn out to be, will not make children return with feelings of greater affection for the home they have not cared for on leaving. If the conditions under which love for the home would be created are not there, how can it, then, be developed? How can children, any more than grown people, like a place they have no happiness in? What a bitter satire—the childish lips repeating 'I thank Thee for my happy home,' the childish heart and mind too sadly, too truly, giving a denial to the words. Mothers complain that their sons and daughters when grown up neglect their early home, and they speak reproachfully of their children; but is it not rather the mothers who are in fault, that they do not, by making it cheerful and happy, cause their sons and daughters to love and appreciate their early home?

If home is what it should be, young people, as they get on in years, will try to make homes for themselves like the dear old homestead in which they found so much unalloyed happiness in bygone years tenderly remembered. I believe half the cause of bacherlorship is the having no pleasing recollections of early life associated with a delightful home:

Oh, after many roving years,
How sweet it is to come
To the dwelling-place of early youth,
Our first, our dearest home:
To turn away our weary eyes,
From proud ambition's towers,
And wander in the summer fields
Among the trees and flowers.[1]

Mid pleasures and palaces though we may roam,
Be it ever so humble, there's no place like home.[2]

We are apt to expect such gratitude from our children for all we do for them; but, after all, whatever we do for our children, it is but fulfilling the duty we owe them.[3] We may do too little, but we can never do too much; and if they repay us in love and kindly consideration, truly we have received our reward. The reiterated 'I do like to stay with you, ma;' 'May I stay with you?' and the emphatic 'Dear Mother,' are a clearer exponent of children's feelings, and show more plainly how they love that dear friend 'Mother' than any more stereotyped phrases can.

How sharper than a serpent's tooth it is
To have a thankless child.[4]

Is it not well to inquire how far our own bringing up of our children has led to this lamentable result? Educate your children well, but let the highest training come from home, and, above all, make their home a happy, cheerful one. They will learn all the better for good home influence.

A happy youth, and their old age
Is beautiful and free.[5]

'The home, the place where a rich atmosphere of varying elements of mind and spirit can be generated, consolidated, and set in activity, is a necessary integer of elevated social conditions. If family connections, and the repose of all familiar customs which grow up in them, are not a means of obtaining strength of united moral action, they miss the performance of their proper function, and generate perforce harm to the

[1] Horn, *Old Ballad.* [2] J. Howard Payne.
[3] 2 Corinthians, xii. latter part of 14th verse.
[4] Shakespeare. [5] Wordsworth.

world's interests instead of help.'[1] 'A happy home greatly depends on the recreations and amusements which are provided for young people. It is no small difficulty to give a useful direction to their play-hours; little more has been contemplated in the gambols of youth than the health of their bodies and the refreshment of their spirit. It is well when these objects can be attained without the indulgence of sinful tempers; but youthful spirits have often proved the nursery of pride, ambition, and contention. In public schools these evils have been encouraged, or, at least, deemed unavoidable. The seed of revenge in manhood has been planted in boyish violence, and the unheeded acts of oppression by the elder boys towards their juniors have trained them to tyranny in riper years. Private education affords greater facilities for checking these evils; but the want of the stimulus supplied by numbers is apt to render the pastime uninteresting and home distateful.'[2]

It is unreasonable to expect children to go on studying from day to day one unceasing monotonous grind, with nothing to relieve the tedious sameness. Little harmless amusements, little pleasures to look forward to, brightness, cheerfulness—all the impossible-to-enumerate comforts and recreation to be found at home, should always be the portion of children. The days should all pass as quickly and as agreeably as parents can make them. Children, when they grow up, should not recall to memory a long succession of dull, dreary, or miserable, uninteresting days, but rather should remember their early years as

> Sweet childish days, that were as long
> As twenty days are now.[3]

The following extract from the 'Illustrated London News,' September 4, 1886, is a sad, but unhappily too true a version of what children's lives too often are. 'It is recorded of Amalie Sieveking, the founder of Protestant sisterhoods in Germany, that she said that so unhappy had been her own childhood that she could not understand how it was possible for anybody

[1] Laurence Oliphant, *Scientific Religion*, p. 69.
[2] Rev. E. Bickersteth, *On Home*.
[3] Wordsworth.

to look back upon that period as the happiest time of life. If everyone had a strong memory and a great regard for truth, I fear that Amalie Sieveking would have many to endorse her hard saying. The fact is that children live under an almost irresponsible despotic government. Parents, nurses, and teachers all have authority over the little ones, and can make them more or less wretched by its misuse. So few of us, women or men, are at all fit to be trusted with absolute power —are both wise enough and kind enough to be really benevolent despots—that it is no wonder if a considerable proportion of our subjects are rendered miserable by our conscious or unconscious faults. I do not speak of deliberate ill-usage or actual neglect of the bodily needs; but rather of petty tyrannies, tiny injustices, and minor physical cruelties: all of which occasionally masquerade in the guise of training and beneficial treatment. Little things are quite sufficient to make children unhappy. Often, too, those who seem the boldest or the brightest by nature amongst them are really most easily crushed. The sensitive nervous systems, and soft, impressible little hearts are as readily hurt and injured by rough, careless, contemptuous treatment, as young trees are by savage winds. As the tree may be permanently warped, even when not destroyed, by inclement weather, so there is no doubt that a child's nerves and temper may be seriously damaged for life by improper governance. Many cases of nervous disease, and yet more of constitutional depression of spirits, of timidity, of selfishness, of obstinate opposition to others, and of want of power to love, amongst adults, depend upon the cruel treatment and petty oppression endured by the sufferers in childhood. Habits of mind are formed by the youthful experiences, and are as hard to break through at a later period as habits of action notoriously are.'[1]

'Pleasure and pain,' Bentham says, 'govern the world.'[2] Is it not a divergence from humane feeling—from right feeling —when we in any way help to make the latter our children's

[1] *The Illustrated London News*, September 4, 1886.
[2] Introduction to *The Principles of Morals and Legislature*, chap. i.

portion? When we in any way sadden their young lives, are we doing right?

Mr. Gladstone, recently[1] addressing a party of excursionists at Hawarden, said, 'God made this world to be pleasant to dwell in. I don't mean to say He made it to be without trial or affliction, but He made our natural and physical condition to be pleasant. The air, the sun, the skies, the trees, the grass, and the streams—these are all pleasant things.'

Make every day of your children's lives happy, not one day here and there. Bishop Hall writes:[2] 'Every day is a little life; and our whole life is but a day repeated; whence it is that old Jacob numbers his life by days; and Moses desires to be taught this point of Holy arithmetic, to number not his years but his days. Those, therefore, that dare lose a day are dangerously prodigal, those that dare misspend it desperate.'

Time is measured by our sensations. The piled-up misery of a life may at last be concentrated in a moment's agony, and the intensity of pain is not always measured by the length of time it is felt and endured. On human nature, as on other things, too much repression is seldom of beneficial use. Like water, if a large body of it is kept closely pent up, with no regard to preparedness for any sudden change in the conditions surrounding it, and no outlet. the result may not only be disastrous in the extreme, but also quite unlooked for; and so, equally, if you do not give some channel for the young forces of nature to expand in, they will find a way for themselves, and one which may prove equally calamitous. *Young life needs expansion, not repression.* What is called 'keeping children under' is a great mistake. Children should enter into all the little amusements suited to their age. Constantly, in advertisements for governesses, one sees 'a strict disciplinarian,' or 'a good disciplinarian,' required. Do the people engaging these 'strict, good disciplinarians' ever see how they manage this 'strict discipline' over the children? This 'strict discipline,' not combined with a single ray of kindness,

[1] 1877.

[2] *Epistles to Lord Denny.*

is injurious alike to the health, tempers, and dispositions of children, and often means only crossness and scolding words. 'Pleasant words are as an honeycomb, sweet to the soul, and health to the bones.'[1]

If people would always think this! Some persons have a great habit of continually nagging children when teaching them; but constant fault-finding, undeserved scolding, and a system of continual reproving is most harmful. Children, if carefully taught, with a regular, clear system, need but little, if any, rebuking. It is of no service in the teaching of children, constantly checking them, and the less scolding there is the better. I heard a little boy once say mournfully, 'I do wish our governess could be with us *always in the dining-room.* She is nice and polite at meals, but, oh my! *she is* nasty upstairs.' I could not help thinking what a sad picture this remark implied of the life in the school-room. It is seldom thought of how hard, how difficult, it is for children to complain of those put over them. In fact, it is almost impossible. Children are always silent sufferers. They seldom murmur, and, if left to themselves, will always try to accommodate themselves to circumstances.[2] They know, poor little things, how useless it is complaining—how useless speaking of what is not apparent on the surface. Too often they are conscious of much discomfort, much underhand ill-usage, but could not even, if questioned, tell of it. Mothers should carefully look to what I call 'the under-current' of their children's lives. 'I do not like to practise anything which implies "espionage" over the people under me.' Of course not, and I do not think 'espionage' is necessary, but I think it should always be seen that children's lives in the school-room are happy. Children often suffer much quiet ill-usage, which could be prevented by parents looking more closely into school-room life.

There are many kinds of ill-treatment besides whipping. Sensitive, high-spirited, nervous children often suffer much at the hands of selfish unkind persons in whose entire charge

[1] Proverbs xvi. 24.

[2] See 'Sea Air,' p. 355.

they are often left, obliged to submit to every petty cruelty that unreflecting ill-tempered people can inflict. Children have not a long memory for anything, and even forget what has pained them when the pain is removed, and in their sweet, trusting, loving innocence they are ever ready not to think of what has distressed and troubled them.

Gay hope is theirs by fancy fed,
Less pleasing when possest,
The tear forgot as soon as shed,
The sunshine of the breast.
Yet ah! why should they know their fate,
Since sorrow never comes too late,
And happiness too swiftly flies?
Thought would destroy their paradise.[1]

Poor little souls! they often suffer much which might be avoided; the harsh word, the unkind look, the rough shake, which cow and break the bright little spirit. It is not meant, of course, that children are to be spoilt or allowed to do just as they like. A good, firm, but let it be a just, rule is most necessary.

If children are not subject to proper control at home, and are not taught obedience, it is ridiculous to expect that when they are taken to any strange place (and it is desired that they should be submissive to control) they will at once submit their will to those over them, and will suddenly display all those good qualities which only come with continuous good training. If it could only be impressed on parents that they cannot too soon begin the proper, firm, but kind and gentle guiding and training of their children, how many would be saved the trouble they sometimes have in later years to undergo, when, awakening to the knowledge, perhaps, that the children have too much their own way, an effort is suddenly made to alter matters. The stout grown oak is past bending, however.[2] Was there ever a more fallacious reasoning, or a more deluded popular idea than that which prompts people to say, 'Boys will be boys,' meaning that if boys are coarse, rude, troublesome (practicing none of the virtues inculcated by a Christian

[1] Gray.

[2] See 'General Remarks,' p. 44.

religion, which is urgent in insisting on all that is good and noble being made the foundation of conduct), therefore it is part of their nature, and cannot be helped, and that they should neither be corrected nor trained otherwise. Also that when they grow up they must 'sow their wild oats,' to use another popular phrase. Many a crop of so-called 'wild oats' has brought lifelong misery and sorrow to the poor deluded sower.[1]

Children should learn of higher things from their parents. Too many leave their children to form their principles and ideas of right and wrong how and as best they may; and in educating children now, too little regard is given as to training them in a knowledge of right and wrong. Everyone is supposed to have some religious belief, few ever courting the unenviable notoriety of being thought an atheist. Others may think the religion held to be misguided, misdirected, founded on error, even; still, religion it remains, and, as such, will inspire a certain amount of respect more especially if there is any appearance of earnestness, of genuine belief in the opinions professed. If the life shows good principles, it will not only inspire respect but will also promote confidence. Outward show of principle, however, is of little use without there is a corresponding reality. 'She's a very good sort; none o' your professing 'uns,' said a poor woman once in my hearing; and truly it were better to have less profession of religion and more of its reality.[2] An apathetic disregard to all outward observances of religion is always found to inspire distrust in those around, and the least professing person will (even if only occasionally) show that they are not indifferent to the opinions of those with whom they come in contact.

[1] Galatians vi. 7.

[2] 'From the first time that the impressions of religion settled deeply in his mind, he used great caution to conceal it; not only in obedience to the rule given by our Saviour, of fasting, praying, and giving alms in secret, but from a particular distrust he had of himself; for he said he was afraid he should at some time or other do some enormous thing, which, if he were looked on as a very religious man, might cast a reproach on the profession of it, and give great advantages to impious men to blaspheme the name of God.'—Burnet's *Life of Hale*, in Wordsworth's *Ecclesiastical Biography*, vi. 73.

Many, who have no higher motive, by going to church on Sunday, evince a desire to honour religion by following its outward symbols. But with many their religion is completely a church matter, beginning and ending with the service on Sunday. How much better it would be if they carried religion a little further, and grafted a bit on every-day life! Out-door charity, visiting the poor, giving to, and making things for, the needy, although estimable works of devotion, yet, as a rule, cost no self-sacrifice: but how about the deed of pity or help which costs us a personal effort? Are we not all rather inclined to shirk this? By speaking thus of religion (referring to going to church on Sunday) it must not be thought that I wish in any way to imply that it is not necessary to go to church or to some place of worship, or that living by one's own particular standard of religion—not conforming to the outward recognised forms of worship—is sufficient; on the contrary, it is, I am afraid, too true what Dr. Johnson said:—[1] 'To be of no Church is dangerous. Religion, of which the rewards are distant, and which is animated only by faith and hope, will glide by degrees out of the mind, unless it is invigorated and reimpressed by external ordinances, by stated calls to worship, and the salutary influence of example.' Taking very young children to long services, however, such as the morning service, I think is a mistake. Compelled to keep still, unable to understand what they hear, and tired out with the length of the service, children of tender years not only gain no good, but will even get a distaste for going to church; and in most instances they interfere with the devotions of those older persons for whom the service is intended. The present custom of having children's services should be taken advantage of by those having children old enough to go to church; but even to these 'children's services' there is no doubt it is a pity to take very young children, who, prattling and fidgeting, only cause irreverence and want of attention in those older and better able seriously to pay attention. Children, one hopes, will gain a reverence for holy things by

[1] Boswell's *Life of Dr. Johnson.*

going to church, but as the ordinary service is in most instances much beyond them, they mentally gain but little from going to church when very young. In fact, when they go to church at too early an age they are apt rather to dislike than be attracted by the service.

In Roman Catholic churches there is naturally more outwardly to influence the young mind, but with so bare a service as that in Protestant churches the interest must necessarily be created by the words, and not by the outward accessories of the service; and as the words are often 'a mere string of sentences' to a child, it is impossible even to imagine that they are affected by what they hear. Take preaching, for instance; how can a young child possibly understand much of what is said? The child's query, 'Why does the clergyman get so excited in the preaching place and talk such cross sounding words?' is a reflection of many children's minds on the subject of preaching. How often, alas! religion remains a matter of outward symbols and observances without touching the heart and not influencing in any way the life.

Religion in these freethinking days is considered of no service in directing or guiding 'the weary traveller on life's highway.' It is not now thought to be a help, a comfort, a support; nor is it now considered of utility as a moving, governing principle to rule life. The older days, when religion was not a matter of cold indifference, but of enthusiasm, and was made the standpoint of existence, may be looked at with wonder at the present day by those professing themselves wiser; but the fact remains that religion, being a living belief —a governing principle—did great good; just as flowing water remains white and pure, benefiting and being useful—a direct contrast to stagnant water, which becomes turbid, impure, and noxious. A principle which is not a living one is like stagnant water, having no movement; its very opacity and quiescence shadow forth the absence of fresh life, giving force tending to good.

Religious principles, however excellent, if not shown in the daily performance of duty, are of no value. Othello's 'but yet the pity of it' is echoed by many in reference to religion being

regarded so much as a thing apart from ordinary life, and many are deeply impressed with the necessity of making the Christian religion come more into every-day existence. The notion of keeping religion a thing so high above comprehension that it is not brought down to the ordinary needs of humanity, must be an error, as it robs toiling creatures, such as we are, of all that may console and elevate us. Christ took the commonest articles of daily food, bread and wine, and instituted with them the highest rite of His system of religion, thereby shadowing forth the power of elevating the simplest and most commonplace things into higher uses, and by Himself living and ennobling an every-day life. ('Is not this the carpenter?'[1] 'Is not this the carpenter's son?'[2]) Christ showed us how we, in like manner, can attain to higher things, and can ourselves elevate in the well and kindly-directed use all the common details of an every-day ordinary existence. 'The Englishman entertains the Jewish notion of God—a Deity terrible and avenging, whose very name strikes awe, and is not to be lightly pronounced without drawing down celestial vengeance.'[3] This too truly represents the general idea of God. An awful, terrible representative of avenging power. The idea of a Beneficent Creator, merciful, just and kind, never enters into the views of religion entertained by many. They regard without a shudder, without a pitying, sorrowful thought, in fact rather rejoice in, the idea of millions of poor creatures being doomed to an eternal and painful punishment. I once heard a clergyman (and a very well-meaning, good man, too) say: 'One cannot doubt that the followers of such a religion (Mormonism) will suffer *eternal punishment.*' Imagine, even in thought, dooming people because they differ from us on religious questions to an everlasting state of misery!

Is it not fearful to drag down, even in thought, a higher power to the level of our own base ideas? Can it be right to teach our young children so that they look towards the Author of all good with mingled feelings of fear, horror, and aversion?

[1] St. Mark vi. 3. [2] St. Matthew xiii. 55.
[3] Max O'Rell's *Friend MacDonald.*

Archdeacon Farrar, speaking at the Church Congress, October 5, 1888,[1] said, 'The view of future life which not long ago was common was that the vast majority of mankind, Christian as well as heathen, dying in unrepentant sin, passed after this life into a lake of fire, of brimstone, where, in punishment for misdoings of their brief earthly days, they were tortured in inconceivable agony in material flames to eternity. Within living memory this was the orthodox view, and anyone who repudiated it, or who even swerved materially from it, was denounced as a heretic and unbeliever. These views he repudiated with all the force of his conviction. To him they seemed to be dishonourable to the view which God had given us of Himself, to be subversive of the full message of salvation, to be fundamentally opposed to our unsophisticated ideas of justice as well as mercy, and abhorrent to the natural reason and conscience of mankind. A rumour had been circulated that since he himself delivered the Westminster sermons he had changed his mind. He had not changed his mind in a single particular, but he rejoiced to see abundant evidence on every side that thousands of honest and sincere and holy Christians had changed their minds on this tremendous subject.'[2]

The old tracts of our youth, headed 'Have you made your peace with God?'[3] (as if God were an enemy and our state one of warfare with the Deity); 'Eternal happiness or eternal misery'; 'Everlasting fire,' with their incomprehensible jargon, are but the reproduction of pulpit utterances, the need for, and utility of, which is doubtful. The puritan way, also, of looking on trials, sickness, and misfortunes as the direct intervention of Providence in punishing mankind is not a religious view of afflictions so general now as it used to be amongst devout people.

'We cannot,' writes Addison,[4] 'be guilty of greater uncharitableness than to interpret afflictions as punishments and

[1] *The Times*, Saturday, October 6, 1888.

[2] 'Then is there hope for such as die unblest.'—*Christian Year*, p. 74.

[3] As an instance of how this is accepted by general popular accord, see *The Story of Charles Strange*, by Mrs. Henry Wood, vol. iii. p. 224.

[4] *Letters of Addison.*

judgments ; it aggravates the evil to him that suffers when he looks upon himself as the mark of divine vengeance.' One reason why religion is so much a matter of outward observance only is, no doubt, owing to children having no regular instruction in the tenets of their faith. They are never made to feel that their religion should influence their life. They are sent or taken to church when old enough as a matter of form. If they ask any inconvenient-to-be-answered questions (the mere fact of going to church often raises curious, strange thoughts in children's minds), they are told they will know when they are older, or some day ; this good time, however, seldom, if ever, arrives, so they go on groping in the dark from day to day, and at last come to think religion is not of much consequence. Sometimes it is considered enough, and that young people will learn all that is required when they go for religious instruction previous to being confirmed. Mothers will even say they never interfere with religious matters with their children, making almost a merit of so doing. Yet, how misguided is this, for who can direct a little child's steps in the pathway of eternal life better, or so well, as a mother? Who can better, or like a mother, teach (irrespective of all forms and ceremonies) the little opening, developing mind those eternal truths on which so much depends?

'Who would have supposed that a grave and intelligent author would recommend a parent to leave his child without instruction until nearly the age of manhood, under the pretence of not embarrassing freedom of thought? If such a strange conceit could be acted upon it would soon reduce an enlightened people to the condition of barbarians. But the experiment is impracticable, for "the process in the formation of character, though rude and ruinous by neglect, will go on." From the cradle to the grave a succession of hourly events and influences of a thousand kinds will gradually and ultimately establish habits, and give capacity for happiness or misery . . . A bias of some kind or other will be received, and the only alternative for our choice is whether that predisposition, which arises from the inculcation of good principles and a reliance on authority for a time, is not preferable to

the impulse of corrupt inclination and the influence of more corrupt communications.'[1]

'No matter what the preventing cause may be, a very large proportion of our children receive none of that particular, special training that will stand them in good stead in after life. I firmly believe that if the training were the rule, instead of the exception, society would present a widely different aspect from what it presents now. The spread of artificiality, of social sins, of frivolity, of pretentious show—the lust of the eye and the pride of life—and, above all, the spread of infidelity, is, each one, on the increase amid us, and will continue to be. We can expect nothing better when our children are not trained against it. The training must begin with the child's very earliest years, and continue always. Always into manhood ; aye, and even after that. As long as he is in his parents' home, whether he be there continuously or only at intervals, during holiday periods, or what not, the boy (or girl) is under you, his mother, and you must not neglect him. How many mothers there are, most assiduous for their children's comfort as comprised in warm clothing, in good food, in recreation, and in health—in all things essential to their welfare in this world—but who give no anxious thought to their welfare in the next ! For this life they are nourished, educated ; no cost, no trouble is deemed too great to fit their bodies and minds for it, to enhance their success in it ; but what care or trouble is bestowed upon their education for the world that has to come after this ? In too many cases—I had nearly said in most cases—absolutely none.'[2]

At the Church Congress this year (October 4, 1887), the president, the Bishop of Lichfield, said : 'The absence of definite religious instruction is bringing forth its certain fruit. One of our judges, in a recent charge to a grand jury, alluding to juvenile offenders, spoke of their lamentable want of moral and religious training. "Most of them," he said, "have been attending school, and it would seem as though the anxiety for

[1] Rev. E. Bickersteth *On Religious Education.*
[2] Ellen Wood *On Early Training.*

their intellectual progress had led to the sacrifice of all other training. The children, in most cases, are totally unconscious of any difference between right and wrong."'

He added: 'The need of religion is inherent in our nature. It is not the invention of any man or of any age. It asserts itself in every man's heart and in every page of the world's history.'[1][2]

'Religion exerts an influence at once over the understanding and the feelings, neither of which, separately, would suffice to establish a true unity either for individual or collective life.'[3]

It is urged by those who hold the more material views of the present day that reason is a sufficient guiding power for man's life, and that unless the specimen is very bad the result of his innate sense of good will result in purity of morals and uprightness of conduct. The excesses committed in France at the time the Goddess of Reason was set up,[4] prove the utterly untenable nature of this theory.

The only religion which has given sufficient motive for the highest standard of morality is the Christian religion, and the Christian religion as it has been handed down to us in the New Testament, not what is now termed 'a humanised Christian religion,' which is devoid of adequate moving power to touch the inherent selfishness in human nature. It would, indeed, be well if every mother took to heart the teaching of the Gospel, and, in first herself learning the value of the lessons taught by the Teacher who has moved the world, found how to instruct her little children in those most important truths, the knowledge and practice of which will help as nothing else can in producing an upright, pure, elevated standard of human conduct.[5]

A mother is a mother still,
The holiest thing alive.[6]

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[1] *The Times*, Wednesday, October 5, 1887.

[2] 'Si Dieu n'existait pas, il faudroit l'inventer.'—Voltaire, *A l'Auteur du Livre des Trois Imposteurs.* Epit. cxi. p. 138.

[3] Comte's *System of Positive Polity*, vol. ii. p. 11.

[4] Carlyle, *The French Revolution*, pp. 190–195; *Analyse du Moniteur* (Paris, 1801); *Mémoires sur les Prisons*; *Mémoires de Madame Roland.*

[5] See 'General Remarks,' i. p. 12.

[6] Coleridge.

The inculcating of good principles and the teaching of religion to children should be made a part of education, and is of vital importance. A person without a belief is like a ship without a rudder, tossed hither and thither, the plaything of every vicissitude. 'One great reason why so few people in the world are truly religious, and why among the truly religious so many are not happy in their religion, is this, that early religious habits are too commonly associated, not with cheerfulness, but with constraint and gloom.' [1]

It is a manifest misfortune to young people when this is so. It is a most cruel, wicked act to plant a seed of disbelief in a child's mind. 'Childhood is like a mirror, catching and reflecting images from all around it. Remember that an impious or profane thought uttered by a parent's lips may operate on the young heart like a careless spray of water thrown upon a polished steel, staining it with rust, which no after-scouring can efface.[2]

> What is learnt in childish years
> Deep graven on the mind appears
> Our life's whole journey through.[3]

Darwin observes :[4] 'It is worthy of remark that a belief constantly inculcated during the early years of life whilst the brain is impressible appears to acquire almost the nature of an instinct, and the very essence of an instinct is that it is followed independently of reason.' Few have the courage to be singular, and still fewer have time or inclination in after-life to work out religious opinions for themselves. Most follow their early bias. Early religious habits of thought have an overwhelming power in more advanced years ; but if the originator of a religion is said to be the exponent of a worn-out, effete system in an advancingly progressive intellectual age, and originally founded on various errors, a blow is struck at the very root of receptive faculty, and the power is taken away of giving adhesion to its precepts. Who is likely to work out what he believes to be founded on that which his reason can-

[1] Jebb. [2] Sydney Smith.
[3] *Under the Surface*, Frances Ridley Havergall.
[4] Darwin, *The Descent of Man*, 2nd edit., p. 122.

not receive, or on the delusion of simple-minded persons, and which is fundamentally a fraud? Thus the bulwarks of the 'higher religious thought' are destroyed, and man is left a prey to the influence of every ignoble motive.[1] It is only with severe mental distress that a thoughtful, educated, conscientious mind changes its form of religion,[2] and there are numerous instances of the mind reverting and receiving once more, even after years of feebly meant profession of another faith, the old religion of childhood. Mr. C. J. Du Vè relates how in Australia, in the year 1860, he had a Manero black servant, who, in dying, though previously for many years apparently an earnest Christian, yet in those last moments 'it had entirely failed, and that he had gone back to the belief of his childhood.'[3]

The late Lord Lyons, although for many years a Protestant, went back on his death-bed to the religion (Roman Catholic) he was brought up in.[4] I myself have seen, in many instances, those who had professed and believed differently during the period of hale health go back to an earlier belief when aged or dying. In the same way the little tired child, although happy enough without its mother or nurse during the day, playing about, seeks the familiar sheltering arms when wearied and night approaches.

I remember hearing a very touching story illustrative of the mind reverting in the hour of dissolution to what had long passed from the thoughts while in health. 'The strong man lay dying, and the prayer said long, long ago at his mother's knee came back to the distressed mind, but the latter part was forgotten. "I remember it," said the sick man, "all up to 'forgive us our trespasses as we forgive them

[1] Strauss, *Leben Jesu*.

[2] This is well portrayed in *Robert Elsmere*, by Mrs. Humphry Ward.

[3] Mr. Fison, *Kamilaroi and Kurnai*, p. 247; see also Callaway's *Religious System of the Amayuks*; Moffat's *Missionary Travels and Labours*, and Howell's *State Trials*; see also Hartley's *Essays on Man*, p. 190; Priestley's *Lectures on the Truth of the Jewish and Christian Religion*, 1794; and Lard, *Jewish and Heathen Tests*, vol. i.; Monsieur Guizot, in *Private Life*, p. 137; Madame de Witt, p. 18.

[4] See *The Times*, Tuesday, December 6, 1887; *ibid.*, Friday, December 2, 1887.

that trespass against us,' but I can't recollect the rest. Do you?" The soldier with the dying man was unable to help, but seeing his evident distress of mind for the last part of the prayer, suggested that a comrade's little boy knew. The sick man eagerly asked if he could be got, and when the little fellow, on being fetched and asked if he could repeat the whole of the "Lord's Prayer," knelt down and said it through, the poor sufferer repeated, with evident satisfaction, "'Lead us not into temptation,'" and added, "I wish I hadn't forgotten that" and "'but deliver us from evil;' I wish I had gone on saying it—but God is merciful. I'm glad I've said the old prayer again. Dear, oh dear! how all the long years seem rolled away, and how well I remember my poor mother!" and, sinking into a peaceful sleep, quietly breathed his last.'

The near approach of death tears aside all the subtleties with which we envelop our soul, and stern truths stand out in rigid defiance of our efforts to ignore them; and when we are weary, complex systems of religion and intricate reasoning have no charm for the tired mind. It is then that we gladly welcome a simple code of ethics; and such will be gladly received, too, in right of its very simplicity. It is but a little while since I heard of a sad case, which more than ever impressed me with the necessity for teaching children religion, and instructing them in a belief of a consoling, elevating nature. A little girl, some fourteen years, lay dying. Her mother, assiduous in every respect, tried to comfort her, and told her, with a total disregard to truth, that she would soon get well; but the words fell unheeded on the child's ears, as inwardly the conviction was borne that she would never get better. And then came the heartrending, bitter words, 'Oh, mamma, mamma! I'm afraid of dying; why haven't you taught me how to die?' The poor mother, almost beside herself with grief, tried to speak of the usual things spoken of in church—of Christ, of Heaven; but they were too unfamiliar subjects for her words to have any weight. The clergyman was summoned, but his words had not the effect the same would have had uttered by the dear familiar voice of a mother.

Of all cruel things frightening children about death is the

most cruel. Some poor children when they are ill are terrified lest they should die, and through having all sorts of dreadful thoughts put into their minds about death and the grave are rendered wretched.

It does not seem right to imagine that the Beneficent Creator of all that is beautiful and good ever intended that we should make a horror of the passing away from life. All living things, no matter what their development, pass out of life without terror. Man even passes away without pain. It is a singular fact that the hour of dissolution is nearly always unattended by pain, no matter how great the previous suffering.

> The sense of death is most in apprehension.[1]

If we could but feel that this going out of life leads to brighter things! If we could but realise that our earthly garb keeps us from what is better than we can imagine!

> Look, how the floor of heaven
> Is thick inlaid with patines of bright gold;
> There's not the smallest orb which thou behold'st
> But in his motion like an angel sings,
> Still quiring to the young-eyed cherubim:
> Such harmony is in immortal souls;
> But whilst this muddy vesture of decay
> Doth grossly close it in we cannot hear it.[2]

'Suffer the little children to come unto me.[3] O gentle Saviour, would that we had the mind ever to copy Thy meekness and lead the little ones to Thee. Most beautifully is death described in Revelations: 'Blessed are the dead which die in the Lord from henceforth: Yea, saith the Spirit, that they may rest from their labours; and their works do follow them.'[4]

Life to all who do their duty must involve work, and death is that rest which we all feel we so gladly welcome after toil. It is most certainly a sordid, base, earthly mind which would bring the pure, exalted spirit of a little child down to the barbarous funeral details with which man has enveloped death, rendering it hideous in every respect. 'Man makes a death which nature never made.'[5]

Putting, indiscriminately, tracts and religious books into

[1] Shakespeare. [2] Shakespeare. [3] St. Mark x. 13–16.
[4] Revelation, xiv 13. [5] Young.

children's hands is of no use. Children should never be terrified with religion. Many a good intention, many a good thought, is simply frightened out of a child's mind by thoughtless people's teaching of holy subjects. Children should early be taught 'The Lord's Prayer.' It is very touching to see a little child bending down, and in all its purity and innocence, saying that most beautiful prayer to the Great Father of us all; and who can tell how great a blessing it may be in after-life to remember the simple days when we said at our mother's knee that prayer in which all poor humanity's needs are expressed.

But the Lord's Prayer should be taught reverently to children. They should not be allowed to say it anyhow—to gabble it over—a thing to be hurried and got over as quickly as possible, and the meaning of each sentence should be explained to children. It is impossible for children to take an interest in what they do not understand. With some it is the custom to have their children kneel down to say their prayers, but the poor children have not the least idea why they go through this daily ceremony. Papa has come home late and is in a hurry. Mamma is finishing her toilette—is also in a hurry. 'Now kneel down and say your prayers.' Down the child obediently kneels to the accustomed chair, and says the daily formula—why or wherefore it knows not. The poor child has a hazy notion, perhaps, that it is connected with something good, but if it is not thinking it will as likely as not begin with its usual grace.

As I heard a little girl say once, 'There's papa calling. I've got to go and say my prayers to the chair. Isn't it funny, talking the same thing every day by the chair. Mamma says there's a spirit somewhere. But I don't know,' and, with the sharpness of childhood, 'I don't think she really cares, you know, only she says so. Perhaps it's polite to say so.' What a sad mockery is the making children say their prayers like this. The old story of 'John Chinaman' saying his prayers would soon, I am afraid, be a popular way of praying, if only sanctioned by custom, and would be equally as reverent, perhaps, as the gabble of prayers which we are sometimes treated

to in church (sing-song fashion) by the new religious lights, and which is too often the home praying as well.

'There lived next door to each other in China a Chinese and an Englishman. The partition wall being thin, sounds were easily heard through. For some time the Englishman (a new arrival) was much puzzled to account for a strange noise he heard every morning and evening about the same time next door. Curiosity getting irrepressible, he summoned up courage to speak to his Chinese neighbour about the 'singular noise,' and thus, after the usual civilities, began : 'You will pardon me and will not, I hope, attribute what I am going to ask you to idle curiosity, but pray may I enquire what the strange noise is which I hear in your house morning and evening ?' 'Oh, that is saying my prayers,' replied John Chinaman. 'Saying your prayers ?' repeated the Englishman, with unbounded astonishment, for the noise sounded like machinery. 'Yes,' answered the celestial, 'I say my prayers by a box into which I put a slip or two of paper with my prayers written on. I turn the handle, the paper is torn up and cast away, and thus, you see, without loss of time (for it takes but a few minutes) or trouble, except just turning the handle, my prayers are said.' 'In prayer it is better to have a heart without words than words without a heart.' [1] To end the day peacefully at a good father's or mother's knee with the calming, peaceful words on the lips of a little child, of our dear Lord's Prayer, is to begin life in a way which cannot fail to have a good influence on the after-life.

> More things are wrought by prayer
> Than this world dreams of . . . .
> For what are men better than sheep or goats
> That nourish a blind life within the brain,
> If, knowing God, they lift not hands of prayer.[2]

The influence of any good woman reverently teaching the Lord's Prayer to a child is very great. That prayer taught in childhood may come back to the mind in after-years a source of the greatest strength, comfort, and consolation. Where the Lord's Prayer has been reverently taught to anyone, it seldom leaves the mind, but will come back in times of sorrow,

[1] Bunyan. [2] Tennyson, *Morte d'Arthur*.

pain, or distress. And in its simple words how many have found an utterance for their needs !

It is grievous to think of the thousands of children who are carelessly put to bed each night without a prayer, without a thought directed to higher things. The last prayer at night, however, and the mother's last kiss before the little weary one sinks to rest should never be forgotten ; but the little ones must see that not only have we good thoughts, but good lives. 'If we desire to convey good and noble emotions to our fellow-creatures, the only means whereby we can effect that end is by filling our own hearts with them till they overflow into the hearts of others. Here lies the great truth which the preachers of Altruism persistently overlook. It is better to *be* good than to *do* good. We can benefit our kind in no way so much as by being ourselves pure, and upright, and noble-minded. We can never *teach* religion to such purpose as we can *live* it. It is impossible to form the faintest estimate of the good—the highest kind of good—which a single devout soul may accomplish in a lifetime by spreading the holy contagion of the Love of God in widening circles around it. But just as far as the influence of such men is a cause for thankfulness, so great would be the calamity of a time, if such should ever arrive, when there should be a dearth of saints in the world, and the fire on the alter should die down. A Glacial Period of Religion would kill many of the sweetest flowers in human nature ; and woe to the land where (as it would seem is almost the case in France at this moment) the priceless tradition of prayer is being lost, or only maintained in fatal connection with outworn superstitions.' [1]

Amongst the many virtues which might with advantage be cultivated and which a mother should instil into her children, unselfishness should rank first. Unselfishness is a most rare virtue. St. Paul's good admonitions, 'Be ye kind one to another, tender-hearted, forgiving one another,' [2] 'Be ye kindly affectioned one to another,' [3] are too often disregarded, and children, simply from the system of training pursued, grow up

[1] Frances Power Cobbe, *The Education of the Emotions.*
[2] Ephesians iv. 32. [3] Romans xii. 10.

utterly devoid of feeling for others. To be forgiving, thoughtful for those around, and kind, is to many unknown, chiefly because their teaching has been defective in these points. No doubt there is much natural goodness in human nature, but it requires bringing out. How much happiness there is in trying to make others happy is known only to those who make an effort to reach that abnegation of self [1] which is sure to be a source of good to the one who trys to attain to it, although it may—and often does—involve some self-denial, irksome at first. All self-denial must arise from inward motive regulating the outward acts. Christ touched the primary source of all evil when he said it had its origin in the heart.[2]

Darwin writes:[3] 'The highest possible stage in moral culture is when we recognise that we ought to control our thoughts. Whatever makes any bad action familiar to the mind, renders its performance by so much the easier.' As Marcus Aurelius long ago said: 'Such as are thy habitual thoughts, such also will be the character of thy mind; for the soul is dyed by the thoughts.'[4] Self-love is an instinct, a law of nature, and when we do violence to our own private feelings we are waging war against nature. The instinct of self-preservation in man should no more be condemned in man than it would be in animals who depend on their own instinctive self-love for ready escape from danger.

The 'Lancet' (November 1887), in referring to the prevailing follies of the present day, remarks on the 'incessant tea-drinking, sipping eau-de-cologne, and addiction to sensational novel-reading as examples of the prevailing spirit of self-indulgence;' adding that 'the means of correction are not to be found in pharmacopœias or in regulations as to the safest methods of indulging the petty cravings of selfish desire. The real remedy will be found in a return to simpler or less artificial usages, and in the increasing recognition of the value of

[1] 'There are many persons who are ready to cut off other people's offending hands and feet, forgetting that the command is to cut off their own.'—Dr. Parker, *Sermons at the City Temple*.

[2] St. Matthew xv. 19. [3] Darwin, *The Descent of Man*, pp. 188, 189.

[4] *The Thoughts of the Emperor M. Aurelius Antoninus*, English translation, 2nd edit., 1869, p. 112. Marcus Aurelius was born A.D. 121.

some guiding purpose, even in the leisure and the diversions of our lives.'

Speaking of intemperance among women, 'the Bishop of Liverpool, at a meeting to promote a home for inebriates in that city, attributes the deplorable increase of intemperance among women to grocers' licences. Archdeacon Lefroy said female drunkenness was not confined to the poorer class. Among the luxurious and influential there might not be excessive drinking of wine and spirits, as generally understood, but ladies who resorted to sal volatile took spirits in a form inaccessible to the poorer classes.' [1]

The teaching embodied in the catechism places before humanity their duty in all relations of life, and if the learning of the catechism were more generally insisted on with children, and if it were more acted upon, there would be less evil in the world. There cannot be a better teaching for all than that which speaks of one's duty to others, also one's duty as regards oneself. 'My duty towards my neighbour is to love him as myself, and to do to all men as I would they should do unto me. To love, honour, and succour my father and mother. To honour and obey the Queen, and all that are put in authority under her. To submit myself to all my governors, teachers, spiritual pastors, and masters. To order myself lowly and reverently to all my betters. To hurt nobody by word nor deed. To be true and just in all my dealings. To bear no malice nor hatred in my heart. To keep my hands from picking and stealing, and my tongue from evil-speaking, lying, and slandering. To keep my body in temperance, soberness, and chastity : not to covet nor desire other men's goods ; but to learn and labour truly to get mine own living, and to do my duty in that state of life unto which it shall please God to call me.'

An old lady, whom I knew very well some years ago, happy in the knowledge that her six sons and four daughters, well brought up and well educated, were all out in the world—the sons in good professions, and the girls comfortably mar-

[1] *The Times*, Thursday, February 2, 1888.

ried—and all doing honourably and well, and consoled in the decline of her days by the consideration, affection, and esteem shown to her by all her children, being asked by an American friend what especial religious training had led to so good a result, replied: 'I have brought up my children to love Christ, honour the Queen, and follow the teaching of the catechism.[1] My husband and I have ourselves tried to live up to this, and we have endeavoured to make the young people's home the centre of all happiness.' And this, I believe, is the true secret of success in bringing up children well. Live up, yourself, to a noble standard of good, and, as those who believe in their own tenets have many converts, so you will have sincere followers. As an old English squire said: 'I give all my sons a good education, and I tell 'em they must fear God, keep the laws,[2] and learn to hunt, fish, and shoot. That's the way to make men of them.' 'The Persian gentleman is the spiritual father of the British squire. He taught his sons to shoot, to ride, to speak the truth; and then left them to educate themselves. He was devoted to his sovereign to a degree that astonished Herodotus; and he loved a good glass of wine in good company.'[3]

'There is,' writes Turgot, 'an instinct, a sentiment of what is good and right, that Providence has engraven on all hearts, which is anterior to reason.'[4]

'He that loses his conscience has nothing left that is worth keeping. Therefore be sure you look to that. And in the next place, look to your health; and if you have it, praise God, and value it next to a good conscience; for health is the second blessing that we mortals are capable of, a blessing that money cannot buy; therefore value it, and be thankful for it.'[5]

The great fault of the age we live in, no doubt, is that we

[1] Deuteronomy xi. 19.

[2] 'Keep innocency and take heed unto the thing that is right; for that shall bring a man peace at the last.'—Psalm xxxvii. 38 (Prayer-book version).

[3] Dr. Chambers, *Manual of Diet*, p. 32.

[4] Second *Discours en Sorbonne*.

[5] Isaak Walton.

live at such a high pressure and with so much movement in all directions that there is but little leisure for quiet reflection, and so we put aside many things to a more 'convenient season,' which, however, never comes. Time passes so rapidly that our children are grown up before we are conscious that they have emerged from childhood.

> The world is too much with us, late and soon,
> Getting and spending we lay waste our powers.[1]

And when we do give ourselves leisure to think, so sad a view of good left undone and opportunities lost presents itself to our minds that we are often discouraged and will not even try in little matters to better what we know but too well needs mending.

Education should be pursued with children with regularity, and constant change of instructors should be avoided.

It is only by slow, patient, diligent exercise of the mind that any real and useful knowledge is acquired. People so often complain of those they place over their children. But if one is not satisfied, the remedy is in one's own hands. To keep anyone and to continually grumble is excessively mean. Does not much trouble arise from expecting too much? We expect those who have had less advantages than ourselves to show the very qualities which we ourselves either have not or do not think it necessary to cultivate in ourselves. We look to quite a young, inexperienced person, to have that patience, that common sense, that knowledge of what is beneficial for or hurtful to our children, which we are perhaps deficient in ourselves, and we are not only disappointed when we do not find some poor girl gifted with every good quality, but we blame and scold her for the very things she cannot help. Too much is often expected of governesses, and they fail simply because there is so much looked for from them. It is thought that they will develop wonderful systems of control over spoilt, disagreeable children, whom their parents are at no pains whatever to control themselves.

As George Eliot says, 'We soak our children in habits of

[1] Wordsworth.

contempt and exultant jibing, and yet are confident that, as Clarissa one day said to me, "we can always teach them to be reverent in the right place, you know."'[1] Children are allowed to run wild—are allowed to do as they like—and then they are expected to be obedient to a stranger. Unless the person so placed—as governess or tutor—is exceptionally gifted with a power of ruling, there will certainly be no obedience. Of comfort we will not speak ; spoilt children are ever disagreeable. Not happy themselves, they invariably cause discomfort to those around them. Parents should bear in mind that whatever person they place over their children, their children will be in that person's entire power ; and according as the person they are placed under is capable of ruling them well, so will they go on in a satisfactory manner or otherwise. There are three ways of ruling: 1st, by gentleness;[2] 2nd, by coercion ; 3rd, by fear. The first is the best ; the last the worst way. Whoever is under the dominion of another has to go sooner or later the way that other wishes, whether it is agreeable or not. It is a great blessing when the ruler and the ruled accord and are in harmony.

There is an old story which runs thus :—'There went to reside in Spain a man who, finding that donkeys were greatly used, and were not only most serviceable but were even necessary, the part of the country being mountainous, resolved to buy one. On purchasing the animal he was told the donkeys were not only exceedingly stubborn, always wishing to do what they liked themselves, but that they were disinclined to go at all unless you knew the secret of driving them. Seeing, however, all around that the donkeys went very well, he imagined the person saying this had some private motive for his remarks. The man selling the donkey assured him that unless he knew the secret of donkey-driving neither the particular donkey bought nor any other would go properly. The man ridiculed what the vendor said, and assured him he felt quite equal to donkey-driving. The eventful morning arrived ; the donkey and his new master set forth. The animal started very well,

[1] George Eliot, *Theophrastus Such*, pp. 151, 152.

[2] This does not mean want of firmness or absence of proper restraint.

but after a time went slower and slower, and finally refused to go. His master first used kindness, and tried to coax the animal to go, but finding this of no avail, and being much irritated by the jokes of the passers-by, many of whom asked jeeringly "if he knew the secret of how to drive a donkey in Spain," he got in a passion and beat the donkey. All was of no avail—coaxing or beating—the creature would not go. Finding himself unsuccessful, he thought the donkey was perhaps unusually stubborn, and decided to get rid of it and buy another at a different place ; the second purchased proved exactly similar, and after buying three or four, finding himself unable to make them go, the man came to the conclusion that there must have been some truth in what the man of whom he bought the first had said. He went to him and asked him to tell the secret of how to make these donkeys go, but the man told him he only sold donkeys and could give no directions for making them go. Each one he then asked replied either that they could not tell, or laughed. In despair the poor man, finding it necessary to keep a donkey, and it being useless unless it would go, applied to an old man, a compatriot who kept several, and explaining his dilemma and that he was a stranger to the country and customs of the people, begged to be told the knack of how to make these donkeys do more than *very slowly walk*. The old man replied, "Mon ami, c'est l'épingle qui fait marcher l'âne." [1] He then explained that all people in that part of the world made their donkeys go by the aid of a pin, which they inserted in the end of a stick, and which was not apparent to ordinary observers.'

With everyone it is more or less the 'épingle,' [2] or, in other words, pressure of one kind or another, which makes them do many things. With grown people the 'épingle' is often surrounding circumstances. It is sad, however, when children make early acquaintance with the 'épingle,' and it should never be made the basis of making children submissive to the will of those over them. Gentle measures are best, more especially in educating, and it is much better and wiser to

[1] 'My friend, it's the pin which makes the donkey go.' [2] Pin.

lead than to drive children, and, if people but knew it, much less trouble. The story ends thus: 'The man, being of a humane nature, averse to cruelty of any kind, came to the conclusion that he would buy quite a young donkey, and would train it to go without the use of a pin.'

It would be well if mothers, and all who have charge of children, would try and follow the example of the good man in this quaint old story, and having young creatures to train, would try and make them do what is required by quiet persuasive means, not losing their own temper, even when provoked—for those who cannot control themselves cannot rule others—and not thinking, as so many do, that the best and only system for teaching children is that which presupposes a certain amount of fear.

It is very sad to hear the constant wailing and crying in some families. Tears are a relief of nature, 'a refuge of the weak.' A child cries because it is hurt—because it feels troubled—because it is not happy: remove the cause and the tears will cease. To scold a child for crying, without inquiring into or removing the cause, is a very unkind proceeding. The whimpering and continued crying which goes on in some schoolrooms is injurious to the children, disagreeable to those compelled to live within sound of it, and unnecessary, and will not exist where children are being taught in a proper manner. I am quite convinced that fits of crying and screaming are most injurious to children; and I am quite sure, with a little tact, that they may be avoided. But it must be borne in mind that children have feelings the same as grown people. We should ourselves show respect to those we place over our children. Children should never be permitted to treat with rudeness those whom adversity or their poorer lot in life compel to earn their bread. I once heard a young mother say, 'I suppose I shall soon have to get some creature to be with my child.' Not catching the rest of the sentence, uttered in a fashionable drawl, I was under the impression that a dog or some animal was alluded to. Great was my surprise when I found a governess was the 'creature' referred to. Speaking in these terms in the hearing of children, and acting towards

those placed over them in the manner implied by such speech, must necessarily be harmful.

The word 'mistress' is defined as 'a woman who governs.'[1] Also, as 'the female head of a family.' This is exactly the light in which every woman should regard herself who has a house, and should govern those under her temperately, kindly, justly, and with reason, judgment, and common sense. And it should be the aim of everyone—as the head of the female members of the family—to help, to counsel, to guide, and direct those subordinate to their rule, and to show that consideration to others[2] which they would wish shown to themselves were the positions reversed and the ruled become the rulers.[3] 'By implanting a feeling of responsibility for the education of their servants in the minds of mistresses, and by a little judicious management on their part, the trivial round and common task of household duties would no longer be a dull and irksome routine, but would be transformed into bright and holy work. Mistresses would feel that in themselves and their servants they were making their daily labour and their religion one. They would impart to those under them a practical, and not a mere pedantic, notion of the dignity of work. They would make them feel that even the humble tasks of sweeping and dusting have a share, as well as our Bible readings and church-goings, in disciplining our souls for God's service. And instead of ladies seeking abroad, as many do, for opportunities for doing good, and meeting with disappointment and failure, they might find their work all ready to their hand—a work at which they might labour with the certainty that their labour would in time, although possibly not in their own time, return a rich harvest.'[4]

And, after all, can any out-door charitable efforts give a reward like that which is gained by one who makes her home bright and happy? The delightful place where the

[1] Dr. Johnson.

[2] 'Give unto your servants that which is just and equal.'—Colossians iv. 1; 'Forbear threatening.'—Ephesians vi. 9.

[3] 'In disciplinary matters none but a woman can understand a woman.'—Florence Nightingale. *Quain's Dictionary*, vol. ii. p. 1041.

[4] *Training young Servants in Habits of Cleanliness*, Mrs. Watson.

weary husband finds rest and refreshment, and a cheerfulness and happiness which is reflected from his dear wife in the children, the servants, the very domestic pets. 'A cheerful temper—not occasionally, but habitually cheerful—is a quality which no wise man would be willing to dispense with in choosing a wife.'[1] 'Cheerfulness ought to be the *viaticum vitæ* of their life to the old; age without cheerfulness is a Lapland winter without a sun; and this spirit of cheerfulness should be encouraged in our youth, if we would wish to have the benefit of it in our old age. Time will make a generous wine more mellow, but it will turn that which is early on the fret to vinegar.'[2] 'The aged women likewise, that they be in behaviour as becometh holiness, not false accusers, not given to much wine, teachers of good things; that they may teach the young women to be sober, to love their husbands, to love their children, to be discreet, chaste, keepers at home, good, obedient to their own husbands, that the Word of God be not blasphemed.'[3] 'I will, therefore, that the younger women marry, bear children, guide the house, give no occasion to the adversary to speak reproachfully.'[4]

It is of little or no avail, arguing with servants; especially where they have the charge of children, if they do not do what there is to be done cheerfully, willingly—what the French call 'de bon cœur,'[5]—it is better to make a change as soon as possible. 'A servant will not be corrected by words.'[6] And if by pointing out quietly what is wished, they do not acquiesce, angry words will be of small service. In fact, often a servant will rather give up a good situation even than be spoken to. It is impossible to get anyone to see the necessity for, or the utility of, doing anything by mere talking. They must personally feel the necessity. They will not believe, 'neither will they be persuaded though one rose from the dead' to tell them.[7] Where there is continued quarrelling between servants and their employers it is very prejudicial to the children of the household; more especially with anyone

[1] *The Five Talents of Woman*, p. 69.
[2] Colton, *Lacon*, p. 343.
[3] Titus ii. 3–5.
[4] 1 Timothy iv. 14.
[5] 'Of good heart, or with good heart.'
[6] Proverbs xxix. 19.
[7] St. Luke xvi. 31.

placed over children to teach them, there should be perfect harmony. Tussor in his 'Points of Huswifry united to the comforts of Husbandry,' 1570, remarks that 'those servants who sing at their work are not only the most painstaking but the best.' He says :

> Such servants are oftenest painful and good
> That sing in their labour, as birds in the wood.

My own experience goes to prove the truth of Tussor's observation, for the best servants in every respect that I have had have been given to a habit of singing at their work. In the case of a nurse, I do not see any objection to her singing to her little charge. In fact, I think it is advantageous to the child, as it tends to keep it amused and bright.

Too much travelling or going about is not good for children during the time they are pursuing their studies. Anything which causes a strain on the nervous system is harmful to the young. While children are growing, while their mental faculties are being taxed, they require not only proper repose and quietude of body (this does not mean absence of play, amusement, and proper recreation, which are most essential for children, and which I will refer to further on) but calmness and freedom from exciting causes. Too much mental excitement is at all times harmful to children. Overheated rooms and late hours are most injurious also to the young. Regularity in and early going to bed, and early rising, are of essential value in promoting the health of children.

> Early to bed and early to rise
> Will make you healthy, wealthy, and wise,

says the old distich. 'Next to temperance, a quiet conscience, a cheerful mind, and active habits, I place early rising as a means of health and happiness. I have hardly words for the estimate I form of that sluggard, male or female, that has formed the habit of wasting the early prime of day in bed. Putting out of the question the positive loss of life, and that, too, of the most inspiring and beautiful part of each day, when all the voices of nature invite man from his bed ; leaving out

of the calculation that longevity has been almost invariably attended by early rising ; to me, too late hours in bed present an index to character, and an omen of the ultimate hopes of the person who indulges in this habit. There is no mark so clear of a tendency to self-indulgence. It denotes an inert and feeble mind, infirm of purpose, and incapable of that elastic vigour of will which enables the possessor to accomplish what his reason ordains. The subject of this unfortunate habit cannot but have felt self-reproach, and a purpose to spring from his repose with the freshness of dawn. If the mere indolent luxury of another hour of languid indulgence is allowed to overrule this better purpose, it argues a general weakness of character, which promises no high attainment or distinction. These are never awarded by fortune to any trait but vigour, promptness, and decision. Viewing the habit of late rising in many of its aspects, it would seem as if no being that has any claim to rationality could be found in the allowed habit of sacrificing a tenth, and that the freshest portion of life, at the expense of health, and the curtailing of the remainder, for any pleasure that his indulgence could confer.' [1]

Too great a pressure should not be put on children. It should be seen that their studies are within their capacity by some one capable of judging. All learning should be gradual. It is of no benefit to push children forward with their studies to the disregard of their capacity for learning and their bodily health. 'A great deal of energy is wasted in attempting to seize more than can be grasped.' [2] So much is now expected, in the matter of education, of children, and they are kept so incessantly at work that the wonder is that they have the power of grasping and retaining any of the large bill of fare provided for them ; that their tender, undeveloped little minds, by being so prematurely overtaxed, are not dwarfed and stunted, and rendered dazed and dull.

Dickens's description of Dr. Blimber's establishment [3] will apply to many modern schools. 'Dr. Blimber's establishment

[1] Flint.

[2] Francis Galton, *English Men of Science*, p. 229.

[3] *Dombey and Son*, pp. 100–111.

was a great hothouse, in which there was a forcing apparatus incessantly at work. All the boys blew before their time. Mental green peas were produced at Christmas, and intellectual asparagus all the year round. Mathematical gooseberries (very sour ones too) were common at untimely seasons, and from mere sprouts of bushes, under Dr. Blimber's cultivation. Every description of Greek and Latin vegetable was got off the driest twigs of boys, under the frostiest circumstances. Nature was of no consequence at all. No matter what a young gentleman was intended to bear, Dr. Blimber made him bear to pattern somehow or other. This was all very pleasant and ingenious, but the system of forcing was attended with its usual disadvantages. There was not the right taste about the premature productions, and they didn't keep well.'

Many nervous complaints arise in a great measure from the mind being overtaxed, especially when young. Nothing is sadder to see than learning pursued at the expense of health. What is more melancholy than a feeble shattered body with a highly-strained mind, and by want of judicious care in pursuing education this is sometimes the lamentable result. Everyone interested in, or having to do with, the education of young people should be mindful that for happiness in life 'Mens sana in corpore sano'[1] is essential, and should avoid all that might tend to render children weak or feeble, either in body or mind. Girls especially should be looked to in this respect. *Nature will not be trifled with*, and however older people may try to controvert the laws of health and think they can with impunity exhaust the brain and yet escape the result, delicate or impaired health, it is impossible for children to do so without the result being very soon apparent. Attention to the simple but necessary laws of health is needed in education, as well for learning to be successful as for life to be a pleasure and not a burden—which it most decidedly is when health is chronically defective. People are too apt to forget that children's mental

[1] 'A sound mind in a sound body.'

capacity, like their bodies, is in a growing state, and they too often also forget that what is very easy to grown people is difficult of attainment, and perhaps hard for children to understand. The more developed intellect will readily grasp what is an enigma to a less advanced mind.

Children are set down as stupid, dull, wanting in capacity, mentally feeble, when it is often only that their minds are not sufficiently developed to comprehend. 'When I was a child I spake as a child, I understood as a child, I thought as a child.'[1] Some also are more easily fatigued mentally than others, over anything which requires concentrated attention. If it is seen in teaching any particular subject that the pupil is getting confused, inattentive, or, to use an old expression, 'muddled' over it, it is best to go directly to something quite different. Probably on returning fresh to the lesson it will become clear and easy to comprehend. Too close application is ever injurious. The present system of examination, with its consequent long and continuous study, presses heavily on young girls. The idea that girls can study as hard as boys without any injury to health, is held by many eminent authorities to be a great error.

The view held by old writers that, as a woman's brain is less than a man's, therefore she is not capable, without injury, of the same amount of pressure in study, sustained effort, and concentrated hard work is still put forward by many eminent scientific men as a conclusive reason against overeffort and overpressure in study for girls. 'Seeing that the average brain-weight of women is about five ounces less than that of men, on merely anatomical grounds we should be prepared to expect a marked inferiority of intellectual power in the former.'[2] At the meeting of the British Medical Association, September 1887, too much brain-work for girls was strongly spoken against. Dr. Withers-Moore, in speaking of the injuriousness of excessive mental work for girls, said: 'Excessive brain-work in studying for competitive examinations is inju-

[1] 1 Corinthians xiii. 11.
[2] George F. Romane, *Men and Women.*

rious to many young women of the middle classes, tending to their physical disqualification for the functions of motherhood.' The importance of this to national welfare must be apparent to anyone who carefully considers the subject. But in the education of girls at schools it is often not so much the great amount of study which so injures as the daily over-straining without the counterbalancing influence of due relaxation—this it is which does so great harm, and may even in the end possibly produce the result indicated by Dr. Withers-Moore.

I remember, some years ago, the little daughter of a friend, aged fourteen, dying from an affection of the brain produced by over-strain; but a celebrated medical authority on brain diseases said it was not so much the amount of study the child had had, as it was the want of relaxation, which had resulted in the child's fatal illness. That an ordinary average education will in any way injuriously affect an ordinary average girl is unreasonable to suppose. I myself believe that listless, objectless inactivity does more harm mentally and bodily to young people than any amount of well-regulated, well-directed study.

In a most interesting essay lately written (1888), 'Women and Work,' by Mrs. Pfeiffer, there is collected together the opinions of several celebrated living medical men, such as Sir William Gull, Dr. Lionel Beale, Dr. Hermann Weber, Mr. Solly, F.R.S., Dr. Aldis, Dr. Langdon Downe, and others, to prove that rational study, rationally pursued, not only does no harm to the mind and body of the young, but tends in reality to have a most beneficial effect. Mrs. Pfeiffer observes:[1] 'The wisest physicians and teachers I have known are agreed in believing that mental discipline and exertion are great helps to healthy physical development; that the greatest curses of young ladyhood are listlessness, vacuity of mind, and the lack of serious purpose, and of interesting and useful occupation. For one person whose health has been injure by intellectual ambition and effort I believe there are fifty who have been far more seriously injured by frivolity, by mental idleness, and by indifference to the cultivation of their

[1] P. 126.

higher faculties.' Mrs. Pfeiffer continues :[1] 'Something has to be risked on the part of parents whose children are so placed as to be compelled to earn their bread. The preparation for the work of life must be begun early if the fight is not to prove harder than need be to the end.'

After reviewing the various arguments for and against 'higher education' for women, Mrs. Pfeiffer, in conclusion, says :[2] 'It does not lie within my present purpose or my competence to criticise the methods on which female education is at present pursued, further than to point out that, the movement being new, it would be contrary to all experience if there were no mistakes for the future to repair. The wonder is that, all error notwithstanding, so little of damage to health has ever been proved, and so much of benefit has to be set to the positive side of the account. In admitting the probability of error, I may say that what has most struck me is the general inadequacy of the amount of physical exercise, in those high and middle-class schools, even, where such exercise is claimed to be a speciality. An hour of calisthenic or light gymnastic movement once a week affords no just balancing up of the body against the mind. Though so large a portion of time could only be allotted to these movements once a week, it seems to me they should be repeated daily in school-hours, and would be found highly beneficial, especially by the younger scholars, in working off the effects of continued attention. Five minutes of rapid movement between the lessons would restore the circulation of the blood and brighten and relieve the entire system. In the colleges where the students are resident lawn-tennis appears to afford the sole opportunity for that disporting of the muscles so natural and so needful to healthy youth. Not to cast a word of reflection upon that popular game, a doubt may be allowed of its being all-sufficient in itself as a means of bodily training, and still less as a means of imparting grace and harmony to motion. Dancing, the art of moving rhythmically to music, as seen in the long-sustained movements of the minuet, would, if syste-

[1] P. 139. [2] Pp. 158, 159.

matically studied, go far to remove the reproach of awkwardness[1] which is not undeserved by English girls. The ways in which the strain of study is relieved to boys are manifold; and, although in their case it may commonly be carried too far, a leaf out of their book might well be taken in furnishing to girls more varied interests apart from work, and thus lightening the danger of that "worry" over it which is the chief peril to be guarded against in the feminine composition.'

Mrs. Pfeiffer's remarks as to the advantage to be gained by a study of the minuet are worth noting. The grace of the minuet as danced in bygone days was brought under the notice of Londoners this year[2] by one of the scenes in a charmingly quaint, pretty little opera, called 'Dorothy.' The minuet recalls an elegance in dancing which is unknown to the younger of the present generation. 'The chandelier crawl,' 'the galloping waltz,' 'the hopping pump-handle waltz' (to use the popular terms for some of the waltzes danced), are some of the vagaries of the present day in dancing, and combine neither elegance of movement nor real pleasure. Dancing has been described as 'the poetry of motion.' Any of the styles of dancing I have named, and which those acquainted with the modern ball-room will readily recognise, are more conspicuous by the absence of all grace than by anything else. The 'Lancers,' which used to be a very graceful dance, has degenerated into a complete romp, and sometimes even partakes of the ludicrous, as when an enormously stout lady, past the meridian of life, is seen being quickly propelled round the room by a slender youth of immature age.

Truly, custom sanctions many strange things. One is led to think sometimes that dancing is indulged in in order to work off accumulated superabundant energy. 'Poetry of motion'! It should in some instances rather be called 'vigour of motion.' Nearly stifled by want of ventilation (why are the English so afraid of air indoors?); limited as to space, and everyone dancing in their own peculiar style, which in

[1] 'As those move easiest who have learned to dance.'—Pope, *Essay on Criticism*, part ii. line 163.

[2] 1887.

some cases means no knowledge of dancing; movement, violent or otherwise, being the only thing required. Spectators of dancing in a crowded London ball-room have a curious sight passing before their eyes. I think girls in schools might with advantage often be allowed to have that delightful old dance for the young, 'Sir Roger de Coverley'; besides affording amusement, it would as well give plenty of exercise. So much sitting as girls generally have is not good for them. 'Six hours' sedentary occupation is for young children, and especially for female children, a violation of the laws of physiology—even if seats and reading-desks were so adjusted as to avert the spinal distortions and near-sightedness which are everywhere common amongst the long-time school children. . . . The train of disorders from deficient exercise are most engendered in the infantile stages, especially of girls, in the long-time schools. With the few, the evils are mitigated, though not obliterated, by horse exercise, by games, as by archery, by lawn-tennis, and now by skating-rinks. I hope that the new vehicle, the tricycle, may be brought in aid. But the many are excluded from such reliefs.'[1]

The old theory that very highly educated women are necessarily disagreeable is now quite out of date. The ancient term of reproach, 'blue-stocking,' levelled at literary women, has also passed into the shades of time. Sir John Lubbock, M.P., said, at the opening of the new school-room at the High School for Girls at Bromley (Kent):[2] 'It was extraordinary to look back now on the affectation of the last century about "blue stockings."'

People nowadays are all in favour of the higher education of women, and no one, except those very ignorant and prejudiced, will aver that a woman who 'writes books,' as it used to be *sneeringly* termed, is otherwise than agreeable and polished. Of course there are exceptions to every rule, and the fact of having a highly cultivated mind will not always endow the possessor with correspondingly agreeable qualities. The old idea, also, that a woman who gives a portion of her spare time

[1] *Sanitation in Domestic Training*, by Edwin Chadwick, C.B.
[2] *The Times*, Tuesday, October 23, 1888.

to mental work is untidy, neglectful of her home, household duties, and family ties, is not founded on fact. The Mrs. Jellybys [1] of life exist, I am glad to say, more in fiction than in fact.

I myself firmly believe that a woman whose spare time is fully and agreeably occupied makes a better wife, a better mother, a better mistress to her servants, than one whose time is frittered away in frivolous idleness. 'Mrs. Hall, the wife of Professor Asaph Hall, of the Naval Observatory at Washington, teaches her boys Greek and Latin, keeps pace with her husband's wanderings among the stars, is an expert housekeeper, a fine historical scholar, and is said to write delightful poetry.' [2]

But if poet, artist, thinker,
  Lend me some inspiring thought,
Must it follow that the duty
  Of the woman is forgot?
No; 'tis you who err, believe me,
  Thinking, as perchance you do,
That, because her brain is empty,
  Woman's heart must beat more true.

'Tis not learning that unsexes,
  'Tis not thought will make us cold,
Nor at sight of heavy volumes
  Love on us relax his hold.
Woman is for ever woman;
  O'er her life love rules supreme,
Though his kingdom be but fancy,
  And the bliss he gives a dream.[3]

The present rector of St. Andrew's University, the Right Honourable A. J. Balfour, in his Rectorial Address, observed of writing: [4] 'I am prepared, indeed, to express sympathy, almost amounting to approbation, for anyone who would check all writing which was not intended for the printer.' If the writing indulged in does not interfere with any duties, household or otherwise, and is an occupation affording amusement and employment for idle hours, who, with justice, can cast undeserved reproach at a woman for using the talents she may

[1] Charles Dickens, *Bleak House*, p. 26.
[2] *Pall Mall Gazette*, February 22, 1888.
[3] Catherine Grant Furley, *A Girton Girl*.
[4] *The Times*, Monday, December 12, 1887.

be gifted with? Some of our most delightful writers have been women. That a clever woman is often the mother of a son remarkable for talent, history shows us; and the old maxim, 'A clever mother makes a clever son,' is being exemplified every day. Mr. Galton, in his 'Hereditary Genius,'[1] gives 'as examples of remarkable women the mothers of Bacon, Buffon, Condorcet, Cuvier, D'Alembert, Forbes, Gregory, Watt,' and others, and adds: 'It appears, therefore, to be very important to success in science that a man should have an able mother. Of two men of equal abilities, the one who has a truth-loving mother would be more likely to follow the career of science.' I have heard people of intelligence argue that, because a girl is highly educated, and when a woman turns her talents to account, therefore her chances of marriage are less. If the subject were fully gone into, the idea would be found to have no foundation whatever. Most of the women who have achieved celebrity are, or have been, married. I think it is, perhaps, because, having achieved success, and being best known by their maiden name, most, on marrying, still retain that name for signature, that thus people lose sight of, or do not know of, their being married.

Mrs. Fenwick-Miller, in an article in the 'Lady's Pictorial,' on the subject of women who, 'having made their maiden name famous, are compelled to exchange it for another at marriage,' says it is a great mistake to suppose clever women lose any chance of marrying happily and well by reason of the development of their talents, and further adds: 'M. E. Edwards, for instance, is not, and for many years has not been, what many people describe as the 'real name' of this well-known artist. Miss Edwards married, some twenty years ago, a gentleman named Freer, who died; and after some years of widowhood she remarried with Mr. J. C. Staples, whose name, according to prevailing custom, she would now bear, and doubtless does bear in private life. The woman's personality has been twice absorbed in a new cognomen: the artist could not afford to part with her identity in this fashion, and as an artist we still know "Mary Ellen Edwards." The familiar

[1] P. 196.

monogram "A. C.," or the fuller signature of A. Claxton, is the maiden name which continues to be used by the lady who has for several years been married to a Mr. Turner. These artistic instances are not unique. "Alice Havers" is now Mrs. Morgan; "Henrietta Rae" is Mrs. Ernest Normand. Mrs. William Oliver, the well-known member of the Royal Institute of Water Colour Painters (one of the first ladies distinguished by election to that body), was for many years after her first husband's death the wife of Mr. Sedgwick, but always exhibited as Mrs. Oliver. In any other sphere in which women work the same custom is observed. With actresses it is universal. The same is the case with singers. Mdme. Antoinette Sterling is the wife of Mr. McKinlay; Mdme. Marian McKenzie is married to Mr. Williams; that Mdme. Albani and Mdme. Marie Roze are the wives of their respective business managers is well known; while Mdme. Patti's attempt to call herself "Nicolini," as a reminder to the public of her recent marriage, was a complete fiasco. Miss Braddon is the wife of Mr. Maxwell; Miss Florence Marryat has borne two other names in private life; Miss Mabel Collins is married.

'The fact is, however, that in all professions where the personality of the worker is of importance women have already learned, and have shown that they have learned, that the name cannot be lightly thrown away. The result is a practice of using an *alias*.'

All this clearly shows that talent, ability, and public work are no bar to marriage. It is a great blessing for mankind that the puerile ideas regarding clever women of previous generations are being merged in the more enlightened views and practice of the present age. The notion, also, which gains with some, that women who take up the higher branches of study, and those who take up medical and philosophic subjects, are plain-looking, and therefore, by the absence of beauty being deprived of those attentions which fall to their handsomer sisters, have better reason for occupying themselves in such studies, is not founded either on fact.

I have known several ladies whose great success in medical

and other branches of study was not accompanied by any lack of good looks, and I see in the 'Illustrated London News,' March 3, 1888, Mrs. Fenwick Miller, writing of a lady of some renown, lately dead, says: 'The death of Dr. Anna Kingsford removes a remarkable and interesting personality from the ranks of what are commonly called "strong-minded" women. She was interesting, especially, as a striking refutation of the delusion (nearly extinct already, I hope, but vigorous and widespread twenty years ago) that a learned lady and an advocate of "woman's rights" must needs be personally ungainly and unattractive; "social failures," as a polite M.P. once observed; or, as it used to be said by lads in debating societies, "Women's rights are wanted only by men's lefts." Mrs. Kingsford was so rarely beautiful and personally attractive that perhaps these very qualities made her a little perilous to "the cause" in the opposite way from that suggested by the gallant critics quoted. As I first knew her, when she was twenty-five years old, she was the most lovely woman I have ever seen; golden hair crowning an oval face, with small, refined features, and a dazzling complexion.'[1]

Nearly eighty years ago a brilliant writer,[2] and whose writings have been handed down, and are even at this distance of time widely read and quoted, wrote what is equally applicable at the present time. 'If you educate women to attend to dignified and important subjects, you are multiplying beyond measure the chances of human improvement by preparing and medicating those early impressions which always come from the mother, and which, in the majority of instances, are quite decisive of genius. The instruction of women improves the stock of national talents, and employs more minds for the instruction and improvement of the world; it increases the pleasures of society by multiplying the topics upon which the two sexes take a common interest, and makes marriage an intercourse of understanding as well as of affection. The education of women favours public morals; it provides for every

[1] *The Illustrated London News*, March 3, 1888.
[2] Sidney Smith, *Edinburgh Review*, 1810.

season of life, and leaves a woman, when she is stricken by the hand of time, not, as she now is, destitute of everything and neglected by all, but with the full power and the splendid attractions of knowledge—diffusing the elegance of polite literature, and receiving the homage of learned and accomplished men.'

Who would care to realise Diderot's view of the decline of woman's life? 'Time,' writes Diderot,[1] 'advances, beauty passes, then come the years of neglect, of spleen, of weariness. It is in pain that nature disposes them for maternity; in pain and illness, dangerous and prolonged, she brings maternity to its close. What is a woman after that? Neglected by her husband, left by her children, a nullity in society: then piety becomes her one and last resource.' One would not deny the consolation likely to be found in religion in advanced years, but few, I think, would advocate its being taken up so late in life, and then merely as the prop of one's last days. Would one not rather wish religion to spread a halo over one's early as well as last years of life?

Sitting a long time in a stooping posture over books and writing is exceedingly injurious. Care should always be taken to see that children sit sufficiently high, yet with a support to the back,[2] while at their studies, and that there is no continuous pressure of the chest against the table. If children sit on a chair, and it is not high enough, a hard cushion should be made and placed on the chair, so as to raise the body to a proper height to avoid pressure of the chest. The way in which so many children learn their lessons, both arms spread on, and the chest pressed against, the table, is very hurtful to health. Leaning on the table, so that the chest is pressed against it, is not a necessary adjunct of learning. Some put a stick through the arms and across the back of the children to make them sit upright when reading aloud. Not having tried it themselves, they are unaware how cruel it is. The arms being tightly drawn back, the breathing is more or less interfered with when the child has to speak

[1] *Essay on Merit and Virtue.*

[2] See 'Remarks on the Hair, Teeth, &c.,' p. 533.

aloud, and it causes a certain amount of discomfort, if not actual pain, and is in every way injurious.

I saw a little girl reading aloud, with a large stick drawn through her arms and across her back, and a more distressing sight I never saw—the hurried, gasping breathing, the efforts of the poor child to read without causing her governess to scold her, were truly painful to witness. Quite unconscious of the pain she was inflicting, the governess each day subjected the child to the same ordeal. When asked to try the stick on herself, and to read aloud, like her pupil, she was surprised at the discomfort caused. Why will people not try things on themselves before compelling poor children to undergo these miseries? Another error is letting children sit at lessons with the head stooping, so that there is a continual pressure on the windpipe. Pressure on the windpipe is often the sole cause of that irritating clearing of the throat which some children get.[1] It is also injurious letting children sit for a long time with their legs dangling down. I myself believe it affects children's (especially delicate children's) health if they sit each day for a length of time with their legs hanging down, the feet not nearly reaching the ground.[2]

With one of my children, a little girl of six, I was considerably puzzled once by her white, wan appearance after lessons, and for which I could not account. The child always looked so much worse after being in the school-room for any length of time, *at lessons*, that I began to associate her pallid looks with some cause which existed in the school-room, which, however, I could not discover. The school-room, a large airy room, well ventilated—no difficulty as to lessons—no scolding—I was completely mystified. I had two doctors to look at the child. Both declared there was nothing the matter with her. Still, I did not like the look of the little thing's white face. One day I sat down on a very high bench, my feet not nearly reaching the ground—in fact, hanging down. The child sat beside me. After a time I was conscious of a

[1] See 'Colds, Chills, and Rheumatism,' p. 408.

[2] Girls are more likely to be affected injuriously than boys.

most curious feeling, as if all the blood was ebbing away from my head. A friend, also sitting beside me, said she felt the same sensation. I looked at her—she was getting white in the face. I looked at the child. Her little face was, as I had so often noticed, quite pallid, although she had a nice colour when we started from home. The cause was discovered. The child was in the habit of sitting at the table (for a couple of hours sometimes) in the school-room, I knew, with her legs hanging down. Since then I have proved that sitting with the feet and legs hanging down *for a length of time* affects a child. Children, when their feet do not reach the ground, should have a hassock to put them on. When one sits with the feet dangling down there is a great pressure on the loins, which must necessarily be harmful.

I am often reminded of Cowper's lines when I see children in the school-room at lessons :—

> But restless was the chair ; the back, erect,
> Distress'd the weary loins, that felt no ease ;
> The slipp'ry seat betray'd the sliding part,
> That press'd it, and the feet hung dangling down,
> Anxious, in vain, to find the distant floor.

In teaching children the piano, equally, I think, their comfort as to how they sit should be studied. An insecure, round music-stool is a most disagreeable seat. A chair with a place for the feet is what is needed. How can a child, feeling uncomfortable, give attention to any mental work ?

Cheerfulness, quietness, and a comprehensive, easy manner of imparting knowledge are most necessary for the proper instruction of the young. All studies should be made as agreeable as possible. 'Delectando pariterque monendo,'[1] much more is likely to be learnt.

Where it is possible, children should begin at an early period music and singing. There are music and singing-books quite within the capacity of children. There are some very nice part song-books—'Little Songs for Little Voices,' by Alfred Scott Gatty—nursery rhymes, and other song books, written especially for little children. Music has a refining influence,

[1] 'By imparting at once pleasure and instruction.'

and is a source of pleasure to young and old. Although we may not feel inclined to go so far as Shakespeare, who wrote : 'The man that hath no music in himself, nor is not moved with concord of sweet sounds, is fit for treasons, stratagems, and spoils,'[1] yet we all feel that music cheers, enlivens, and brightens existence. What would the world be without music ? The favourite summer and winter resorts, even, without their bands ? Are not all the visitors congregated wherever the melodious strains are to be heard ? Some one, it is true, may be found to say the music is not agreeable, and even go so far as to sarcastically allude to the nationality of the players—'horrid German band'—but perhaps this may be the man mentioned by Shakespeare. Even in London the band is welcomed as relieving the dull monotony of town life. Then concerts, oratorios, opera—are they not all found delightful even by those who are not musical in the strict sense of the word ? Even in the early Bible history of the world music is mentioned—Genesis iv. 21—and no people, however primitive, but have musical instruments of some kind or other. Nearly everywhere now is heard the tinkle of the piano ; and from the poor man who is not afraid to say he enjoys his piano-organ, and is content to contribute his penny to its support, and the poor child who in the gaiety of her young heart dances unrestrainedly and with native grace to its lively tunes, upwards to the lovers of Handel, Beethoven, Mozart, Rossini, we all feel in some sense touched by music.

Shakespeare's view of the reason why music exists is one quaintly put, but is given with his wonted insight into the needs of mankind. 'Preposterous ass !' writes the great moralist, 'that never read so far, to know the cause why music was ordained. Was it not to refresh the mind of man, after his studies or his usual pain ?'[2] From a very early period music and drawing have been recognised as important factors in the education of the young. 'We are told that drawing and music were taught in all the Grecian schools 400 B.C.'[3] Singing is of benefit to the chest and lungs.

[1] *Merchant of Venice.* [2] *Taming of the Shrew.*
[3] W. Cave Thomas.

Young children should not, of course, have their voices forced, but most can join in part songs suitable to their age without in any way injuring the voice for singing when grown up. When children are old enough the mind should have its work as well as the body. Musical instruments of various kinds—the piano, organ, harp, violin, mandoline, flute—and painting, carving, modelling ; and, for girls, needlework of all kinds, and many other things, such as sketching, etching, zoology, botany—afford a pleasing source, not only of amusement, but of occupation, and may all be begun by the young. A useful contrivance for young children doing needlework is the calyx-eyed needle (Kratz's Patent, No. 5221-84), sold by Hill & Son, Haymarket, London (opposite Her Majesty's Theatre).

'It is a great point in the economy of time that different kinds of work should be made to fill up different intervals. Hence the great value of having a variety of needlework, knitting, &c. ; for, besides the astonishing amount which may thus almost imperceptibly be done, a spirit of contentment and cheerfulness is much promoted by having the hands constantly employed. Habitually idle persons are apt to judge of the difficulty of being industrious by what it costs them to do anything they may happen to undertake, the movements of a naturally indolent person being composed of a series of painful exertions, while the activity of an industrious person resembles the motion of a well-regulated machine, which, having been once set at work, requires comparatively little force to keep it going. It is consequently by making industry a habit, and by no other means, that it can be thoroughly enjoyed, for if between one occupation and another time is allowed for sensations of weariness to be indulged, or for doubts to be entertained as to what shall be done next, with those who have much to do, all such endeavours to be industrious must necessarily be irksome, if not absolutely laborious. A company of idle persons can keep each other in countenance to almost any extent, while there are few who cannot be made ashamed of idleness by having constantly before them an example of industry. There is no case in

which example is more closely connected with influence than this.' [1]

Every mother should herself set an example to her children of cheerful, contented industry. The idler is an exceedingly objectionable person—one who upsets even busy people. An idler at home with nothing to occupy, can anyone be more intolerable? First sitting down with a great appearance of something akin to occupation. Then jumping up with an equal appearance of something of importance, which requires immediate attention. Anon, opening a book, reading a few lines—throwing it down with a listless sigh and a weary air. If there is a piano in the room, playing a few bars—all out of tune, so that it jars on every nerve—of some air imperfectly remembered. Then looking out of the window 'with vacant speculation in the eye,' 'like Uncle Ned's donkey.' Who is not familiar with that deplorable person, 'the habitual idler'? Alike a bore to self, relatives, and friends. 'Much may be done in those little shreds and patches of time which every day produces, and which most men throw away; but which, nevertheless, will make at the end of it no small deduction from the little life of man. Cicero has termed them *intercisiva tempora*, and the ancients were not ignorant of their value; nay, it was not unusual with them either to compose or to dictate while under the operation of rubbing after the bath.' [2]

In the education and bringing up of children it is apt to be overlooked that daily occupation which will engage and bring into use the various faculties is most necessary; not only to bring them up well, but is even necessary to their health. As grown people having nothing to do find the time hang heavy, equally young people who are not well occupied during the day find the time passes irksomely. To be well occupied is a source of happiness to young and old. The old saying, 'hard work never kills,' has a great substratum of truth. Just as after a day well and fully occupied grown people have a feeling of fatigue, yet repose is the more

[1] Mrs. Ellis, *Wives of England*, pp. 258–260.
[2] Colton, *Lacon*, p. 306.

welcome, the more appreciated, and the fact of having been fully employed enhances the rest—even gives zest to food—so also children occupied daily in a manner suitable to their age and strength are benefited both as to health and mind. Invariably the most cheerful, the most contented, pleasantest, nicest people are those who are daily fully engaged. In most cases gloom, depression, sour temper, irritability, lowness of spirits, and all kinds of morbid humours arise from want of proper occupation. And in some cases where the health is made an excuse for unpleasant variableness of temper it is not so much the health which is at fault as it is really the want of something definite to do which would engage agreeably the mind and so contribute to physical health.

> An idler is a watch that wants both hands,
> As useless if it goes as if it stands.[1]

The way in which some persons wander aimlessly through life, finding everything more or less a bore, arises in a great measure from want of early training in 'self-amusement,' 'self-occupation.' I say 'self-amusement,' 'self-occupation,' because everyone can feel amused and instructed when they have what will contribute to their amusement—everyone can be busily occupied when they have their apportioned daily work; but it is quite another thing to amuse oneself—to quietly occupy oneself independent of anyone, and to learn to find in the daily routine of life reason for cheerful contentment; and, as the power of contenting oneself in one's daily life is increased much by early training, the inculcating of this should not be lost sight of by those bringing up children.

> The trivial round, the common task,
> Will furnish all we ought to ask:
> Room to deny ourselves; a road
> To lead us daily nearer God.[2]

It is a great mistake not to give children suitable daily occupation when they are at home for the holidays. Many welcome their return to school merely because the holidays at home are a time of idle, listless, tedious inoccupation.

[1] Cowper. [2] Keble.

Absence of occupation is not rest,
A mind quite vacant is a mind distressed.

It is of no real benefit to children, however, to go on studying during the holidays, thus having no cessation from mental work. It is often overlooked that the mind requires repose as well as the body.

Many give their children holiday tasks, others have masters and teachers for them during the holidays; but to children and young people who have worked hard during the school months this is manifestly unfair and injurious. All medical authorities are agreed as to the danger of overworking the brain, and also as to the extreme necessity for perfect repose of the mind after a course of severe study. Many cases of serious injury and illness have arisen entirely through the too great anxiety of parents to push forward their children with their studies.[1] A holiday task is ever an irksome one—a kind of nightmare—an incubus—overcasting the child's otherwise, perhaps, most agreeable holidays with a continual shadow. I have seen poor, hard-worked boys and girls completely worried with the needless and useless infliction of a long, intricate, holiday task. A very hard one, perhaps, 'because,' as I was told by an over-anxious parent once, 'you see there's such a long time to do it in.' But length of time to perform a hard task in does not alter the nature of it. If you are given a month to do a very difficult, incomprehensible task, and get no help whatever in elucidating the matter, I do not see how the mere fact of having a month rather than a week or two makes it any better or more likely to become more clearly comprehended.

With grown people, they will often by search find out a clue to making a subject clearer, but with children, they are in most cases debarred from this, and have no books of reference, nay, would not know how to set about searching for any remote hint bearing on a task set them to do. It must be all plain sailing if you want children to learn well and readily. In fact, during the holidays many a task is left untouched till they are nearly over, when there is a terrible scramble and

[1] See 'Education,' p. 550.

bother to get that up in a few days which required the labour and attention of a longer period. I believe, where there is no set holiday work, children return to school not only much fresher and better able to work, but also more inclined to do so. I think all who have had the subject under personal observation are agreed as to the benefit to the child of keeping school-work for school, and that children who really work well at school should have entire relaxation from severe study at home. The system of double work—hard work to late hours at home on tasks brought home to do—and continued study in holiday-time, does not answer in the long run.

Mr. Payn writes *à propos* to home tasks :[1] '"A Mother of Five" has been protesting against the custom of certain School-Board masters of giving "home lessons" to be learnt by her daughters, who afterwards appeal to *her* for educational assistance :—"Mother, is this sum right?" (when she is engaged on quite other calculations) or, "Mother, this parsing drives me mad." I sympathise with this oppressed woman from the bottom of my heart, and do most earnestly hope that this domestic persecution will not extend to persons in a higher rank of life. Conceive a young gentleman coming home from his public school and asking Paterfamilias to help him with his parsing! If any adult can make either head or tail of the Latin "primers" now in (so-called) use at our higher educational establishments, I will give him a box of cigars and a bottle of the best brandy. Grammar, lest our youth, I suppose, should gorge themselves to repletion with that attractive subject, has been rendered of late years absolutely unintelligible. Even a boy, one would hope, would not have the brutality to ask the person to whom he owes his being questions about grammar. If this inquisition, however, is to take place, it doesn't much matter what he asks The word "home" will no longer have a meaning in our language. For what does Paterfamilias now know, not, in deed, about grammatical primers, but even about the things

[1] 'Our Note Book,' by James Payn, *The Illustrated London News*, February 11, 1888.

that he did know when at school? In nine cases out of ten he knows absolutely nothing of them. If he takes up an examination-paper which has been set for his son of twelve years old, it might just as well be Sanscrit, as far as he is concerned. It is all very well to say "every schoolboy knows," and apply it in a depreciatory sense; but, at all events, every schoolboy knows a deal more of that examination paper than Paterfamilias. Those neat little propositions in Euclid, those charming lines from the Seven against Thebes, those admirable extracts from Livy, where the deuce have they, I wonder, gone to? (*I* haven't got 'em.) There are persons of culture, I understand, who still take an interest in these matters; but, generally speaking—say in ninety-nine cases out of a hundred—people don't. They are in our system, of course—doing us no end of good; but we are not going to be tapped for them by boys who ought to be taking them into *their* systems at first hand from the schoolmaster. We have borne a good deal from that highly cultivated person, but the bubble of high-class education does not dazzle us quite so much as it used to do: and, lest he "learn by proof, in some wild hour, how much the Wretched dare," let him leave us our hearths and homes unharried by the inquiring schoolboy.'

While at their studies children should be made to give their whole attention to their work. Darwin remarks of attention:[1] 'Hardly any faculty is more important for the intellectual progress of man than attention.' Perseverance should also be carefully encouraged. Perseverance is a big item in all success. The man with the most perseverance is the man most successful. The child who constantly puts unfinished work and tasks aside, never to be looked at more, is in later life the man or woman who never settles down to anything requiring perseverance.

Victor Hugo remarks:[2] 'Les opiniâtres sont les sublimes. Qui n'est que brave n'a qu'un accès, qui n'est que vaillant n'a qu'un tempérament, qui n'est que courageux n'a qu'une vertu; l'obstiné dans le vrai a la grandeur. Presque tout le secret

[1] *Descent of Man*, 2nd edit., p. 111.
[2] *Lettres de Victor Hugo*, édition première.

des grands cœurs est dans le mot *perseverando*. La persévérance est au courage ce que la roue est au levier, c'est le renouvellement perpétuel du point d'appui.' [1]

Too much restraint is often exercised over children when school hours are over. They are hardly allowed to laugh, and generally, except the little amusements they make for themselves, there is no diversion provided for them. One has, however, only to observe how children reproduce their daily life in their play, and how they mimic and imitate the manners and customs of those around them, to be irresistibly drawn to the conclusion that play even is to a certain extent an educating process. The point too generally lost sight of in the training of the young is the faculty of imitation. Darwin observes : [2] 'The principle of *Imitation* is strong in man.' And the works of Dr. Bateman [3] and Vogt [4] on diseased conditions of the brain tend to prove how inherently strong is this quality in man. Children are necessarily more impressed by seeing how their elders conduct themselves under certain circumstances than by being merely told how to behave. There is no doubt that the faculty of observation is not sufficiently cultivated in the young. The training of the memory is also too much neglected. The association of the memory of places and events with objects and even certain smells is one of the attributes of human nature, as it is also of animals.[5]

Dr. Maudsley writes [6] of the sense of smell in man that it 'is singularly effective in recalling vividly the ideas and images of forgotten scenes and places.' Often a particular smell will recall to the mind long-passed events. I myself never smell

[1] 'The man who is pertinacious (dogged) is sublime. He who is only daring acts only by fits ; he who is only valiant, by temperament ; he who is courageous has but one virtue. The man who holds pertinaciously (doggedly) to truth attains to greatness. Almost the whole secret of great characters is in the word 'perseverando.' Perseverance is to courage what the wheel is to the axle, the continuous renewal of the fulcrum.'

[2] *Descent of Man*, 2nd edit. p. 110.

[3] Dr. Bateman on *Aphasia*, 1870, p. 110.

[4] *Mémoire sur les Microcéphales*, 1867. p. 168.

[5] *Facultés Mentales des Animaux*, 1872, tom. ii.; Dr. Hayes, *The Open Polar Sea*.

[6] *The Physiology and Pathology of Mind*, 2nd edit. 1868, p. 134.

camphor that my mind does not revert to Venice, with its stately palaces, quaint gondolas, and thousand and one beauties. When there, I always carried camphor about with me on finding the smell of the water in the side canals occasionally disagreeable. I often inhaled it, and now, when I smell camphor, instantly my memory travels back to a long-passed time, associated with this odour. In imagination I am again in the poetical city of the Doges. The 'Canalazzo' is glistening in the moonlight, the gondolas are flitting about with their glancing lamps, and I stand gazing out on the twinkling lights of the peaceful city, lulled and soothed by the lap of the water below me.

Darwin writes :[1] 'We should bear in mind that the activity of the mind in vividly recalling past impressions is one of the fundamental though secondary bases of conscience. This affords the strongest argument for educating and stimulating in all possible ways the intellectual faculties of every human being. No doubt a man with a torpid mind, if his social affections and sympathies are well developed, will be led to good actions, and may have a fairly sensitive conscience. But whatever renders the imagination more vivid, and strengthens the habit of recalling and comparing past impressions, will make the conscience more sensitive, and may even somewhat compensate for weak social affections and sympathies.'

It is a great blessing that the imagination plays so large a part in the lives of children, that they can find amusement out of so many trivial things. With the young, anticipation holds a prominent place. With the old, alas ! it is all more or less retrospection, and the only comfort derived from the process is the conscious sense of rectitude in the life past.

It is astonishing how children can make a play-toy of almost anything, and if left to themselves they will amuse themselves quite well with the simplest and most ordinary things. Painted toys[2] are exceedingly injurious for very young children, as they sometimes put them in the mouth, and even

[1] *Descent of Man*, 2nd edit. p. 611.

[2] See 'General Remarks,' p. 36.

with the heat of the hands the paint will often come off, and most painted toys are coloured with paint which is not permanently fixed on, and any kind of paint being constantly swallowed (even if only in very small quantities) is most dangerous to health. Unpainted wooden and indiarubber toys are best for very young children. Cheap tin toys are sometimes dangerous if roughly and badly finished at the edges. I have seen some bad cuts caused by cheap tin toys. Children should have plenty of toys—all sorts.

Nothing children like more than a cupboard full of old toys. It is one of the greatest amusements to them, on a wet day, hunting up their old and forgotten toys. A great mistake is often made in throwing away toys thought to be useless. Never cast away a toy a child is fond of. It is not kind. Even if you think it worthless, the child may like it, and after all it is the child who has to be amused by its toys, not you. I am reminded, when I see children's favourite toys thrown away, just because they are considered old and valueless, of those touchingly quaint lines :[1]

Little Ruth looked at her dolly one day,
Said, 'Dolly, they wish me to give you away:
They say you are old, and I know it's quite true;
But dolly, dear dolly, I can't part from you.

'Your colour has faded, your nose is quite gone;
Yet I love you as well as the day you were born:
You've great cracks on your face, and scarcely a hair;
Yet, dolly, my dear, to me you are fair.

'And, dolly, you've always been such a good child,
So gentle, and patient, so sweet, and so mild;
You never seem peevish, and you never cry,
You don't even give just the ghost of a sigh.

'Though you're hurt, darling dolly, too often, I fear,
Yet you are so brave that you won't shed a tear;
And although you've one arm, one leg, and no nose,
You're dearer to me because of your woes.

'But, what was the hardest and cruellest sting,
Was that father once called you a horrid old thing!
He said, "What a battered and wretched old fright!
Do take her away, pray, out of my sight."

[1] *Stories for Little People.* London: George Routledge and Sons, Broadway, Ludgate Hill; New York: 9 Lafayette Place.

'And, dolly, he said that a new doll he'd buy,
To find me a nice one he really would try,—
She should have two legs, and more than one arm.
I am sure that papa did not mean any harm.

'Tis strange, dolly dear, big people don't know
That it isn't for beauty one loves some things so;
Besides, we are told that no beauty will last:
Should our love, with the beauty, then go with the past?

'Pray what would they all say if I asked mamma
To go out and buy me a nice new papa,
Because father dear is old, bald, and grey?
I should very much like to hear what *he*'d say.'

It is affording children no pleasure to give them toys which cannot be played with *just as they like*. I have seen a beautifully dressed doll given which was put away in mamma's wardrobe under lock and key, to be kept, as the mother said, until the child should be old enough to understand how to take care of so handsome a toy. As this appeared likely to be when the child grew up, I thought the present a useless one. As the child truly said, 'I have a lovely doll in ma's wardrobe, just as pa has his money in the bank, only pa can get his money out when he likes, and I can't have my doll out when I like.' In the same way, giving a boy a boat in the winter time, which he must not sail, is giving a present at an unsuitable time. Children only enjoy the possession of a toy for the amusement and pleasure afforded them by it, and they cannot, like those older, derive pleasure from abstract speculations on future delights. Alas, are not our future delights often Dead Sea fruit?

'In all the sports of children, were it only in their breakages and defacements, you shall discover a creative instinct ("schaffenden Trieb"). The mannikin feels that he is a born man, that his vocation is to work. The choicest present you can make him is a tool; be it knife or pea-gun, for construction or for destruction; either way it is for work, for change. In gregarious sports of skill or strength the boy trains himself to co-operation for war or peace, as governor or governed; the little maid, again, provident of her domestic destiny, takes with preference to dolls.'[1] It is most unreasonable to keep

[1] Thomas Carlyle, *Sartor Resartus*, p. 70.

children always in a subdued and quiet state. They should at certain times have 'a playtime,' when they should be allowed to romp and play and laugh as they like. The games of children are invariably of great benefit to them.

> Behold the child, by nature's kindly law,
> Pleased with a rattle, tickled with a straw;
> Some livelier plaything gives his youth delight,
> A little louder, but as empty quite;
> Scarfs, garters, gold, amuse his riper stage,
> And beads and prayer-books are the toys of age;
> Pleased with this bauble still, as that before,
> Till tired he sleeps, and life's poor play is o'er.[1]

> Men are but children of a larger growth.[2]

The sweet rippling laughter of childhood—unrestrained, unconventional—can any sound be more delightful? Why will people check and subdue the gleeful laughter of childhood? Never vulgar—never coarse—yet are people for ever checking one of the sweetest sounds of earth—the melody of this rough world. Do not be afraid, the little ones won't laugh too much. Alas! sorrow, with its dark attendant shadows, will soon enough overtake them, and then good-bye to the bright laughing days. Let them at least have the memory in the dark days of the sunny ones that have gone. 'When I laughed and I sang, and joy was in my heart.' That the English are not a mirthful or particularly cheerful race is universally admitted, and their children, from their cradle, too often are brought up in an atmosphere of dulness, and thus, life being an irksome uniformity, they become possessed of that hypochondriasis which is the bane of the race. 'The English are incorrigible in that respect (dulness), and, although they admit the sin, they make no attempt at reformation. It is either dull gaiety or gay dulness with them all, whether "at home," or at "quadrilles," or at a "soirée musicale," or at a "déjeuner dinatoire"; in fact, at a funeral *tout comme* at a wedding; and 'Voilà la société dans ce pays-ci, où le plaisir ressemble tant à l'ennui," observed the Marquis de B—— as he

[1] Pope, *Essay on Man*, epistle xi. line 275.
[2] Dryden, *All for Love*, act iv. sc. 1.

was settling a long bill at Mivert's after a heavy season of gloomy pleasure and no sun in London.' [1]

Truly, from the select 'at home,' 'to meet their Royal Highnesses,' where, despite the selectness of the assembly, the said 'Royal Highnesses' undergo the usual amount of stolid British staring—and the ponderous solemnity of the 'city banquet,' of ancient renown, varied only by the toasts and the reiterated 'Pray charge your glasses; pray charge your glasses!' [2] —to the 'season dinners' of young Mr. and Mrs. Jones, whose great anxiety for their success shows itself so visibly on their countenances, to the disconcertment of their guests—more or less silent dulness exhibits itself everywhere amongst the English. Laughter, loud and boisterous, coarse jokes, do not bespeak merriment or cheerfulness. What is meant by the absence of dulness must, more or less, be a mental condition, and must rest with ourselves to make our own state. 'Joy,' says Hufeland,[3] 'is one of the greatest panaceas of life. Laughter, that external expression of joy, is the most salutary of all the bodily movements; for it agitates both the body and the soul, at the same time promotes digestion, circulation, and perspiration, and enlivens the vital power in every organ.' Steele writes: [4] 'Cheerfulness is always to be supported if a man is out of pain, but mirth to a prudent man should always be accidental. It should naturally arise out of the occasion, and the occasion seldom be laid for it, for those tempers who want mirth to be pleased are like the constitutions which flag without the use of brandy. Therefore, I say, let your precept be, "Be easy." That mind is dissolute and ungoverned which must be hurried out of itself by loud laughter or sensual pleasure, or else be wholly inactive.'

In a most entertaining little book recently published (1887), 'Friend MacDonald,' the result of gloomy restraint

[1] Dr. Granville, *The Spas of England*, p. 54.

[2] The Toast Master, who stands behind the Lord Mayor, has onerous duties to perform. 'Pray charge your glasses;' 'pray charge your glasses!' was his cry.—*City Banquet.*

[3] Christopher William Hufeland, M.D., Public Lecturer on Medicine at Jena, 1797, *The Art of Prolonging Life*, p. 79.

[4] *Letters.*

and its chilling effects are amusingly described;[1] the following so exactly reproduces my own ideas that I will quote it verbatim: 'Gaiety is produced by an agreeable sense of existence; it is the reflection of a generous sun in temperate climates. Austerity banishes familiarity from family life and engenders constraint. I have seen Scotch homes where laughter is considered ill-bred, and the joyous shouts of children are repressed. I felt ill at ease there; that reserve, inspired by an overdrawn sense of propriety, paralysed my tongue, and I could only answer in monosyllables the monosyllabic remarks of my host and hostess.' 'When we are in health we take little count of the racket of English life, which may keep apathetic minds from stagnation, but which causes needless wear and tear to active ones, suggesting nothing useful, and teasing, distressing, and wearying. I have heard German professors speak with wonder at our waste of energy in mere fidget and in so-called amusements, which are mostly very dull, and contrast the successful laboriousness of the lives they lead, and they are a happier people than we are.'[2] 'Je n'appelle pas gayeté ce qui excite le rire, mais un certain charme, un air agréable qu'on peut donner à toutes sortes de sujets, mesme les plus sérieux.'[3] 'How much lies in laughter: the cipher-key wherewith we decipher the whole man! Some men wear an everlasting barren simper; in the smile of others lies a cold glitter as of ice; the fewest are able to laugh—what can be called laughing—but only sniff and titter and snigger from the throat outwards, or, at best, produce some whiffling, husky cachinnation, as if they were laughing through wool. Of none such comes good. The man who cannot laugh is not only fit for treasons, stratagems, and spoils, but his whole life is already a treason and a stratagem.'[4]

'The contagion of laughter, in a theatre or out of it, is an altogether wholesome and beneficent thing. How it unseats

[1] *Friend MacDonald*, p. 85.

[2] Francis Galton, *English Men of Science*, p. 230.

[3] La Fontaine, *Preface to Fables*. Translation: 'I do not call that gaiety which excites laughter, but a certain charm, an agreeable air which one can give to all kinds of subjects, even the most serious.'

[4] Thomas Carlyle, *Sartor Resartus*, p. 31.

black Care from our backs! How it carries away, as on a fresh spring breeze, a whole swarm of buzzing worries and grievances! How it warms our hearts for ever after to the people with whom we have once shared a good honest *fou rire*! "Behold how good and pleasant a thing it is for brethren to dwell together in amity," and (with all respect let us add) in hilarity! A good joke partaken with a man is like the Arab's salt. Our common emotion of humorous pleasure is a bond between us which we would not thereafter lightly break.'[1]

I confess to a weakness for pantomime. I delight in seeing the bright young faces all around; their unfeigned delight, their keen appreciation of the jokes, their amusement and spontaneous enthusiasm, awake a sympathetic feeling. In this matter-of-fact age, when life is fast being reduced to the dead level of the commonplace, one is glad to have some little vent for the effervescence of less serious and more sportive—if trivial—fancies. In one's mind one gives a hearty assent to Dickens: 'Let us at once confess to a fondness for pantomimes—to a gentle sympathy with clowns and pantaloons; to an unqualified admiration of harlequins and columbines; to a chaste delight in every action of their brief existence, varied and many-coloured as those actions are, and inconsistent though they occasionally be with those rigid and formal rules of propriety which regulate the proceedings of meaner and less comprehensive minds. We revel in pantomimes—not because they dazzle one's eyes with tinsel and gold-leaf; not because they present to us once again the well-beloved chalked faces and goggle eyes of our childhood; not even because, like Christmas Day, and Twelfth Night, and Shrove Tuesday, and one's own birthday, they come to us but once a year; our attachment is founded on a graver and a very different reason. A pantomime is to us a mirror of life; nay, more, we maintain that it is so to audiences generally, although they are not aware of it, and that this very circumstance is the secret cause of their amusement and delight.'[2]

Girls are more checked in laughter than boys, but this

[1] Francis Power Cobbe, *The Education of the Emotions.*
[2] *The Pantomime of Life*, by Charles Dickens.

should not be. 'The last and worse thing that can be said of a nation is that it has made its young girls sad and weary.'[1]

Why will people worry themselves and worry poor children in their efforts to amuse them? I have heard people say, 'I have had some children at my house to-day. I'm really quite worn out, trying to amuse them.' Why not have let them amuse themselves? Children can far better amuse themselves than their elders can amuse them. Whenever I see a grown person, who is not fond of, not used to, and is bored with, children, trying to play with children at childish games, I am reminded of a bear trying to dance. In France what are called dancing bears are allowed to be taken about the country. The awkward, uncouth movements of the bear are as far removed from one's idea of dancing as the stilted, forced gaiety of a grown person trying to play childish games is removed from the free grace and buoyant gaiety of childhood. Where a number of children are congregated together they should be turned into a room where they can do as they like. You will soon see plenty of play. If you have a piano, they may like to dance, but as a rule running about is what is most delightful to children. Of course, it is necessary to have some one to superintend, and to see the little people don't get into any mischief; but often a governess or a servant is best, unless you feel that the children will not think your presence a restraint, and you yourself can really enjoy being with them. Where there are a number of children, hide-and-seek, blind-man's-buff, hunt-the-slipper, forfeits, touch-wood, Russian scandal, &c., are excellent games.

> By sports like these
> Are all their cares beguiled,
> The sports of children
> Satisfy the child.[2]

Dull, quiet children, of a calm, phlegmatic temperament, require stimulating, and can, without harming them, bear change and excitement which would have a very prejudicial effect on excitable, vivacious, nervous children, who are always the better for quietude, regular routine, and freedom from

[1] Ruskin's *Ethics of the Dust.*

[2] Goldsmith.

excitement. Nervous children should be kept from all things and all kinds of study which are likely to increase their natural disposition. Riding is an agreeable exercise, and, pursued under favourable circumstances, is likely to be of benefit to young people. It is an error, however, to let children ride at too early an age. The idea that by beginning riding when very young it will render children less timid in after-years is often found to be a delusion. Children riding when very young are often rendered more nervous, and sometimes have a greater fear of horses afterwards. If brought up from babyhood amongst horses it may be different, but too often when children are taken out for a ride on a restive pony, so far from its being a great and unmixed pleasure, it is, on the contrary, a cause of trepidation, and makes them more nervous. Some of the ponies ridden by children are not fit for their use. Imperfectly broken in and badly trained in some cases, they are excessively dangerous. A quiet donkey is far better for young children to begin riding. When well groomed and well trained it is an excellent animal for children's use. If a pony is used it should be a quiet one, known to be steady, and not given to shying, kicking, or tricks.

Driving daily for several hours, where children are made to sit absolutely still, and are not allowed even to speak, is neither a pleasure nor is it beneficial. The long-continued, enforced quietude is prejudicial to the young, who, full of life, activity, and spirits, should be allowed to have daily freedom for the full play of that exuberant life which is common to all young creatures. One has only to look at kittens, puppies, lambs—indeed, all the young—and see how they run about and enjoy playing, to feel that it is hard for children to be made to keep so absolutely still in one set position for a long time each day. Their little hands folded; their little bodies cramped; never spoken to, except to be told to 'sit quiet.' Facing parental authority, children taking 'their daily airing in the carriage in the park'[1] look often pictures of juvenile misery, and when old enough to think many times envy their less restricted little brethren playing as they like in the park.

[1] See 'General Remarks,' p. 27.

Children in humble life, being less restrained, make some little amusement for themselves out of their ordinary daily existence, but their richer and apparently more favoured neighbours are often sad little prisoners. It must not be inferred from what I have just said that I am speaking against parents taking their children out driving with them ; on the contrary, I think, if parents will only make it agreeable, a drive with 'Father' or 'Mother' is delightful to the little people. Where children are kept to one continuous round and much shut up, as in a city, anything which causes relief to the mind and body is useful. A sociable, pleasant, cheerful drive with some pleasing object in view—such as going into the country for an hour or two—is a real delight to children, and they thoroughly enter into whatever there is to enjoy. Nothing is so delightful as seeing fresh objects.

> Variety's the very spice of life
> That gives it all its flavour.[1]

Nothing is so enlightening, educating, elevating, as breaking away from one common narrow round. Seeing new and unfamiliar objects, and relieving the brain from one ordinary, monotonous routine by giving new food to the mind for fresh thoughts, is good for mind and body alike. Children require change as well as those older.

We reprove children for being what we term inquisitive, quite forgetting that it is by observation and inquiry that the mind is expanded and enlarged. In many instances it is a mistaken censure. Children are not so much *inquisitive* as *inquiring*, and, given a right direction, this spirit of inquiry would lead to good results.

It is very cruel, as well as dangerous, allowing young children to have puppies, dogs, kittens, cats, birds, mice, squirrels, to play with how they like. The instilling of the principle of kindness to animals should not be neglected in the education of children ; at the same time I am more than doubtful if the keeping of animals, such as birds, mice, rabbits,

[1] Cowper.

&c., favours the creation of this. Children after a time, when they have to look after the pets themselves, often feel it to be a bother, and so become careless in their care of them, and thus, instead of growing more tender-hearted by the fact of having the charge of what is dependent on them for sustenance and comfort, they become not only wearied by that which entails the constant exercise of thought, but even cruel and wanting in heart. One hears it said, 'I wish to make my children fond and careful of animals, so I let them have pets.' The sentiment is good, but are we as careful as we should be on the carrying of it out? If you want children really to take an interest in animals, let them study animal life in its natural state, not by having poor little caged-up mice, squirrels, rabbits, or silkworms.

It is most distressing to see how those knowing nothing of the habits of the animals (kept in a state of captivity), or the food required to keep the poor creatures in a healthy state, yet keep such under the most unhealthy conditions, and care nothing for the pain they may suffer in dying a slow, lingering death Master Tommy comes home from school. He requires a little diversion, which will be well afforded by his pets—so out Mr. Dormouse is taken. 'He won't wake up,' says Master Tommy. 'But I want to play with him. I'll put him in front of the fire. He always gets lively when he's before the fire.' Of course the poor little creature will wake up when nearly scorched. Again, the cage containing the mouse or the squirrel slips out of Master Tommy's hand (of course it's only an accident); it falls on the floor. What about the shock felt by the unhappy occupant of the cage? 'Tommy, dear,' says mamma in the morning of a bitter winter's day, 'where did you leave the dormouse last night?' 'Oh, I forgot him,' says Master Tommy ruefully, remembering where poor Mousie was left in a very cold window, with the ventilator at the top open, where he was nearly perished with cold; but, as Master Tommy argued, 'although it was cold' (and his bed of cotton-wool was even forgotten, Master Tommy having neglected to buy some), yet 'you see he has a warm coat;' and, though his little master has been comfortable in his

own snug, warm bed, and Mr. Dormouse has been nearly frozen, still he's a hardy fellow, and can bear being scorched at one time and frozen at another. If Mr. Dormouse is warm all day, what matter if he's cold all night? If he dies, too, from want of attention, who cares? And you are teaching your children to have such kind feelings to dumb animals, you know.

People are at no care to learn how they should keep their domestic pets under healthy conditions. But can it be right to imprison a creature capable of suffering, and ascertaining nothing of its habits of life—its needs—yet allow your children, with the thoughtlessness of youth, to do what they please with a creature perhaps sensitive and capable of the most acute suffering? Is this really the right way to make our young people have an interest in the lower creation? Your children take their tone from you, remember. What they see you do, they will do. You make no effort to find out how the poor caged pets should be well kept. Your children know this, and also, so that they are not too palpably cruel, they may do whatever they like with their pets; and yet this is creating humane feelings in young people. Truly, there is a great deal of folly and refined cruelty in the world, glossed over by sentiment, and many a wrong is perpetrated under the guise of contributing to the higher emotions of man.

I think there is no more melancholy sight sometimes than poor animals kept (caged up) by children. Utterly dependent, the poor things suffer many times continuous torture. Fed anyhow and at any time, and irregularly supplied with that great necessity to all animal life, water, the poor creatures are often in the greatest, although unthought of, suffering. I saw once a poor little mouse in a cage, with its leg broken. The small owner had thrown a weight at it to make it go faster, and, hitting the leg by accident, broke it. The child had no idea that the animal had suffered pain, and never mentioned the matter; so there was the poor creature, with its broken leg, pulled about by the children all the same--held tightly in their hot hands—and handled, regardless of its leg, till death mercifully released it from its sufferings. People do not sufficiently regard what pain children inflict on the hap-

less, defenceless creatures they are allowed to play with *just as they like*; and when, no longer able to endure the long-continued tormenting, the wretched animal, in self-defence, turns and bites or scratches, it is wondered at—is perhaps even unmercifully beaten. Children should never be permitted to play with animals just as they please. Many serious and sad accidents have happened through children being allowed to play with and torment dogs and other domesticated animals. It is also only teaching them to be cruel, to allow them needlessly to kill insects and birds.

It is always well to remember that 'The poor beetle that we tread upon in corporal sufferance finds a pang as great as when a giant dies.' [1]

> I would not enter on my list of friends
> (Though graced with polish'd manners and fine sense,
> Yet wanting sensibility) the man
> Who needlessly sets foot upon a worm.[2]

Much unnecessary suffering is caused to canary birds. These unhappily too intelligent little creatures are often the sport and victims of unreflecting individuals who gain a precarious livelihood by conjuring. These people practise their trade most in the winter months, when juvenile parties are given and their services are required for the amusement of the children. Under the impression that children are likely to be more pleased with living objects for the representation of their tricks, they bring kittens and birds and subject them to much unconsidered torture. The little people who are to be amused would be quite as well pleased with tricks which did not need living creatures to be placed in dangerous or painful positions. Any position which induces terror must necessarily be painful.

This winter [3] I was witness at a children's party of an accident of a most distressing nature. A conjurer had a canary with which he was going to perform some tricks. He placed the bird on a table, and was pretending to mesmerise it, when all at once it flew up from under his hands, and after flying across the room made straight for the fireplace, where

[1] Shakespeare. [2] Cowper. [3] 1887.

was a large fire ; the poor bird attempted to fly up the chimney, but the great heat overpowered it, and the poor little creature fell into the midst of the fire and was burnt, despite the efforts made to save it. When birds are let fly in a strange room the fireplace should be netted across. The pain and distress caused to the children by this melancholy accident can be imagined. No trick necessitating danger or alarm should ever be performed before children, as the pleasure or interest will be more than counterbalanced by the distress and agitation of mind produced by any untoward accident. With performing dogs one need not feel so much concern, as they are generally French poodles, which are not only remarkably intelligent, but can, without any suffering to them, be taught a number of highly amusing tricks. In the training of children all tender, kind, noble, generous feelings should be inculcated, and all principles of humanity should be encouraged.

Quarrels of all kinds should be at once put a stop to. It is strange how little the governance of temper is considered with reference to teaching. Teachers sometimes give way to exceedingly thoughtless ill-temper. It is dangerous in an excess of temper hitting children violent blows on the back. It is of common occurrence, however, when angry with a child—perhaps only on account of its being dull and unable to learn quickly—to hit it one or two violent thumps on the back. That this might possibly seriously affect a child is to many unknown. Hitting on the back has never been considered of much consequence, and the matter has only recently come under the notice of the public through inquests having been held on unfortunate children who have died through being hit hard on the back.

The habit the children of the poorer classes have of biting one another when enraged is very dangerous, and there have been instances where the bite from a child, although apparently superficial and considered of no consequence, has yet produced blood-poisoning sufficient for death to ensue. The habit of biting is, however, not only given way to by the children of poor, ignorant people, badly brought up, and subject to evil influences and evil example ; the children of educated

people, supposed to be well brought up, will sometimes allow temper to gain such uncontrolled possession of them that, in the absence of all self-restraint, they will indulge in the vicious, contemptible habit of biting.

The following [1] will show the necessity of checking the habit of biting in children. 'Dr. Wynn Westcott held an inquest on Saturday at the Crowndale Hall on the body of Alberta Maud Myson, aged four and a half years. Mary Ann Myson, mother of deceased, living at No. 127, Bayham Street, Camden Town, stated that on Tuesday, September 2, when her child came home from school at tea-time, she said, "Mamma, a little girl bit me." She did not take any particular notice until the next morning, when she washed her, and found her right arm very much inflamed. On Wednesday she took her to the North-West London Hospital, Kentish Town Road, and the house surgeon told her to poultice it, and gave her a powder. This seemed to have more than the desired effect, and at 11 o'clock at night her husband went to the hospital, and the doctor gave him some diarrhœa mixture, but by the time he returned the child was dead. Ellen Unri, mistress of the Board School, Camden Town, stated that when Mrs. Myson made a complaint on Wednesday of her child having been bitten she asked who had done it, and a little girl who was pointed out as the culprit said that she had pinched the deceased. Mr. Z. Prentice, house surgeon of the hospital, stated that the child was brought to him on Wednesday morning with a graze and superficial wound on the right arm. It did not seem very much, and he told the mother to poultice it and bring the child again on Saturday. From the appearance of the child's tongue he thought a little cooling medicine would do it good, so prescribed a powder. On Thursday night the father came to the hospital, and he prescribed a sedative, but heard the child died shortly afterwards. On Friday he made a post-mortem examination, and found the arm much swollen round the injured part, and the organs showed that death had resulted from acute blood-poisoning. In answer to the Coroner, the witness said, although the

[1] *The Times*, Thursday, September 25, 1884.

wound was very small, it was sufficient to poison, not only the arm, but the whole of the body. Lizzie Doubtful, a little girl five years of age, in answer to the Coroner, said she had bitten the deceased. Her mother having stated she had lost her front teeth, the Coroner requested Dr. Prentice to examine her, and he said, although having lost the molars, there was quite sufficient left to cause the injuries. The jury having returned their verdict of "Death from blood-poisoning," the Coroner said it would be as well for the schoolmistress to read her pupils a lesson upon the evil effects of biting each other. The mistress said the Coroner's suggestion should be attended to.' Children should be severely punished for biting. It should never be lightly passed over. What reflection can be more terrible as a child grows up than the thought that, however unintentionally, it has yet been the cause of death to a fellow-creature? What fatal results may ensue from biting should be explained to a child where it is seen that there is any inclination to give way to the use of the teeth when angry. Kicking should as well be instantly put a stop to. Children when bad-tempered, and when not compelled to exercise self-control, will kick when put out of temper. A violent kick from a child with thick boots on may produce serious harm. Nothing is more deplorable than to see children giving way to the lowest impulses of human nature. Of late years there have been so many deaths from the effects of kicks at football that many think the way this national game is played calls for remonstrance. 'At an inquest held at Leeds yesterday respecting the death of George Arthur Houghton, aged nineteen years, who had died from the results of injuries received in a football match at Roundhay Park, the evidence showed that there had been a good deal of roughness all through the game. The jury returned a verdict of "Accidental death"; but wished to draw the attention of the public to the rough play that frequently took place, and to say that the rules were not strictly adhered to, and that rules ought to be made to put a stop to such play.' [1]

Children should early be taught to be open and truthful.

[1] *The Times*, Saturday, December 24, 1887.

Where there is concealment there is invariably wrong-doing. No good ever came of what had to be concealed. Children cannot be too early taught the great value of thorough uprightness of conduct. 'Truth and charity,' says an old writer,[1] 'are ever learnt at home, and if the practising of such is to our poor fallen nature hard, yet do they come easier by the doing thereof.' 'It is a law of our nature that any exertion becomes more easy, the more frequently it is repeated.'[2] 'Charity begins at home' undoubtedly, and in its broad sense let it be the ruling principle of the household. Let the little people see nothing mean—nothing false—nothing underhand, and in our judgment of, and dealings with, others let this great principle be the ruling motive.

Charity on the 'Pardiggle' principle[3] is one of the most melancholy instances of a good thing perverted. Teach the little children to be charitable, but don't give them pennies and then make them give what they long to spend on something pleasing to themselves on what you call charity, but which they don't view in that light, and with which they have no sympathy. This does incalculable harm, and instead of doing good only creates evil feelings. If you give your children money, let them have it to spend how, and on what, they like. A penny is often more delightful given to a child to spend how it pleases than a larger sum given to be kept or to be spent as their elders may think fit. It is not the money the child is so pleased with, as the fact of being able to buy (the same as grown-up people) what it fancies.

Exact truthfulness is necessary if children are to be well brought up. What are called 'society falsehoods' are an infringement of perfect truth not 'justifiable by circumstances,' as too many urge they are. Nor is truth incompatible with politeness, as some aver. If our children see us indulging in 'society falsehoods,' how can we expect perfect truth from them? How can they distinguish the difference between 'justifiable' and 'unjustifiable' falsehood?—a fine distinction, not

[1] Froissart.

[2] Paley's *Natural Theology*. Illustrated. Lord Brougham's *Discourse*, 3rd edit. p. 62.

[3] Charles Dickens, *Bleak House*, pp. 72, 74.

discernible by those in the habit of looking on evil as evil, whether the degree be lesser or more—'lie circumstantial and lie direct.'[1] Is there any other rendering of falsehood worth recording? Dalliance with wrong, covering and lessening by word-painting its too apparent evil, does not do away with its power and effect. Evil and wrong-doing remain the same, however we may attempt to disguise them and palliate their effects by polite and less offensive phrases.

Children should always be made to keep a promise, and should be taught to consider a promise once given as binding. The fatal habit of breaking promises, begun in childhood, sometimes leads to incalculably disastrous consequences in after-life; and, of all awkward persons to deal with, an unreliable person is the most awkward—one you can never trust, because one moment in apparent sincerity and good faith the promise is made, but, not feeling its binding nature, as soon as occasion arises it is broken with the utmost *nonchalance*. There is no thought of being untruthful—far from it—but a promise is merely a form of speech—a more emphatic mode of expression, if you will, but not a contract, whether verbal or written, requiring keeping. No system of education can teach truth unless the principle is practised by those who instruct. Religion and truth should go hand in hand with education for real good to result. I have heard it said—by clever, intelligent people, too—'There's a want of truth about that boy that's positively appalling; but I have no doubt when he goes to a good public school all that will be taken out of him,' as if school could exercise so salutary an influence in creating a virtue which rarely exists save through an early home bias. If people in themselves do not recognise the need of *perfect truth*, how can they expect so tender a flower to bloom in a ground which has been daily formed for sterility to good principles? How many are there who, like the Jew lamenting over telling falsehoods being a sin, say pathetically, 'It's a pity lying's such a sin; it's so useful for driving bargensh and so many other things in life!' We may regard with outward scorn and contempt the poor Jew's lament, but, alas! I am

[1] Shakespeare, *As You Like It*, act v. sc. 4.

afraid it finds a place in many worldly hearts untuned to higher aspirations. 'The worth of man lies not in the truth which he possesses, or believes that he possesses, but in the honest endeavour which he puts forth to secure that truth; for not by the possession of truth, but by the search after it, are the faculties of man enlarged, and in this alone consists his ever-growing perfection.'[1]

One cannot be too truthful before children. People will welcome their friends occasionally with great appearance of cordiality, but when they are gone they systematically run them down. Can this do otherwise than create deceit in young minds? Hood's[2] 'Good-bye! good-bye! remember all, next time you'll take your dinners! (now, David, mind, I'm not at home in future to the Skinners!)' is repeated every day in fashionable life. Anent 'not at home.' I think it would be well for everyone to set apart days on which to see their friends, and do away altogether with this wretched 'not at home' when you are. Many, I know, say it's a mere form of speech understood by everyone, and that it is a complete straining at infinitisemal nothings to object to what is so general, but I think there should be perfect household truth where there are children.

The line which divides the 'conventional' from any other falsehood is easily overstepped. This was brought to my mind very forcibly by an incident which happened a short time ago. A little boy, not wishing to see one of his school-fellows whom he did not like, and who he expected would call, told the servant to say 'not at home' when the boy called. This was done. The next day the boy called again, and met his young school-companion just going out. 'You weren't at home yesterday?' Pause—and then came the ready 'no.' The mother, standing by, who knew the boy was at home all day, stared, and when alone remonstrated with her son on his want of truthfulness, only to be met with what I call a most reasonable reply, 'Well, you say you're not at home when you are, and don't want to see people; why

[1] Lessing. [2] Thomas Hood, *Domestic Asides*.

shouldn't I?' The old 'What I do, you must not do,' 'Do as I tell you, not as I do,' don't seem so appropriate as one would like to feel when one receives a reply like this. One feels one would rather try and live up to a higher standard of right, and then, truly, we shall not fear our little copyists, and shall retain our own self-respect.[1]

It is a mistake to begin book-learning at too early an age. Nothing is gained by beginning to set lessons too soon. A gradual advancement in study as each successive year passes is the object to be attained in all education; and in teaching, as in other things, common sense and judgment are necessary. 'Endeavouring to make children prematurely wise is useless labour. Suppose they have more knowledge at five or six years old than other children, what use can be made of it? It will be lost before it is wanted, and the waste of so much time and labour of the teacher can never be repaid. Too much is expected from precocity, and too little performed.'[2]

'The children of those who are compelled to reside in towns must be, as far as possible, placed on a footing with their fellows in the broad air and sunshine of country life. Their confinement in-doors should be reduced as much as possible, and their time of instruction should not be permitted to trespass on that of exercise. It is certain that robust country children are not so sharp and intelligent as town children; for in early life great animal vigour would appear in some way incompatible with intellectual development. But of what avail is a precocity of intellect with a backwardness of constitution—a powerful mind in a feeble body? Would I could impress parents more with the fact that there is time enough, when the constitution of a child has grown strong and solid, to cultivate with such great assiduity its intellectual powers! I would be far from advising their neglect; but I deprecate their too early development.'[3]

'According to Aristotle, more care should be taken of the body than of the mind for the first seven years; strict atten-

[1] 'Abstain from all appearance of evil.'—1 Thess. v. 22.
[2] Boswell's *Life of Dr. Johnson*, edition 1848, p. 469.
[3] Dr. Ellis, *Disease in Childhood*, p. 161.

tion to diet be enforced, &c. . . . The eye and ear of the child should be most watchfully and severely guarded against contamination of every kind,[1] and unrestrained communication with servants be strictly prevented.[2] Even his amusements should be under due regulation, and rendered as interesting and intellectual as possible.'[3]

Everyone having the responsibility and care of children should remember that if they bring them up well they are adding to the number of good influences which ameliorate the condition of the world.

Lives of great men all remind us
We can make our lives sublime,
And departing leave behind us
Footprints on the sands of time.
Still achieving, still pursuing,
Learn to labour and to wait.[4]

It is not given to everyone to see the end of their work, and an inscrutable Providence wills that many shall never see the result of their often hard toil in trying to do right.

Argue not against Heaven's hand or will,
Nor bate a jot of heart or hope, but still
Bear up and steer right onward.[5]

With cheerfulness taking each day's cares, troubles, and trials, and with patience and hope, and solaced by the many little green spots on 'Life's rough road.'

For other things mild Heav'n a time ordains,
And disapproves that care, though wise in show,
That with superfluous burden loads the day,
And when God sends a cheerful hour refrains.[6]

To no one is their life given for their own use alone, and to be of no service to others.

Think that day lost whose low descending sun
Views from thy hand no noble action done.[7]

Even if life is made up of small virtues, there are always

[1] See 'General Remarks,' pp. 5, 6, 9.
[2] See 'Education,' p. 590.
[3] The Rev. John Williams, in his *Life and Actions of Alexander the Great.*
[4] Longfellow. [5] Milton. [6] *Id.* [7] Jacob Bobart.

higher and nobler aims, which, followed, will assuredly lead to greater happiness and more good.

> Thyself and thy belongings
> Are not thine own, so proper as to waste
> Thyself upon thy virtues, they on thee.
> Heaven doth with us as we with torches do,
> Not light them for themselves; for if our virtues
> Did not go forth of us 'twere all alike
> As if we had them not.[1]

Life at the longest is but short. The more usefully spent, the shorter the time will appear. The little people especially cannot too soon be taught this. 'The childhood shows the man, as morning shows the day.'[2] The better spent the time to look back upon, the happier it will be for us, and the last utterance will not be one of unavailing regret over lost opportunities and wasted gifts and powers. 'Travel on life's common way, in cheerful godliness.'[3] Doing what good is possible, not sighing for larger room and more extended sphere to do it in; meanwhile remaining listless, and unwilling to exercise a little self-denial, and do aught higher, better, because there is not in life exactly that which in blind foolishness is thought necessary; for if our present lot suffices not to do good in, and for 'little, nameless, unremembered acts of kindness and of love,'[4] it is more than doubtful, were it altered, if it would do better.

If we cannot do, if it is only some, little good, in whatever position we are placed in, it is not the position that is in fault so much as it is ourselves. Christ aptly depicts (St. Mark ix. 41) the being always able to find opportunity for kindness to others; also that it is not the greatness of the act which constitutes its merit. 'The cup of cold water' is within the reach of all.

> Our acts our angels are, or good or ill;
> Our fatal shadows that walk by us still.[5]

'The only things in which we can be said to have any property are *our actions*. Our thoughts may be bad, yet produce no poison; they may be good, yet produce no fruit. Our riches may be taken from us by misfortune, our reputation by malice,

[1] Shakespeare. [2] Milton. [3] Wordsworth.
[4] *Id.* [5] Fletcher.

our spirits by calamity, our health by disease, our friends by death. But our actions must follow us beyond the grave; with respect to them alone we cannot say that we shall carry nothing with us when we die, neither that we shall go naked out of the world. Our actions must clothe us with an immortality, loathsome or glorious. These are the only title-deeds of which we cannot be disinherited; they will have their full weight in the balance of eternity, when everything else is as nothing; and their value will be confirmed and established by those two sure and sateless destroyers of all other earthly things—Time and Death.'[1] Humanity is the same all over the world, and life presents to each the same aspect—daily duties, varied in their monotony by no sudden or wonderful occurrences necessitating greater qualities than the average are gifted with.

Little homely tasks, little trivial occupations, are in the lot of all, and the daily life of each is made happy, pleasurable, comfortable, or otherwise, according to the mental state and nature of each. Many might take things around them differently: in a happier, less worrying frame of mind; in a more 'give and take spirit.' 'Sufficient unto the day is the evil thereof.'[2] We all are too apt to think that our misfortunes, our troubles, our trials, are the greatest; that we are exceptionally tried. It is well sometimes, however, to bear in mind that sorrow is the common lot of the human race.

To each his sufferings; all are men
Condemned alike to groan,
The tender for another's pain,
The unfeeling for his own.[3]

With some natures to have a trouble to hug to themselves is in some sort a necessity, seemingly—such are greatly to be pitied. They are greatest and noblest who conquer an adverse fate by patient diligence in quietly overcoming evil with good, and there is often great heroism in those who, patient and persevering, go on from day to day quietly fulfilling their duty in that daily round which must necessarily include the happiness of others as well as their own. We should often be

[1] Colton, *Lacon*, pp. 2, 3. [2] St. Matthew vi. 34. [3] Gray.

much happier if we took a higher stand as regards our daily work. If we did what we had to do from better and less ignoble motives than those which too often are the mainspring of our actions, our lives would be better lived. 'For Thy sake' would render many a cross less hard to bear.

A servant with this clause
Makes drudgery divine;
Who sweeps a room for Thy laws
Makes that and the action fine.[1]

Great and noble actions are not done all at once by those who have become *suddenly* endowed with great qualities. Many a noble act is merely the sequel to a long history of self-denial—a long, painful path, perhaps, having been traversed before the qualities were developed, which resulted in that which calls forth admiration, but may at the same time cost much. Great deeds are never the result of sudden good impulses, but come in most cases from previous self-denial.

Outside observers see the great deed in all its dazzling brilliancy, but the doer is conscious of what the outside world can never know—of the toil, of the labour, of the weariness, of the many things which have been suffered in silence. 'Many men fail in life from the want, as they are too ready to suppose, of those *great* occasions wherein they might have shown their trustworthiness and their integrity. But all persons should remember that in order to try whether a vessel be leaky we first prove it with water before we trust it with wine. The more minute, trivial, and we might say vernacular opportunities of being just and upright are constantly occurring to everyone; and it is an unimpeachable character in these lesser things that almost invariably prepares and produces those very opportunities of greater advancement and of higher confidence which turn out so rich a harvest, but which those alone are permitted to reap who have previously sown.'[2] Much good work in the world is done by the 'lame horses of life,' those working creatures, far short of perfection in many respects, and often totally wanting in that outward beauty

[1] Herbert.

[2] Colton, *Lacon*, p. 216.

which is the attribute of the more thoroughbred but perhaps less useful.

It is seldom noticed, or thought of, how the great law of compensation rules the world. A blind person, for instance, has a quicker sense of hearing—one deaf a keener power of observation—and those afflicted in any particular way are compensated, as it were, by the greater development of some other faculty or sense, or there is some blessing, if looked for, counterbalancing the evil.

> Ah ! if we knew it all, we should surely understand
> That the balance of sorrow and joy is held with an even hand,
> That the scale of success or loss shall never overflow,
> And that compensation is twined with the lot of high and low.[1]

In no case is anyone afflicted without some blessing being theirs which balances their misfortune and so prevents their sinking into utter despair. Where complete hopelessness takes possession of the soul, the mind is more or less unhinged. Invariably afflicted people are neither cheerless, particularly melancholy, nor desponding. In fact, the old proverb, 'God fits the back to the burden,' is exemplified all over the world, and those who have most to bear complain least. We can all do something if we only try, and education should prove the great lever to make our life as useful—if circumstances prevent its being as happy—a one as we could wish.

> To bear is to conquer our fate.[2]

We can surely do something more than merely 'bear our fate.' If we are sightless, we can still, in mind, make up for our sad deprivation of the most cherished of Heaven's gifts; if we are deaf, other blessings are still ours; if we are otherwise afflicted, sad repining is not all that is left us. We can often make a blessing of a loss, and as Time rolls on in its ceaseless course we may be adding our atom to the good done by countless millions labouring on to the universal end.

> Years following years steal something every day,
> At last they steal us from ourselves away.[3]

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[1] Frances Ridley Havergal, *Compensation.* [2] Campbell.
[3] Pope.

So, as the years glide o'er us,
  Heart-free are we from care!
Changes may lie before us,
  But flowers bloom everywhere:
With God to bless and guide us,
  With His presence near,
No good shall be denied us,
  No evil will we fear.

APPENDIX.

Deaths in London of infants under one year old in 1871, given as from causes arising for the most part from defective nutrition :—

Want of breast milk, 330, or ·29 per cent. ; Teething, 466 ; Thrush, 160 ; Diarrhœa, 2,795 ; Dysentery, 9 ; Tabes, 672 ; Convulsions, 2,100 ; Atrophy, 2,509.—From the Registrar-General's report. See p. 81.

Where it may be necessary to use carbolic soap, Calvert's 10 p.c. carbolic soap, sold at the Army and Navy Stores, Victoria Street, is a good kind. See p. 481.

Mead's antiseptic adhesive plaster, 1½ inches wide, sold in reels, is a safe plaster to use for cuts. See p. 446.

W. H. Bailey & Son, 38 Oxford Street, London, W., sell the vulcanite syringe, with glass cylinder, for administering the glycerine enema. See pp. 147, 148.

The presence of starch may be detected in any substance by iodine, which is the most delicate test of it ; but the iodine must be in an uncombined state. The moment that its solution is added to water, in which a little starch is suspended, a fine blue colour is produced.[1] See ' Feeding,' p. 85.

The odour of good hops, especially when they are rubbed between the fingers, is exceedingly fragrant. . . . In their effects they are narcotic and stupifying, with very little previous exhilaration : their subsequent effect is to produce

[1] *Cabinet Cyclopædia*, p. 345.

depression. . . . A pillow stuffed with hops is an old and popular remedy for easing pain and a means of procuring sleep. An overdose of hops *in any form* produces headache, vertigo, and slow pulse.[1] See 'Repose,' p. 331.

The jelly prepared by boiling arrowroot in water grows more fluid as it cools ; while that made from potato-starch becomes more firm.[2] See 'Feeding,' p. 221.

Having found phosphate of soda of service, as mentioned by Dr. Playfair in his 'Science and Practice of Midwifery,' I was desirous of knowing if it might be used at a later age than that mentioned ('in the first few weeks of bottle-feeding.') I therefore wrote to Dr. Playfair on the subject, and received the following reply :—

'There can be no objection to giving the drug mentioned to an older child ; but it is not a very good aperient for older children, as the dose would require to be largely increased.

'W. S. PLAYFAIR.

'September 1, 1889.'

I think before increasing the dose prescribed by Dr. Playfair ('as much phosphate of soda as will lie on a threepenny-piece'), *a medical man should be consulted.*[3] See p. 145.

To enable a poultice to retain its heat, it should be spread an inch or more thick ; or it may be made thinner, and externally coated with a layer of cotton-wool. The cotton-wool being light, it does not hamper the breathing—a matter of importance, especially with children.[4] See pp. 424, 477.

Chalk makes a good tooth-powder, and is safer than powders with hard and angular particles, which wear away the enamel and lay bare the dentine.[5] See p. 501.

[1] *Cabinet Cyclopædia*, p. 162.
[2] *Ibid.*, p. 346.
[3] See *Handbook of Therapeutics*, Ringer, 6th edit., p. 189, on phosphate of soda as a drug.
[4] *Ibid*, p. 36.
[5] *Ibid.*, p. 174.

On entering a cold sea-bath there is at first a sensation of depression, great or little, according to the coldness of the water. The skin becomes pale and shrivelled, and presents the familiar appearance called 'goose-skin,' a condition produced by the contraction of the skin, and the consequent protrusion of the hair roots and follicles. There is general shivering, some blueness of the lips, nose, and extremities, considerable reduction of the temperature of the skin, quickened pulse, convulsive and sobbing breathing as the water rises to the chest, especially when the bath is entered slowly. The system soon becoming roused to meet and to resist the depressing effects of cold, in a few seconds a sensation of general exhilaration ensues. The skin becomes ruddy and glowing; the breathing full and easy; the pulse rather quick and strong; the spirits exalted; and the bather feels increased vigour, both of mind and body. If he quits the bath now, or before the period of exhilaration ceases, this buoyant condition endures more or less for the rest of the day, showing that the bath thus acts as a tonic to the system.

On the other hand, if the bath is prolonged, depression again comes on. The bather feels cold, shivers, becomes blue and numb in the more exposed and smaller parts, whence, on account of their size, warmth is more readily withdrawn, and he is seized with a sensation of depression and wretchedness. Baths prolonged to this injudicious extent often produce damaging results, which may continue for hours, and even days—sometimes, indeed, inflicting serious damage to the health, especially in a weak or growing person. For many hours after the bath he complains of general languor, with a repugnance to exercise, whether of body or mind; his temper is fretful and morose; the circulation feeble and languid, with sinking at the epigastrium, loss of appetite, chilliness of the surface, and cold extremities. It need scarcely be said that consequences like these are to be carefully avoided; yet these risks will often be encountered unless the doctor gives specific and minute directions, so great is the prevailing ignorance and error on the subject of bathing.[1] See p. 396.

[1] *Handbook of Therapeutics*, Ringer, 6th edit., pp. 4, 5.

Caution to bathers.[1]—'. . . To bathe in cold water when exhausted is dangerous. To bathe immediately after a meal is very dangerous. The non-observance of these apparently trivial, but, in reality, very important points is, I believe, one of the most constant causes of fatal syncope and neural paralysis in the water.—I am, Sir, yours truly,

'Reginald Tweed, M.D.'

'55 Upper Brook Street, W., September 5, 1889.'

See p. 397.

As to the mange and other skin diseases of dogs being communicable to man, see Retz, third edition, 1790. See also p. 270.

My work was in the press—almost approaching completion (September 5, 1889)—when mention was made of the excellence of the paper just issued by the 'medical officer of health' for Brighton respecting the prevention of infant diarrhœa. On reading over the paper sent to me I was especially struck with how exactly everything I have written is verified by Dr. Newsholme, even to the wearing of a flannel band (page 419). Everything mentioned by Dr. Newsholme as necessary for infant health, on going over the proofs I find is fully discussed, and medical opinions given. I append the paper, as no doubt it will interest many to see how it agrees with what I have written.

Sanitary Department, Town Hall.

How to Prevent Diarrhœa.

During the summer months, diarrhœa causes a large number of deaths among infants in Brighton. In the year 1887, 106 deaths were due to this cause, and in 1888, sixty-one deaths. The great majority of these deaths were of infants under one year old, and almost solely infants fed by hand.

Summer diarrhœa is due to the entrance into the system of a specific poison, contained in impure food or drink, or less commonly inhaled with the breath. In order to avoid it,

[1] From *The Daily Telegraph.*

therefore, it is necessary that the air you breathe, the house in which you live, the soil under the house and yard, as well as all foods and drinks, should be pure and sweet, free from suspicion of taint or putrefaction.

Attention to the following rules would secure that your children should not be stricken down by this disease.

(*A*) *Rules as to Condition of House.*—1. See that the *floor and walls* of each room, and especially of the room in which food is stored and prepared, are absolutely *clean.* The best disinfectant for walls and ceilings is lime-washing ; for floors and woodwork, soap and water applied freely and daily by means of brush or mop.

2. See that the *dustbin* is regularly emptied, and if any difficulty arises in this, apply at the Sanitary Office, Town Hall. Never place vegetable or animal refuse in the dustbin, but burn them. If you have a fixed ashpit, better use in preference a box for the house refuse, as its contents can be completely removed.

3. *Closet-pans* should be kept thoroughly clean. If flushing with water does not effect this, scour the pan with a mop dipped in strong muriatic acid (take care not to touch this with the fingers).

4. If thorough cleanliness does not secure freedom from smells, send to the Sanitary Office and have the drains examined. Never allow a choked trap or closet-pan to remain so, but have it attended to immediately.

5. *A damp or unventilated house* is always dangerous to health. See that bedroom windows are kept open top and bottom during the day. Leaky taps and all other sources of dampness should receive early attention. [See pp. 28, 325, 345, 410, 413–418.]

(*B*) *Rules as to Personal Health.*—1. Let your children have *woollen clothing* next the skin ; at the least, a flannel belt round the body.

2. The *Public Baths* in Park Street and North Road afford the means of securing baths at a very small cost ; and personal cleanliness forms, in addition to domestic cleanliness, one of the best preventives of diarrhœa. [See pp. 321, 322, 403, 419.]

(*C*) *Rules as to Food.*—1. Wholesome *fruit* does not cause diarrhœa, but tainted fruit may cause it. Avoid any fruit which is being sold much below the ordinary prices.

2. Milk should always be boiled before being drunk, especially during the summer months. Attention to this rule would go far to put an end to the present serious loss of life from diarrhœa.

3. Infants under eight months old should have no food except milk, unless a doctor's opinion to the contrary is obtained. It is a mistake to suppose that this is 'not sufficiently satisfying.' The healthiest infants are those fed only from the breast, and they very rarely suffer from diarrhœa. If cow's milk must be employed, then it should be diluted with one-third of water, to which a little lime-water has been added ; or with barley-water if the milk seems to disagree with the infant.

4. Never use 'pap' (bread sops) for infants, and never give any of the patent foods for infants which contain starchy matter (as most of them do).

5. Always prepare the infant's *food fresh each time*, with freshly boiled milk. Milk and water, and still more 'pap' or artificial foods, if left for two or three hours, 'go bad,' and are *then highly dangerous* to an infant.

6. The bottle from which the infant is fed should be thoroughly scalded daily, and the tube thoroughly cleansed. If the bottle *smells sour* be sure there is something wrong and the child will suffer. It is a good plan to soak the bottle once a day in water to which a little Condy's fluid has been added, and then rinse it out afterwards with clean water. The Condy's fluid will be supplied free at the Sanitary Office, Town Hall.

7. If you have not a sufficient supply of water, complain at the Sanitary Office. [See 'Feeding,' pp. 63 to 301, in which all these subjects are treated of.]

(*D*) *Treatment of Diarrhœa.*—Diarrhœa is always dangerous in young children. Have medical advice immediately. Early treatment may sometimes prevent an attack being fatal. [See pp. 223–225.]

Exposure to Infection.

Let me draw attention to the fact that if you allow your children, while suffering from scarlet fever, measles, whooping cough, or any other infectious disorder, to mix with other children, or in any way expose other children to infection, a heavy penalty is incurred under the Public Health Act. Children suffering from such diseases should be kept carefully isolated as follows :—

Scarlet fever	for at least	6	weeks.
Measles	„ „	3	weeks.
Whooping cough	„	2	months.

The isolation which prevents your neighbour's children from catching infection from yours is equally advantageous for your own children, as 'catching cold' during the early period of convalescence is the usual cause of death from infectious complaints.

Arthur Newsholme, M.D.,
Medical Officer of Health for Brighto .

'Erst wägen, dann wagen' (First weigh, then venture).

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