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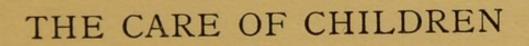
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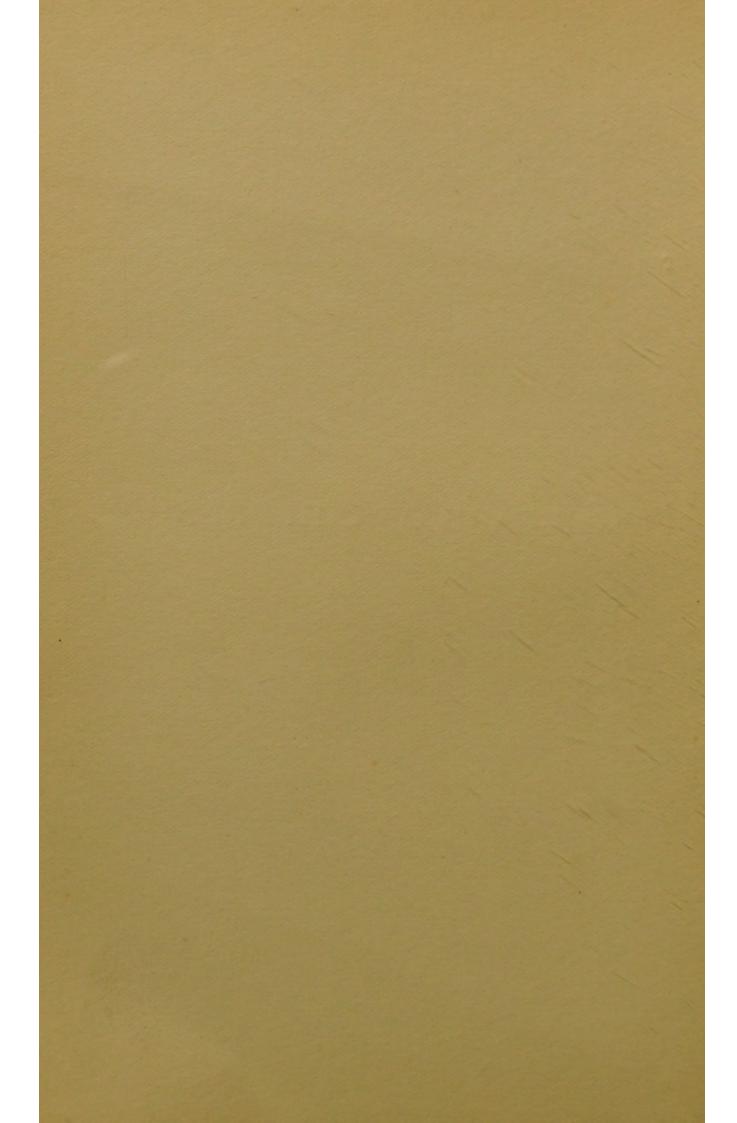


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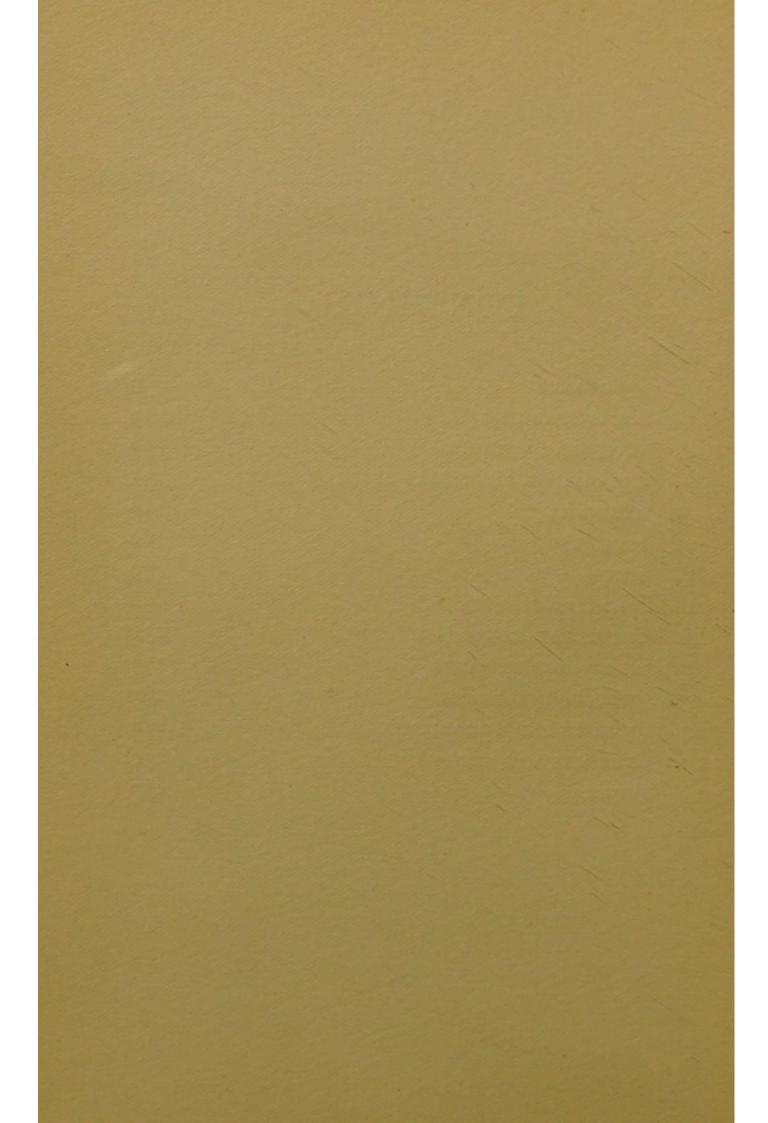
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PREFACE

Many of my patients have asked me to write a book about children and this is the result. I have tried to set down most of the things that mothers want to know, and to correct some of the false ideas and wrong procedures that are prevalent where children are concerned. At the same time I have endeavoured to avoid writing of those things which can only be of academic interest to the laity, and the knowledge of which might instil needless fears into the mind of an anxious mother. The book is not intended to take the place of a doctor, but in so far as it indicates the path to health it may save the children of those who read it from some of the diseases and disorders that are preventable.

In compiling the book various authorities have been consulted, but especially the works of Sir James Goodhart, Dr. G. F. Still, and Dr. J. Sim Wallace. To them I here express my gratitude.

A. M.

46, Westminster Palace Gardens, S.W.



The Care of Children

CHAPTER I

PREGNANCY

It is the purpose of this book to deal with the child, but none the less a few words of advice to the mother on her conduct during the pregnant state will not be out of place.

The phenomenon of pregnancy has been surrounded with a mass of superstitions, some merely foolish, others positively pernicious. Thus you will be told that when pregnant you must never raise your arms above your head for fear of "making the after-birth grow to the side," that you must not take baths for fear of drowning the baby, that you must eat double your usual amount of food because now you have 'two to feed,' that you must take frequent doses of castor oil in order to "cleanse the baby," and so on. To all this foolishness you must turn a deaf ear. The point to remember is that pregnancy is a perfectly

normal and natural condition and is not to be treated as a disease. On no account look upon yourself as an invalid, but make a point of going out and taking exercise daily. Many women stop indoors during the later months of pregnancy because they are ashamed to be seen out. Pregnancy is nothing whatever to be ashamed of, however unfashionable it may be; and if anybody thinks your appearance is "indecent" their opinion is not worth considering. But do not take exercise to the point of tiring yourself, do not do anything violent or sudden, and avoid long standing. Take regular, simple, and wholesome meals, but do not over-eat; if you do you will only upset your digestion and do no good either to yourself or your baby. Avoid excessive use of tea, coffee, or stimulants. Keep the bowels regular by means of exercise and a varied diet, and when necessary take a dose of cascara or some simple aperient. But only when necessary. Do not take aperients simply for the sake of taking them. Take a daily bath if it is your custom (as it ought to be), but avoid extremes of temperature in the bath. Do not use douches unless they have been ordered for some special condition.

PREGNANCY

It used to be the custom to prescribe douches as a routine, but the reason for doing so is now known to have been wrong. Try to lead an even, placid existence. In sum, all you have to do is to follow the ordinary simple rules of health.

There is no reason why the corsets should be abandoned during pregnancy, only they must not be worn too tight and they must not press on the nipples. During the later months some form of 'pregnancy belt' is a comfort, and for some women a necessity. Garters should not be worn during the pregnant state, or for that matter at any other time.

Marital intercourse should be as restricted as possible, and if previous experience shows that there is any tendency to abortion it should be given up altogether. These remarks particularly apply to the first four months of pregnancy.

The care of the nipples is most important and well repays trouble. They should be bathed twice daily in some form of alcohol, which may be either methylated spirit, whiskey, or Eau de Cologne; if the last is used it must be diluted with equal parts of water. If the nipples are at all depressed they may

be gently drawn out with perfectly clean fingers. If any roughness is used, as it sometimes is by unskilled nurses, the nipples may be injured; then, if there is want of cleanliness, which generally goes with want of skill, the breasts may become infected and inflammation ensue.

Pregnancy lasts ten lunar months, or nine calendar months and seven days, or 280 days; so that by reckoning from the first day of the last menstrual period you can calculate the probable date of your confinement. But the result will be only approximate, and there may be an error of a week or so either side. Again, you can reckon from the day of quickening, i.e., the first movement of the baby in the womb. This usually occurs in the eighteenth week and delivery will take place twenty-two weeks later. Here again the date is only approximate, and it is not always easy for a woman, even when she has borne several children, to recognize her 'quickening.'

You will have to provide yourself with the following articles for your confinement: one mackintosh sheet large enough to cover the mattress and one about one-third of that size; six packets of sanitary towels; one

PREGNANCY

skein of glazed linen thread; one pound of absorbent cotton-wool; four binders 1½ yards long by 18 inches wide; and half an ounce of surgical pins. (The necessity for the binder is a matter of dispute.) It is convenient instead of purchasing the items separately to get one of the "confinement sets," which cost a guinea.

There are a number of minor ailments and discomforts incident to pregnancy, but it is not in the province of this book to deal with them. I will only say that as a rule it is inadvisable to try to combat them by the use of drugs. The best thing to do is, to try and put up with them and you will get your reward later on. Even the unwanted child is wanted when it arrives.

CHAPTER II

BREAST FEEDING

Whenever possible it is your absolute duty to feed your baby at the breast. Certain diseases may make it inadvisable for you to do so, but you must leave it to your doctor to decide. Again, your occupation may prevent your continuing to suckle, but in that case you should give the breast for as long as possible, even if it is only for two weeks, only resorting to the bottle when you have to return to work. The vast majority of children who die in infancy are bottle fed, therefore you can never be justified in feeding your baby artificially merely to suit your own convenience. Some women find suckling extremely painful, but as a rule the pain gradually diminishes and wears off. It does not follow that because you have failed to suckle one child you will be unable to suckle another; you should always make the attempt, and

BREAST FEEDING

even after several failures you may eventually be successful.

The baby should be put to the breast within four hours of its birth. The object of this is threefold—to aid the contraction of the womb, to draw out the nipples, and to give the baby the benefit of the breast secretion. The true milk does not appear for two or three days. Till it does, suckling should take place every four hours. It is quite unnecessary to give any other food, though nurses who ought to know better often give feeds of milk and water before the milk appears. If Nature had intended babies to have milk during the first two or three days of life she would have provided for it.

When the milk comes in, feeds should be liven every two hours during the daytime li.e., from 7 a.m. to 10 p.m.) and every four cours during the night for the first month of life. After that the intervals should be radually increased until at three months eeds are given every three hours. After the weeks one night feed will generally be difficient, and after five months the night eeds should be omitted altogether.

The great point is, be punctual. Feed your baby exactly to time, no matter what you may be doing. Many mothers object to waking their babies for a feed. This is a grave mistake. Babies will take the breast almost without interrupting their sleep, and once you have trained an infant to regular feeding habits it will cry for its food so punctually that you can set your watch by it. If on the other hand you let it sleep on after the proper time or feed it too soon because you think it is hungry, you will be laying the foundation for all sorts of stomach troubles, you will be bringing up an unhappy, peevish infant, and you will be making a rod for your own back. A bad baby generally means a bad mother.

Wash the nipple before and after each feed, and take care to dry it thoroughly; you will thus help to prevent cracked nipples for yourself and thrush for the baby.

Give one breast for every alternate feed. Be careful that you do not jam the breast over the baby's nose so that it cannot breathe. Often a baby will not take the breast simply because it is half suffocated.

A feed should last about fifteen minutes.

BREAST FEEDING

If the baby takes its food too fast you must regulate the flow by holding the breast near the nipple between the first and second finger of the hand which is not engaged in holding the baby.

The amount of the feed must be the amount the baby can take without posseting. If it brings up some of its food, note the longest time it can stay at the breast without doing so, and always feed it for that length of time.

Do not think to improve the quality or quantity of the milk by over-eating. If you do you will only upset your digestion and defeat your object. Take simple and regular meals, and keep the bowels in order by taking fruit and green vegetables and plenty of fluids. When necessary take some cascara or syrup of senna; many aperients taken by the mother are excreted in the milk and purge the baby, but the two named have this effect less than any other.

If the milk is insufficient take more fluid. Stout is the popular remedy for increasing the flow of milk, but plain water is just as good. It is fluid you want.

B

WEANING.—A baby should as a rule be weaned at nine months, but if it reaches this age during the hot weather weaning should be postponed for a time. It is during hot weather that 'Summer Diarrhœa' is prevalent, and as this disease may be conveyed by cow's milk it is obviously unwise to run any unnecessary risk. Many women continue to suckle their babies long after the age of nine months, the idea being to prevent pregnancy. Not only does this procedure frequently fail in its object, but it renders the baby rickety and the mother anæmic. Babies should not be weaned while they are temporarily "out of sorts." The reappearance of the monthly periods is as a rule no reason for weaning, though it does occasionally cause a temporary derangement of the milk. Weaning should be done gradually, two artificial feeds a day being substituted for two breast feeds, and the number of artificial feeds should be increased as the baby becomes accustomed to the new food. There are some babies who, as long as they can get the breast, will refuse to take anything else. In such a case you must stop breast feeding altogether, and in time hunger

BREAST FEEDING

will compel the baby to take the food which is offered it. This may seem unkind, but the baby cannot go on taking the breast all its life, and the sooner it gets to know it the better.

CHAPTER III

ARTIFICIAL FEEDING

Unhappily there are some mothers who, for one cause or another, are unable to feed their babies at the breast. In these cases a substitute for human milk has to be found. As soon as the birth of your child is announced in the newspapers you will be inundated with advertisements of patent foods, each claiming to be a perfect substitute for mother's milk. There is no such thing as a perfect substitute for mother's milk. Some of the patent foods are useful in tiding over a difficulty, but none of them should ever be given except under the advice of a doctor, and then only for as long as the doctor directs. Do not be deluded by the fact that Mrs. So-and-So's child throve exceedingly on "Smith's Perfect Breast Substitute." Some babies will thrive on anything; but yours may not be one of the unkillable, so do not take risks. Also, dismiss from your

mind the advertiser's photographs of fat babies fed entirely on his proprietary food. Such babies are certainly fat, but they are seldom healthy; they are generally suffering from rickets or will do so later on. Many babies have been killed and more have been made unhealthy by the indiscriminate use of patent foods. Therefore avoid them unless a medical man prescribes them. And because a neighbour's baby is being successfully reared on any particular food given under medical direction it does not follow that that food will be suitable for your baby. What agrees well with one baby will not necessarily agree with another; and every patent food has its partticular virtues as well as its particular defects, and is therefore ordered for some particular reason. Of course, the best substitute for your own milk is that of another woman, but it is extremely difficult to get a wet-nurse who fulfils all the many requirements, and even when an apparently satisfactory woman has been obtained it not infrequently happens that her milk proves unsuitable for her foster child. Also, if she is suckling your baby she must give up suckling her own, and that is unfair to the baby who has the prior claim on

her services. I do not go into the attributes of a good wet-nurse because if you decide to employ one you will have to leave her selection to your doctor, and also because for the reasons stated I advise against the use of wet-nurses in any but exceptional cases.

The best substitute for human milk is cow's milk. Ass's milk and goat's milk are sometimes recommended, but in the experience of most physicians they offer no advantages over cow's milk and they are more difficult to obtain. The babies who will not do well on cow's milk, provided it is properly given, are very few. First select a reliable milkman, choosing if possible one who keeps his own cows and not one who has the milk sent in by rail. Having found a reliable milkman do not buy his "Nursery Milk." "Nursery Milk" generally means a milk that is much too rich; sometimes it merely means ordinary milk for which you pay a special price. Milk from Jersey cows is also too rich. The best milk for babies is the milk from a mixed herd of Shorthorns. What you require is a milk that can be made as much like human milk as possible.

There are certain differences between human

milk and cow's milk, and these differences have to be corrected. Cow's milk as compared with human milk contains more of the food-stuff known as 'proteid,' less sugar and about the same amount of fat. To make the proportion of proteid the same as that of human milk the cow's milk must obviously be diluted. But in getting the proteid right you still further diminish the proportion of fat and sugar. It is therefore necessary to add fat in the form of cream and sugar in the form of milk-sugar. There is one more difference between the two milks, and that is that the curd of cow's milk is much tougher and more difficult of digestion than that of human milk. To combat this it is advisable to add some citrate of sodium to your artificial food. This substance has the property of breaking up the curd and so making it more digestible. I mention these facts so that you may understand the reasons and importance of your procedures in making a milk mixture.

The cream must be what is known as "centrifugal cream." It must be remembered that cream varies in its composition according to the method by which it is obtained. "Centrifugal cream" is, however, fairly

uniform in its composition, whereas "gravity cream," the cream that you get by letting milk stand, varies very considerably. If you use any other sort of cream you will be giving the wrong proportion of fat, and the right proportion of fat in the food is most important; things may go wrong through giving either too much or too little cream. The amount of centrifugal cream to give is one drachm to every 3 ounces of the mixture. Citrate of soda may be obtained from the chemist in the form of 1-grain tablets. The dose is 2 grains for a 1-ounce feed, and 3 to 4 grains for a larger feed. The tablets may be dissolved in a teaspoonful of water which is added to the feed. You should also obtain from the chemist proper measure glasses. Domestic spoons vary very much in capacity and are therefore unreliable, but a rather large teaspoon will be sufficiently accurate for the milk-sugar. For the milk and the water you must have a measure glass graduated in ounces and drachms, and for the cream you must have one graduated in minims.

Now as to the dilution of the milk. It is a very common mistake to start with too

strong a mixture, with the result that the baby gets colic and does not thrive, and the mother thinks that it cannot take cow's milk. The truth is that the infant's stomach has got to get accustomed to the food, and if you will start with a weak mixture and gradually work it up to higher proportions you will avoid half the troubles usually associated with hand feeding. As the child grows older it will of course need an increase, not only in the strength but in the amount of its food. To take first the increase in the strength of the food—the following table gives the proportion of milk to water at different ages—

Age.		Milk.			Water.
At birth -	-	I part	-	-	4 parts
One week -	-	Ι ,,	-	-	3 ,,
One month -	-	Ι "	-	-	2 ,,
Two months	-	I ,,	-	-	I1 ,,
Three months	-	I ,,	-		Ι "
Five months	-	I ¹ / ₂ ,,	-	-	Ι "
Seven months	-	2 ,,	-		Ι "
Nine months	-	3 "	-	-	Ι "

Next as to the amount to be given at each feed. To start with, give one ounce and work it up to 1½ ounces during the first week; at the end of the second week give 2 ounces, and at the end of the sixth week give 2½ ounces.

At three months give 3 ounces, and from then on to the eighth month give one ounce for every month of life. After eight months the amount of the feed is not increased, but remains at 8 ounces. (An ounce is 2 table-spoonfuls.) The intervals of feeding must be the same as those given in the last chapter.

All increases, whether in strength, amount, or interval of the feeds, must be made gradually. Do not, for instance, suddenly jump from a feed of 3 ounces up to one of 4 ounces just because your baby happens to be four months old to-day, but add to the amount little by little until you find the baby can comfortably take the full amount.

The following table will help you in your hand feeding—

Age.	No. of feeds in 24 hours.	Interval between feeds by day.	No. of night feeds.	Average amount of each feed.	Total average amount in 24 hours.		
ıst day	4	6 hrs.	I	I OZ.	4 ozs.		
2nd day	6	4 ,,	I	I ,,	6 ,,		
3rd to 14th day	IO	2 ,,	2	Ito 2 ozs.	15-20 OZS.		
6 weeks	8	21 ,,	I	21 ozs.	20 ozs.		
3 months	7	3 ,,	I	3 ,,	21 ,,		
4 ,,	7 6	3 ,,	I	4 ,,	24 ,,		
5	6	3 "	0	5 ,,	30 ,,		
6 ,,	6	3 ,,	0	6 ,,	36 ,,		
7 "	6	3 "	0	7 "	42 ,,		
8 to 10 months	6	3 "	0	8 ,,	48 ,,		

You have now got all the necessary data for your artificial feed. Let us apply them to an example. Suppose breast feeding is found impossible and the baby has to be hand fed at one week. Looking up the dilution table we find that the proportion of milk to water is as one to three, and in the feeding table we find that the amount to be given in the 24 hours is 15 ounces. It will be most convenient to make the whole amount at once, so we have to make 15 ounces of a mixture of which one quarter will be milk and three-quarters will be water.

Then, since $\frac{1}{4}$ of 15 ounces = $3\frac{3}{4}$ ounces, and $\frac{3}{4}$ of 15 ounces = $11\frac{1}{4}$ ounces, and since 1 ounce = 8 drachms, we must measure out 3 ounces and 6 drachms of milk and dilute it with 11 ounces and 2 drachms of water.

We have yet to add the other constituents. One drachm of cream has to be added to every 3 ounces of the mixture; that is to say, 5 drachms of cream are required in the present instance. Sugar has to be added in the proportion of one level teaspoonful to every 3 ounces of the mixture; that is to say, 5 teaspoonfuls have to be added to the

mixture under discussion. Putting these amounts together we get the following formula—

> Milk - - 3 ounces 6 drachms Water - - - II ounces 2 drachms

5 drachms

Cream - - 5 drachms Milk-sugar - 5 level teaspoonfuls

Of this mixture 13 ounces have to be given every 2 hours between 7 a.m. and 10 p.m. and twice during the night. To each feed must be added 3 grains of citrate of sodium. Of course, if the baby has to be fed artificially at one week you will not be able to prepare the food yourself, but this example shows you the principles to be employed; and if you will watch the nurse preparing the food you will be able to learn how to do it when you have to prepare it yourself-and it is far better to do it yourself than to leave it to a subordinate. If you first work out on paper the relative amounts of the various constituents of the food you will find it quite simple.

One more example: suppose the baby has to be taken from the breast at 2 months. In this case it has to be given 20 ounces of a mixture containing I part of milk to 11 parts of water, so we get-

Milk - - 8 ounces Water - - 12 ounces

Cream - $6\frac{2}{8}$ drachms = 6 drachms 40 minims

Milk-sugar - 62 level teaspoonfuls

Two and a half ounces of this mixture are given every two and half hours, and four grains of sodium citrate are added to each feed.

When starting a baby on artificial feeds after it has been at the breast, remember the caution about giving too strong a mixture to start with. It is better to base your calculations on the assumption that the baby is less than its real age and then work up to the correct proportions. You need not be afraid that you will starve it.

THE STERILIZATION OF MILK.— Milk as it reaches the consumer is frequently swarming with disease germs. Infantile diarrhæa, tuberculosis, scarlet fever, and diphtheria may all be conveyed by infected milk. Before milk is given to babies it has therefore to be sterilized—that is to say, the germs have to be destroyed. If a perfectly healthy cow with perfectly clean udders were milked by a cowman with perfectly clean hands directly into a perfectly clean vessel which was immediately sealed and delivered

to the consumer the milk would then be fit food for babes. But in spite of the precautions of sanitary authorities the possible sources of contamination are so many that it is not safe to use unsterilized milk in infant feeding. This is not a fad, it is a proven fact. Do not be impressed by the delivery of milk in bottles instead of in cans; a bottle can carry just as many microbes as a milk-can. Sterilize the milk yourself and you will know it has been properly done. A certain method of killing all the germs in the milk is to boil it. Unfortunately, boiling not only destroys the microbes but it also interferes with the nutritive quality of the milk. Babies fed on boiled milk seldom thrive, their digestion becomes deranged, and they are nearly always constipated. The best method is to use some form of "Sterilizer" such as Aymard's, Hawkesley's, or Soxlet's, which your chemist will obtain for you; directions for use are sent out with the apparatus.

These things are expensive and involve a certain amount of trouble—though you must not stint yourself of trouble if you are bringing up your children by hand. If you cannot afford a special apparatus a very good method

is to heat the milk almost to the boiling pointthat is to say, till it begins to bubble-and then to cool it rapidly. Another method is to put the required amount of milk in a bottle which is three-quarters immersed in another vessel containing water; the water is then boiled and kept at the boil for forty minutes. Whatever method is employed the milk must be rapidly cooled after sterilization. This is done by immersing the vessel containing it into cold water. The reason for this is that though these methods destroy the microbes they do not kill the spores, which will quickly grow into mature microbes on warm milk, and the last state of the milk will be as bad as the first. Also, it is most important to keep the vessel containing the milk covered; otherwise it will certainly become contaminated with dust and air-borne germs, and your sterilization will have been in vain.

Before being fed to the baby the milk must be raised to a temperature of 100° F.

THE BOTTLE.—The old-fashioned bottle with the long tube is not yet extinct, but the selling of it should be made a penal offence. It is absolutely impossible to keep

a long tube of indiarubber clean, and in a very little while such a tube becomes swarming with microbes. The proper type is the boatshaped bottle made simply of glass with a rubber teat fitting directly on to the neck of it—that is to say, it is a bottle that can easily be kept clean. After a feed the teat must be removed and any food remaining in the bottle must be thrown away. The bottle should then immediately be rinsed out with cold water containing a little salt; it should then be scalded out with boiling water. When not in use it should be kept in water to which a pinch of borax has been added. Before being used again it must be thoroughly rinsed out with cold water so as to remove the borax. The teat should be cleaned by putting some salt into it, well rubbing it between the thumb and finger and finally washing it out in plain water.

The size of the perforation in the teat is of importance; some teats allow too rapid a flow of milk, some too slow. If the flow is too rapid the baby takes its food too fast and gets indigestion, if it is too slow the baby is apt to get sick of its feed and refuse it before it is half finished. To test the efficiency of

ARTIFICIAL FEEDING

the teat put some milk in the bottle, apply the teat, and then invert the bottle. The milkshould then drip steadily and continuously. If it flows out the perforation is too large, and if there is an appreciable space of time between the drips it is too small.

The bottle should always be given with the baby on the nurse's arm and the bottle in the nurse's hand. Too often one sees a baby left with the bottle in its cot to feed in any manner it thinks fit. The result is that the food is bolted, or is taken intermittently, or the bottle becoming tilted the baby sucks its stomach full of wind. I have seen it stated that one advantage of the boat-shaped bottle is that the baby cannot be left to feed from it by itself. Unhappily this is not the case, for I have myself seen it done often and often, and it is evidence of neglect on the part of whoever is responsible for the feeding of the baby.

It is possible to rear most normally constituted infants on the lines that I have laid down in this chapter. There are many other methods, but I have found this one eminently successful in my own practice and it is pretty generally accepted. But it may fail, as all

C

systems of infant feeding may fail. If it does so in your case, if your child is not gaining weight, if it has intestinal troubles or is sleepless and fretful, or if for any reason you are in doubt as to the success of your procedure, do not I beg of you start tinkering with it yourself, but call in your medical attendant at once. The artificial feeding of infants, when it is difficult, is one of the most difficult problems with which doctors have to deal. You cannot therefore hope to solve it by the light of instructions laid down in a book and your own maternal instinct.

To be successful in infant feeding your watchwords must be Punctuality and Cleanliness.

TABLE OF FLUID MEASURES

60 minims = I drachm = I teaspoonful

2 drachms = I dessertspoonful

4 drachms = 2 dessertspoonfuls = 1 tablespoonful

8 drachms = 1 ounce = 2 tablespoonfuls

20 ounces = I pint

CHAPTER IV

THE NORMAL FUNCTIONS OF THE INFANT

THE BOWELS .- For the first few days of life a baby's motions consist of a darkcoloured substance which is called meconium. It is still the custom of some nurses to administer a dose of castor oil during this period in order, as they say, to "cleanse the baby"; this is a most ignorant and reprehensible thing to do, and is merely starting the infant on the downward path which leads to chronic constipation. In this as in all other matters connected with the rearing of children the rule should be to follow Nature as nearly as possible, and the giving of drugs to healthy children is no part of the scheme of Nature. In from one to three days the stools become yellow in colour and of fluid consistence. During the first two months of life about four motions are passed a day; this amount gradually diminishes till during

the second year there are two motions in twenty-four hours. The consistency of the stools also gradually changes, but it is not till the third year that they become properly formed. Abnormalities in the motions often give important indications as to errors in feeding. I shall deal with them in a later chapter, but I will say now that whenever it is necessary to call in a doctor to see a sick baby the napkins should always be saved for his inspection.

THE URINE .-- During the first few months the water is passed very frequently, it may be as often as twice in an hour when waking and once every two or three hours when sleeping. From the eighteenth to the twenty-fourth month the interval is increased to two or three hours during the daytime and from four to six hours during the night. At three years old a child will sleep about eight hours without passing urine. The urine ought not to leave a stain on the napkin; if it does so it is a sign that the baby is not getting enough water, which should be corrected by giving two teaspoonfuls of water between the feeds. When it is eighteen months old or a little more a child is able to control the

FUNCTIONS OF THE INFANT

passing of its urine, but even before it is one year old it can generally be taught to indicate by signs its desire to do so. The same thing applies to the motions, and at three months old babies should be put on a small chamber shortly after feeding. There are some babies who cannot be trained to pass their motions in this way at so early an age, but it is always worth trying. If successful there is an immense advantage gained in the early inculcation of a habit of regularity, to say nothing of labour saved in the changing and washing of soiled napkins. When a baby is eight months old it should be trained to do without napkins; this can be done by leaving off the napkin for two or three hours during the day and gradually lengthening the interval. The napkins must be changed as soon as they are soiled, they must not be too bulky, and they must not be washed with soda. The neglect of any or all of these points will cause that very troublesome soreness of the groins and buttocks which is so often seen in infants. When this condition arises it is customary to jump to the conclusion that soda has been used in the washing, and if the napkins have been washed at home so that this cause is

known to be impossible the nurse and mother are at a loss to account for the trouble. As a matter of fact the trouble is far more often due to the two first-named causes than to the last; and of these two the second is the more frequently overlooked.

SLEEP.—From the first infants should be put to sleep in a cradle and never be allowed to occupy the mother's or nurse's bed. There are several reasons for this. First, there is the grave danger of "overlying," an accident which has accounted for many a tragedy. Then there is the question of fresh air; it is certain that a baby which is "snuggled" up to its mother day and night will be constantly breathing vitiated atmosphere, and fresh air is even more important for babies than for adults. Then again a baby who occupies its mother's bed will often develop a habit of sucking at the breast while the mother sleeps, and seeing that regularity of meals is one of the most important points in infant feeding, this habit can be productive of nothing but harm. The cradle should be furnished with a firm hair-mattress and a low pillow, and the bed-clothes must not be too heavy. It is very common nearly to smother

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babies with bedding in order to keep them warm. Certainly it is very necessary to keep them warm, but the object is far better attained by putting a hot-water bottle in the cot than by piling on the blankets. A caution is necessary with regard to the hot-water bottle; this must always be wrapped in flannel or a blanket and so disposed that it does not touch the baby. If this is not done there is grave danger of the baby being burned-a very serious accident indeed. The nose and mouth must not be covered by the bed-clothes; if they are the baby will be constantly breathing the same used-up air over and over again. The bedroom must be kept warm by means of an open fire, but it must also be kept well aired either by keeping a window open night and day or by means of a ventilator in the window. Of course the baby must not lie in a draught, but this can easily be avoided by the use of a screen if necessary. The cradle should not be rocked nor should the baby be lulled to sleep by being carried about the room in its nurse's arms or by any other artificial means. Once the baby has become accustomed to such measures-and babies acquire habits very quickly—it will

refuse to sleep without them; it will be in the position of the adult who has become a slave to sleeping draughts. And here I shall be told, as I have often been told before, "If the baby won't sleep you must do something." Certainly; you must try to find out what is keeping it awake and remove the cause. This may be one of several things. It may be a wet napkin, it may be that the bed-clothes are too heavy, it may be that the child is not getting enough fresh air, it may be that its feet are cold, it may be that its clothes are uncomfortable, or it may be merely that it wants a change of position in its bed. In each of these events the remedy is obvious. Other and less easily combated causes of sleeplessness are indigestion, flatulence, and teething; these will be dealt with later. In older children wakefulness is often caused by the last meal being given too near bedtime, often too by excitement just before going to bed; all romping games should be stopped and followed by a quiet half-hour before bedtime. I have only been dealing here with the causes of occasional sleeplessness; if a child is habitually wakeful it is a sure sign that it is not well, and a medical man should

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be consulted. I need hardly say that none of the advertised soothing powders and syrups should ever be given in any circumstances.

During the first months of life, a baby spends most of its time asleep, and at the age of six months it sleeps about sixteen hours out of the twenty-four. From one to five years old a child requires about fourteen hours' sleep, from five to seven years it requires about twelve hours, and from seven to ten years it requires about eleven hours. Children should not be kept up late at night; from the age of two to six they should go to bed at six, and from six to ten years old bedtime should be from seven to eight o'clock. Young children should always take a midday nap, and this should be continued till they are six years old. All children should have separate beds; they should not occupy the same bed with their nurses, not only because it is unhealthy to do so, but for other reasons which I need not particularize.

The breathing during the sleep of childhood is often irregular, so that if you notice this phenomenon in a child that otherwise appears to be healthy you need not be alarmed by it.

CRYING .- It is much too commonly assumed by mothers and nurses that because a baby cries it must be hungry, but this is by no means always the case. The causes of crying are very much the same as those of sleeplessness, viz., a soiled napkin, cold feet, uncomfortable clothing, indigestion, flatulence, and teething. Also, crying is often due to thirst, in which case two or three teaspoonfuls of cold water should be given. You must always try to find out the cause of the baby's unhappiness and deal with it accordingly; but even supposing hunger to be the cause, it is never right to soothe the baby by putting it to the breast or giving it the bottle at improper times. If you do you will doubtless stop it crying for the time being, but in a very little while it will start again; it will then be fed again and so on till its digestion is thoroughly upset and both it and you are thoroughly miserable. Screaming is far more often due to over-feeding than to hunger. If a baby starts crying before its proper feeding time you must be firm and refuse to feed it till the proper time arrives. A baby soon gets to know that it cannot get all it cries for, and when it finds that its crying is

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unsuccessful it will soon relinquish it. But healthy baby does not cry persistently. If your child does so, look well into your methods of feeding, and there you will very likely discover the cause; possibly you have been irregular in the feeds, or perhaps you have let the baby bolt its food, or maybe the food itself is unsuitable. If you cannot liscover what is wrong yourself, seek expert dvice and you will save yourself much rouble and worry. One of the commonest causes of crying is flatulence, the approbriate treatment of which is given later. Another possible cause which should not be overlooked is a carelessly applied pin which ss sticking into the baby. The easiest way to woid this accident is to use no pins at all or fastening the clothing. With a little experience a mother can tell by the character of the cry whether the baby is suffering from nunger, cold, pain, or "temper." It is difficult o describe the characteristics in words, but hey may be learnt from observation. Babies do not shed tears till they are three or four months old.

Then we come to the question of the "dummy soother" or "comforter," an

implement which is universally condemned by the medical profession and almost universally employed by mothers. I have seen women pushing this thing into babies' mouths against the babies' will, and I have even heard nurses complain that the baby will not take its 'comforter.' I have seen mothers of the "wellto-do" class pick up the "dummy" off the floor and give it to the baby to suck. Would any decently brought up woman deliberately eat dirt herself? And yet she thinks nothing of introducing noxious germs into the delicate mouth of her infant! But dirt is not the only evil. After a time a hole is worn in the top of the teat, and through this the baby sucks its stomach full of wind. By constant sucking the proper development of the soft infantile bones of the face and palate is interfered with, and it is probable that the use of the 'soother' is largely responsible for the great prevalence of adenoids. Quite apart from physical drawbacks, the use of the 'dummy' is a bad habit, and is therefore morally indefensible. If you must do something with a crying baby the cause of whose trouble you are unable to discover, try swabbing out the mouth with a piece of

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This at any rate is cleanly, and where teething is the trouble, will very often be successful.

CHAPTER V

HYGIENE

BATHS.—Children perspire freely and therefore require more bathing than adults. Infants should be given a bath twice daily, and this should be continued up to the age of three years; after that age one bath a day should be given.

The temperature of a baby's bath should be from 95° to 100° F., which should be tested with a bath thermometer and not by the nurse's hand. The bath must always be given in a warm room and, in winter, in front of the fire. During the bath the clothing should be warmed, ready to put on immediately afterwards. Use plenty of water, so that the baby is really immersed in the bath and not two-thirds out of it, as is so often the case. Use a simple, non-irritating soap. I do not wish to advertise any particular brand, but there are several good ones on the

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market; there are also a good many bad, and one of the best advertised is one of the worst. After the bath the baby should be exposed as little as possible; it should be rapidly dried by gentle rubbing—not dabbing—with a soft towel. Particular attention must be paid to the armpits, the groins, and other folds of the skin. These situations, after being well dried, must be powdered with an unirritating powder. Here is a good formula for a powder which any chemist will make up—

Boracic acid - - - 1 part
Oxide of zinc - - 3 parts
Starch powder - - 6 ,,

No powder should be applied to the genitals of a female baby.

As the child grows older the temperature of the bath may be gradually lowered. Some people believe in giving children (not infants, of course) cold baths, the idea being that they harden the skin and prevent 'catching cold.' Personally, I have no great belief in cold baths either for children or adults; the warm bath is undoubtedly more cleansing than the mecessarily brief cold one, and warmth, especially if followed by a brisk towelling, is

far more stimulating to the skin than cold. Even the advocates of cold baths will agree that unless a child feels a warm glow after a bath without the aid of towelling, or if any shivering or blueness of the skin results, a warm bath is the proper one for that particular child.

While on the subject of baths a word may be said about sea-bathing. This is excellent for children in warm weather provided they are not frightened by it. Sea-bathing should be begun at low tide on a perfectly calm day. The sight of waves is very terrifying to a small child, and it is cruel to plunge him into them; any good that such a procedure may do his body is far more than counter-balanced by the harm it will certainly do his brain. Nothing that frightens children can ever do them good. On the other hand, by carefully accustoming them to a smooth sea, all but the most timid children can be got to enjoy and gain great benefit from sea-bathing. As early as possible they should be taught to swim, though this is best learnt in a swimmingbath.

But if sea-bathing is good for children, "paddling" certainly is not. They generally

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enjoy it, and to that extent it may be beneficial, but to keep the feet in cold water while a hot sun beats down on the head cannot be a wise procedure. I believe that many children who get 'out of sorts' at the seaside owe their trouble to the practice of "paddling."

CLOTHING .- Clothes should be warm, light, and comfortable, and they should not impede movements. Many babies suffer under faults of clothing, and all babies would I believe be better off if the long-clothes custom were abandoned. Long clothes have the advantage that they keep the legs warm, but they have also the great disadvantage that they prevent them from being freely moved. A baby's instinct is to exercise its legs by kicking, and how can it kick when it is swaddled up in yards of "baby-linen"? Warmth of the lower limbs can be far better attained by means of a pair of knitted woollen drawers reaching well down to the ankles; in addition, of course, the usual worsted socks must be worn. Take again the case of the abdominal binder; that also has the advantage of providing warmth, but the disadvantage that, if too tightly applied, it impedes the

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movements of the abdominal muscles. I suppose the idea in firmly binding the abdomen is to prevent protrusion of the navel, but the effect in this direction can be little or nothing; what really keeps the navel in position is the proper development of the abdominal muscles, and if you interfere with their movements you interfere with their development, so that a tight binder defeats its supposed object. Nevertheless, I am not advocating the abandoning of the binder, because it does serve a very important purpose in keeping the abdomen warm. Only it must be carefully and properly applied; that is to say, it must be put on firmly but not tightly, coming well down over the hips so that it stops in position and does not ride up over the chest. One often sees the binder not subserving its one useful function at all, but leaving the abdomen bare and only adding one more covering to an already over-burdened thorax. The commonest mistake in clothing infants is to overload the chest and at the same time leave the abdomen and lower limbs practically unprotected. Now, it is quite as important to keep the lower part of the body warm as the upper, and you can do it by means of the

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well-applied binder and the woollen nether garments. But you must be careful to keep these garments dry, and of course whenever any of the clothing becomes wetted it must be changed at once.

But if it is very necessary to keep a baby warm it is also possible to go to the other extreme and keep it too hot. No definite rules can be laid down as to the exact number of garments an infant should wear, because it must necessarily vary with the season, the climate, and the idiosyncrasy of the individual baby; the index must be the state of the baby's skin. This should feel warm to the hand, but not moist. If a baby sweats it is a sure sign that it is too warmly clad.

Supposing that the long-clothes fashion has been followed, a baby should be "shortened" when it is from two to three months old, if that happens in the summer, or when it is from three to four months old if it happens in the winter. As to materials, the old dictum was, "A child should always wear flannel next the skin." But flannel is a bad stuff for underclothing; it is much too irritating for the delicate skin of a child, and, further, it prevents the natural evaporation

of moisture from the skin, thus giving rise to lassitude and fatigue. The best material to be worn next the skin is loosely woven silk, but it is expensive to buy and does not wear well. Closely woven cotton and linen goods are bad, but the "cellular" and "mesh" forms are good, and in my view better than anything made of wool. If woollen undergarments are worn at all next the skin (flannel is a form wool) they must be of the very finest wool; Jaeger clothing is made of camel hair, which is practically a very fine wool. "Flannelette" should not be used in any part of a child's clothing; it is highly inflammable, and has a long list of tragedies to its discredit. It is one of those damnably cheap things that often cost terribly dear. "Non-inflammable flannelette" is noninflammable till it has been washed.

Children's undergarments should be changed at least once in twenty-four hours, and of course the same clothing must not be worn night and day. "Chest-protectors" and wash-leather waistcoats are, I hope, things of the past, and so ought throatmufflers to be; such things merely lower a child's resistance to cold. But if "coddling"

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is bad, it is necessary to say that the so-called "hardening process" is often equally bad. To send children out in all weathers with no hats and no stockings is nothing short of ridiculous. The head requires protection from the sun in summer, and the legs need to be kept warm in winter. It is true that many children survive the "hardening process," but it is on the principle of the 'survival of the fittest,' and even if you hold the doctrine that the weakest ought to go to the wall you are presumably not prepared to apply it to your own children. What you have to aim at is the happy mean between silly-softness and foolhardiness, and you can only achieve that by the application of common sense. Remember always that children's clothes should be warm, loose, and light, and that whenever they are damp they should be changed at once. Particularly, wet shoes and stockings should be avoided, for a child will take less harm from sitting in wet clothes with dry shoes and stockings than it will from wet shoes and stockings with the rest of the clothes perfectly dry. The most important maxims to be observed in the clothing both of infants

and older children is this; Keep their feet warm.

THE NURSERY .- This should be the sunniest and best-ventilated room in the house. If possible the aspect should be to some southerly point, and an upper room is preferable to a ground-floor room because there is more air upstairs. The temperature should not be allowed to rise about 60° F. or to sink below 55° F., and this temperature must be maintained by an open coal fire. Coal fires act as admirable ventilators, but gas fires, even when provided with a flue, do not. Electric, hot-air, and hot-water radiators must never be used to warm a nursery. A thermometer should be kept in the room, and the common mistake of keeping the nursery too hot must be avoided. In America, where all living-rooms are kept much warmer than in England, it is customary to maintain a temperature of from 65° F. to 70° F. in nurseries. During clement weather the windows should always be kept open at the top, but during very cold weather ventilation must be maintained by some sort of mechanical contrivance. A very good and

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simple one is Hinckes Bird's device, which consists in raising the lower sash of a window by an accurately fitting block of wood; by this means a space is left between the meetingrails in the middle of the window, and a stream of air is constantly directed towards the ceiling. Whenever the nursery is unoccupied it must be thoroughly aired by opening wide the windows, and this should be done for at least an hour every day. Heavy curtains and carpets should be avoided because they harbour dust, but I see no reason for banning pictures and generally making a nursery into a sort of aseptic chamber, as is sometimes advocated. After all, we live in a dirty world, and children have got to get accustomed to a little dust, though it is best taken in homeopathic doses. Soiled napkins and linen should not be left in the nursery, but should be at once put into a covered receptacle and removed; nor should the airing of bedding be carried out in the nursery. When the children are absent from the nursery the windows should be thrown open wide and the room thoroughly aired. The best illuminant for the nursery is electric light, properly shaded; the

inverted incandescent gas-burner is the next best form of lighting, but the old-fashioned 'fish-tail' gas-burner should be avoided because it vitiates the air to a marked degree. For infants the temperature of the room at night should be the same as during the day, while for older children the night-nursery may be kept at a somewhat lower temperature than the day-nursery. But there must be a plentiful supply of fresh air; children, relatively to their body weight, use up more air than adults. Here again the wood block to the window, spoken of above, will prove useful. The gas must never be left burning during the night; for children who are afraid to sleep in the dark a nightlight will give a sufficient sense of security.

FRESH AIR AND EXERCISE.—I believe in taking babies out of doors during the first week of life, even as early as the second day, provided of course that the weather is reasonably mild. This does not apply to premature or feeble infants, but for healthy babies I would say: let them be taken out the first fine day, always supposing there is not a cold easterly wind. It is good for

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babies to sleep in the open, though some people have an unreasonable prejudice against this, and on a warm day a baby may be put out of doors to sleep in its perambulator. While sleeping out of doors the eyes should, till the baby is three weeks old, be shaded from the light by means of a hood to the perambulator, but unless flies or mosquitoes are prevalent no veil or other covering for the face should be worn. Children past the age of infancy can hardly go out of doors too much except when a cold east wind is blowing; in that case the time spent out of doors should be brief, and for very young children or for those who feel the cold excessively it is better suspended altogether. Do not keep children at home at every sign of rain; an occasional wetting does them no harm provided they are properly clad and the clothes, particularly the boots and stockings, are changed as soon as they get home. Also, see that the boots are thoroughly dried before they are worn again -a point that is often overlooked. If the weather is too inclement for the children to be taken out they should be dressed in their outdoor clothes, the nursery windows should be thrown open, and for a quarter of an hour

or so they should play at going out for a walk. This gives them the benefit of the fresh air and can be made into quite a successful game.

Exercise for infants consists mainly in kicking, therefore let their clothing be such that there is nothing to prevent the free movements of the limbs. Let them kick as much as they will during and after their bath, and several times a day remove the napkin, which must always to some extent impede the action of the legs. When the crawling stage has been reached allow a baby to crawl as much as its wants to, and when it begins to walk let it follow its own devices.

It is difficult to lay down precise rules for the amount of exercise which should be prescribed for older children, but, speaking generally, though it may carry them to the point of fatigue, it should never let them reach the point of exhaustion. The daily walk is good, but it must be a walk and not a nursemaid's crawl; the use of the hoop is to be recommended for children who are old enough, because it involves more active exercise and adds interest to the walk. Almost all games are good for children, but games

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blayed in the open air are far superior to hose played under cover. No system of gymnastics or "physical culture" carried out indoors can ever approach outdoor games in value. Let the children make as much noise as they like over their games; to shout is good for their lungs, and besides it shows that they are enjoying themselves. Children should be allowed to mix with other children as much as possible, otherwise they miss the natural incentive to take exercise; and herein lies one of the disadvantages of the one-child family.

THE PERAMBULATOR.—The baby's carriage should be slung on good springs and be so constructed that the baby can lie down in it. In both these respects the 'go-cart' fails, and is therefore to be condemned. Worse even than the 'go-cart' is that modern type of 'pram' in which the child sits raised only about a foot above the ground, a prey to all the dust and dirt that is blowing. This kind of pram is a reversion to the egg-box on wheels so popular in the slums, and except in appearance is but little superior to it.

CHAPTER VI

PROGRESS

GROWTH —The average weight at birth of a full-term baby is seven pounds. During the first three days there is generally a loss, but when the mother's milk appears the baby starts to put on weight, and this continues at the rate of about seven ounces a week for the first three months. Not all babies gain weight to this amount, and a less gain may be quite consistent with perfect health and nutrition, but an increase of anything less than four ounces a week is unsatisfactory. At five months old a baby weighs twice as much as it did at birth, and at one year old it weighs three times as much (i.e., 21 lbs. on an average). At two years old the average weight is twentyeight pounds, and at seven years old it is forty-nine pounds. From the third year to the tenth the average annual increase is four pounds, and from the tenth year onwards it is

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from six to eight pounds. You must not, however, expect a uniform gain of weight week by week. Mothers are often needlessly alarmed because the weekly increase has fallen short of the normal in any particular week, but provided there is an increase and the average is up to the standard there is no need to worry. With this reservation a record of a child's weight gives important information as to its progress and the state of its health, and regular weighings should be part of the child's routine. It should be put on the scales once a week during the first six months, once a fortnight during the second six months, and once a month during the second year.

The length of a baby at birth is about nineteen inches, and it grows at the rate of about three-quarters of an inch a month for the first year, the average height at that age being twenty-seven inches. During the second year the growth is from two to five inches, during the third year it is from two to three and a half inches, and during the fourth year it is from two to three inches; from the fifth to the fifteenth year the yearly gain is about two inches.

The following table worked out by Dr. Stephenson from the total of English and American statistics shows the averages of height and weight for boys and girls from five years old onwards—

Boys.			GIRLS.		
Age.	Height in inches.	Weight in pounds.	Age.	Height in inches.	Weight in pounds.
5 6 7 8 9 10 11 12 13 14 15 16 17 18	41·30 43·88 45·86 47·41 49·69 51·76 53·47 55·05 57·06 59·60 62·27 64·66 66·20 66·81	40.49 44.79 49.39 54.41 59.82 66.40 71.09 76.81 83.72 93.46 104.90 120.00 129.19 134.97	5 6 7 8 9 10 11 12 13 14 15 16 17 18	41.05 42.99 44.98 47.09 49.05 51.19 53.26 55.77 57.96 59.87 61.01 61.67 62.22 62.19	39.63 42.84 47.08 52.12 56.28 62.17 68.47 77.35 87.82 97.56 105.44 112.36 115.21 116.43

THE TEETH.—As is well known there are two sets of teeth—the temporary or "milk" teeth and the permanent teeth. The first tooth usually appears in the centre of the lower jaw about the seventh month, and by the time he is twelve months old a child

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should have eight teeth, while at the age of two years he should have his full set of twenty temporary teeth. The following table gives the order and average dates of appearance of the temporary teeth—

Two central front teeth in lower jaw - 7 months.

Two central front teeth in upper jaw - 7½ ,,

Two lateral front teeth in upper jaw - 9 ,,

Two lateral front teeth in lower jaw - 9½ ,,

Four double teeth (first molars) - 12 ,,

Four "eye" teeth - - 18 ,,

Four double teeth (second molars) - 24 ,,

The order of appearance is fairly constant, but the dates are very variable; thus, some children will cut their first teeth at four months (very rarely_a child is born with a ttooth already cut), while others will not start tteething till nine or twelve months, and this condition is quite consistent with perfect health. It is true that late eruption of the teeth may be caused by rickets, but because your child has cut no teeth when it is nine months old you will not from that alone be justified in jumping to the conclusion that it is 'rickety.' Sometimes late teething runs in families. The permanent teeth are thirtytwo in number. They begin to be cut at the sixth year, the first molars being the first

to appear, and they continue to be cut at the rate of a pair of teeth in each jaw every succeeding year up to and including the twelfth. Thus by the time a child is thirteen it should have all its teeth except the wisdom teeth, which are not cut till childhood is past.

THE DISORDERS OF TEETHING .-Many children cut their teeth without any disturbance to their health and with practically no pain. Unfortunately this is not always the case, and the period of dentition is often one of great discomfort and sometimes of actual sickness, though at the same time illnesses are too often attributed to the effects of teething when they are merely coincident with it. Sleeplessness is a common trouble and so too is loss of appetite; sometimes there is a failure to gain weight, and sometimes, though rarely, an actual loss. Some children have a cold with every tooth they cut and others suffer from diarrhœa. Vomiting also may occasionally be caused by teething, and there are sometimes violent fits of screaming without any apparent pain. Convulsions, running from the ears, and various skin diseases have been ascribed to the effects of teething,

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but in these cases the causation is doubtful, to say the least. As far as convulsions are concerned it is questionable if teething alone will cause them, though it may be a contributary cause.

In dealing with a baby who is teething the point to be remembered is, not to treat any disorder from which it may be suffering as "merely due to teething," and therefore trivial. If you do, an ailment which is slight in itself may develop into a more serious one; thus the neglected cold may give rise to bronchitis, and a neglected bronchitis may grow into broncho-pneumonia.

As to the treatment of a child who is in trouble with its teeth, you have in any case to reconcile yourself to a trying time. For mere fretfulness and discomfort, rubbing the gum with glycerine and borax will often prove effectual. Sometimes the doctor can give relief by lancing the gum, but not so often as mothers appear to think. What you must not do is to try to soothe the baby by putting it to the breast or giving it the bottle out of the proper time; if you do you will only add indigestion to its other troubles. If the baby has a cold you must keep it indoors,

and if it has bronchitis or you think it might have you must call in a doctor. Do not buy any of the "teething powders," which mostly contain calomel, a drug of very uncertain action, but if the baby is feverish or constipated or has any stomach disorder you may give it a grey powder with benefit. If there is diarrhœa amounting to anything more than a simple looseness of the bowels you had better seek medical advice, and this of course you must do in any serious condition which arises at this period. The cutting of the permanent teeth usually gives rise to little or no trouble.

THE CARE OF THE TEETH.—The proper care of the teeth is a subject of the very greatest importance. It is impossible for the digestive functions to be properly performed if the teeth are defective, and the amount of disease due to dental decay is far greater than is generally recognized. Digestion commences with the action of the saliva on the food, and this action is an important part of the process; but if the teeth are defective, if even there is only one tender tooth in the jaws, mastication is improperly

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performed, with the result that the food does not remain long enough in the mouth for the saliva to perform its function and is bolted into the stomach in pieces so large that the gastric juices are rendered inefficient also. Further, a mouth which contains decaying teeth is one which is constantly manufacturing poison, and this poison is all the time being absorbed into the system and giving rise to chronic ill-health, if to no more definite disease. And yet the amount of dental decay amongst children, as amongst adults, is appalling. What is the cause of this wide-spread disease? It is well known that decay of the teeth is due to the presence of harmful microbes in the mouth, so that the answer that naturally presents itself is that the reason is to be found in neglect of the use of the tooth-brush. But dental decay is just as common among the tooth-brush using classes as among those to whom the tooth-brush is known only by reputation, therefore the answer does not satisfy. Much work has recently been done on this subject, notably by Dr. Sim Wallace, and it has been proved not only in theory but in practice that the main cause of dental decay is improper diet, and this cause begins

to operate as soon as a baby is weaned. For ages it has been the custom to feed infants after they have ceased to take the breast on "pap" foods exclusively—that is to say, that though the child has most of its teeth it is given nothing to bite. The result is that the jaws and the muscles of mastication are not properly developed; and, moreover, since the food is immediately bolted without being bitten, an insufficient quantity of saliva is poured out, and therefore the natural cleanser of the mouth is withheld. As the child grows older its teeth are given more work to do, but the dietary is still faulty, for it is so arranged that the meal usually ends with the very type of food which clings to the teeth and causes dental decay.

We have, then, as the chief cause of dental decay, errors in dietary. Another cause which practically hangs on the chief cause is the habit of bolting food, another is the habit of mouth-breathing, and another is the introduction of dirt into the mouth by means of the bottle teat or the "dummy soother." This last abomination has already been condemned; the other matters will be dealt with later. As I have said, the prevention of dental decay consists mainly in keeping the mouth clean,

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and the only efficient way of doing this is by promoting the flow of the saliva and arranging the meals so that food is not left clinging to the teeth at the end of them. But there are also certain artificial ways of cleaning the mouth which help a little, but are insignificant in comparison with the natural means. A baby's teeth should be cleaned twice daily by gently wiping them with a piece of soft rag or lint dipped in some glycerine and borax. Later on a soft tooth-brush should be used, and as soon as it is old enough the child should learn to brush its own teeth. Brushing should be performed every night and morning, but it has to be admitted that the process, however carefully done, only partially cleans the teeth; for there are innumerable nooks and crannies which the tooth-brush cannot reach. And it is even possible to do more harm than good by brushing, for a toovigorous application may injure the gum margins and so set up the very trouble it is designed to avoid. Therefore use a soft brush and apply it gently and carefully,

Another article of the toilet of the mouth which may be a power for evil is tooth-powder Many of the powders sold are much too gritty,

and a gritty powder will in time wear away the enamel (which is the outer layer of the teeth) and so form the starting point for decay. The best powder for the teeth is precipitated chalk, which is quite soft and free from grit. But the only real use of toothpowder is to improve the appearance of the teeth; from the point of view of the prevention of decay it is useless. Antiseptic mouthwashes have been proposed for the same purpose, and there are many such on the market, but there is no known antiseptic which is strong enough to kill the microbes without injuring the mucous membrane of the mouth; and for the teeth to be healthy it is necessary that this membrane should be healthy and intact. Nevertheless, though antiseptics are useless, mouth-washes are helpful, and the simplest and most accessible of them all is plain water. A simple drink of water at the end of a meal does much to cleanse the mouth, and rinsing the mouth with water probably does more. As an addition to the water used for rinsing the mouth, aromatic flavouring matters such as cinnamon and cloves are useful in that they stimulate the flow of the saliva, and the mouth-wash should be slightly

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acid. You can get the chemist to make you up something simple on these lines or you can get a prescription from your dentist or doctor; but it is quite unnecessary to pay the siege prices charged for the advertised "dentifrices" of which you do not even know the composition. Let me repeat that the artificial means of cleaning the teeth, though they are pleasant and proper to be used, are as nothing to the natural means, and a child who has never used a tooth-brush but has been properly fed will have a far better set of teeth than one whose teeth have always been carefully brushed but who has been brought up on the usual and, till recently, generally accepted arrangement of diet. To many who read this book this may seem to be heterodox teaching, but it will soon I hope be orthodox to the point of being commonplace.

Once dental decay has started it is important to check it at once, and this applies to the temporary as well as to the permanent teeth. Children should be taken to the dentist for inspection of their mouths twice every year; thus many teeth may be saved that would otherwise have been lost, and much ill-health may be prevented. A word of warning would

seem to be necessary as to the choice of a dentist, and it is this-you must be careful to go to a properly qualified man. The large number of unqualified dentists who drive a thriving trade is a glaring comment on the state of the nation's teeth, to say nothing of the laxity of the law. If a man is a qualified dentist he will probably have on his door-plate either the letters denoting his qualification or the words "Dental Surgeon," "Surgeon Dentist," or "Dentist." Unqualified persons are not allowed to use these designations, and if you see on a plate or shop-window "Mr. X Artificial Teeth. Consultations 9 a.m. to 9 p.m.," or some such device, you may be pretty sure that Mr. X is not a properly qualified dentist. If he were he would use the description to which he is legally entitled. I call attention to this fact because I have found that quite a large number of people are unaware of it. Others, knowing it, patronize the quack from motives of economy. If grown people like what is cheap and nasty that is their own affair, but for goodness' sake let them get the best obtainable for their children, particularly in such a vital matter as the care of their teeth.

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MUSCULAR CONTROL, ETC .- During the first three months of life a baby has but little control over its movements, and when sat up is unable to hold up its head without support; but by the fourth month, or at latest the sixth month, it should be able to do so. At the same age it should be able to grasp objects without their being guided to its hand, though it is not till the age of eight months that it can release the grasp at will. At from seven to nine months old a baby is able to sit upright without support, and from the ninth to the tenth month it makes attempts to stand. It stands with a little help at from ten to eleven months old, and at twelve months it begins to try to walk. Walking alone begins to be acquired at the fourteenth or fifteenth month, and at eighteen months a child should walk well. The date at which a child learns to walk varies a good deal, but it should never be later than the end of the second year. And mark that a child learns to walk; it does not require teaching. As soon as a baby starts to crawl it should be allowed to do so as much as it likes. Gradually it will make attempts at standing by holding on to a chair or its mother's dress, and later it will try to walk,

at first with the aid of a supporting hand, till gradually it begins to feel sure of itself and is able to go alone. In these early days the child should never be forced to walk against its will, but should do just as much or as little as it pleases. If it is made to do more than its own inclination dictates there is a danger of producing "weak ankles" and bowed legs. All forms of apparatus for teaching children to walk are not only unnecessary but harmful for normal children.

SIGHT.—Within the first twenty-four hours a baby's eyes become sensitive to bright light, but not till it is from six weeks to three months old does it follow objects with it eyes. Mothers are often worried because they notice that their baby squints, but this merely means that it has not yet learnt to move its two eyes in harmony, and the defect nearly always disappears by the time the child is six weeks old.

HEARING.—It is said that the sense of hearing is absent at birth, but the statement is difficult of proof; at any rate noise does not disturb a baby till it is four weeks old, by which time the hearing has become good. At

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the age of three and a half months, on an average, children are able to recognize the voices of their parents and those who are constantly with them.

TASTE.—The sense of taste is highly developed at birth, so much so that a baby will quickly detect any change in the taste of its food, a fact which sometimes accounts for its refusing to take the bottle.

COMMON SENSATION.—During the first week a baby is but little sensitive to pain or other stimulus to the skin, the most sensitive region being the lips and the area round them. It is for this reason that when small operations such as circumcision are necessary it is usual to perform them during the first week in order to avoid the use of an anæsthetic.

SPEECH.—Some attempt at imitating sounds is generally made during the third month. At from nine to twelve months old a child begins to talk, using first the names of persons such as "mamma" and afterwards, at about fourteen months, the names of objects. Verbs are next acquired, so that at from eighteen months to two years old the

child uses short simple sentences. The other parts of speech follow in due course, the nice conduct of the personal pronoun being acquired last of all. Girls usually learn to talk from two to four months earlier than boys. Sometimes the acquisition of speech is greatly delayed, and though this may sometimes be due to mental deficiency it is by no means always so, and if a child is in other respects normal there need be no anxiety. The explanation in such cases is generally to be found in the fact that the instinct for speech has not arisen-in fact, the child finds it can get on quite well without talking; anything it wants it can get by pointing, and so it does not trouble to speak. If such is the cause of delay, when speech does appear it develops rapidly.

A child learns to talk by imitation, so that if you talk "baby language" to a baby you are depriving it of its only means of acquiring proper speech. There is no harm perhaps in the use of the recognized baby words such as "gee-gee" for "horse," though even so the child is learning something which it will afterwards have to unlearn, but what is foolish and detrimental is to imitate the baby instead

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of letting the baby imitate you. A child understands what you say when you call him "a good little boy" just as well as if you call him "a dood ickle boy," but he has no means of knowing that your pronunciation is utterly wrong, and so he adopts it. This keeps him backward in his speech, and he has to be learning to talk when his brain ought to be occupied with more advanced matters. A child ought to talk plainly and well at the age of four years. All forms of speech defects should be corrected early, for once they are well established they are very liable to become incorrigible and to persist through life. The commonest defect is a difficulty with the 's' and 'r,' 'th' being substituted for the former and 'w' for the latter; this difficulty must be overcome by first teaching the child the letter-sound in an exaggerated form and then tacking on a word in which the letter occurs. Thus for the lisp you will make the child imitate you in a hissing sound with the front teeth clenched and the lips open; then when that has been acquired you will introduce the required word, still keeping the sibilant exaggerated, thus: Ye-s-s-s-s-s. Then, having accomplished so much, you will gradually

reduce your sibilant to the normal. In the other case you will teach the rolling of the 'r' with the tip of the tongue behind the upper teeth, the jaws being slightly open, and you will then introduce the rest of your word thus: r-r-r-right. In both cases the child should be made to take a deep breath before each attempt, the sound being pronounced as the air is breathed out. The principle is quite simple, though it often entails a good deal of patience in practice. But the trouble is worth the taking, for however attractive a lisp may be in childhood it is a grave drawback in afterlife. One sometimes meets mothers who like to perpetuate these defects because they find them pretty, just as they like to dress their children in pretty but unsuitable clothes. It is very selfish of them.

CHAPTER VII

DIET

What food is a child to be given when at nine months old it is weaned? The usual custom, and it is one which till recently has been endorsed by the faculty, has been to give milk thickened with boiled bread or wheat flour, and to follow this with milk puddings and thin porridge. What has been said in the preceding chapter on the subject of dental decay will have prepared you for the statement that this method of feeding is wrong. Milk certainly will still form the principal article of diet, but the child has now got something to bite with, and it is surely only common sense to give it something to bite. Instead of giving the child boiled bread, which it has got to bolt without any act of mastication, give it once a day a piece of toast to chew. Let the toast be really toast and not merely bread browned on two sides—that is to say,

let the bread be toasted slowly, so that it is really crisp, and the baby will suck and gnaw at it, exercising its teeth, its muscles of mastication, and its salivary glands, and so getting the full benefit out of the food. You may be afraid that there is a danger of the baby choking, but this fear is, and has been proved to be, groundless. If the baby has been brought up hitherto on the bottle this may be continued till the twelfth month, when spoon feeding should be begun; but if breast feeding has been used I can see no object in starting bottle feeding at weaning time, and I advise going straight from the breast to the spoon. After giving one piece of toast a day for a week or so, give two pieces a day. During the eleventh month give yolk of egg daily and supplement the diet further by rusks and milk puddings. After the age of twelve months boiled fish may be given occasionally and later chicken, but still rely on milk as the staple article of diet, giving eight-ounce feeds consisting of four-fifths milk and one-fifth water or barley water. At this time there should be four meals a day, consisting of milk, broths, gravy, a little boiled fish or chicken, bread-crumbs fried in bacon fat, the yolk of

an egg, and always some toast or rusks dry and not soaked in milk or broth. In addition to these articles of diet two tablespoonfuls of fruit juice should be given daily, the best time for administration being one hour before feeding. Potatoes and gravy is a popular dish at this age, but potatoes are difficult of digestion and very liable to cause rickets; they should not be given till the age of two years. At the age of eighteen months the meals should be made more solid, and beef and mutton may be introduced; these meats should not be pounded, as is usually advised, but they should be cut up into small pieces so that while there is no danger of choking there is still something solid to bite. Green vegetables may be given at two years old; they must first be given in small amounts, because many children dislike them, and it is only by giving them cautiously and tactfully that this dislike can be overcome.

You have now the necessary information for feeding a child during the second year of life, and from it you can easily construct a varied and appropriate diet. Remember that milk is still the most important item and should be given to the extent of at least a

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pint a day; remember too that every day the child must have something to bite and so aid in the proper development of the teeth. One meal a day should include the lightly boiled yolk of an egg. Most children are able to use a spoon and to drink from a cup at the age of eighteen months.

When a child is two years old it should have cut all its temporary teeth, and the diet has got to be so arranged that while it affords the proper amount of nutrition it does not cause decay of the teeth. To this end three meals must be given a day and nothing at all between meals except water. Particularly harmful in this regard is the late supper on going to bed consisting of milk with breadand-butter or biscuits and a piece of chocolate. It is chiefly during the night that dental decay takes place, and by giving such a supper you are sending the child to bed with its teeth coated with the very substances which cause the disease. No meal must end with the foods which have been proved to give rise to decay of the teeth; for example, bread and jam or marmalade, sweet milk puddings or other foods containing a large amount of sugar. When such foods are taken they must

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be followed by something that cleans the mouth, and nothing does this better than fresh fruit, and especially an apple. Now, a whole apple at the end of a meal is more than a young child can digest, and it has been customary to forbid raw fruits to children under the age of four. But a child below this age will take no harm from a peeled slice of raw apple provided its digestion is good; and if it has been brought up on food which teaches it to masticate and prevents "bolting" it is pretty certain that its digestion will be good. The two chief things to be considered in feeding children are the quality of the food and the way it is eaten; the quantity may generally be left to the child's own appetite to decide, provided the food is of a suitable kind and it is eaten in a proper manner-that is to say, slowly. Make your children eat slowly and they will seldom eat too much. Children often hurry over their meals because they want to get back to their games or because they have to get back to school. This must never be allowed; a sufficient length of time must be set apart for each meal, and no consideration whatever must be allowed to cut it short. Sometimes, so far from hurrying

over their food, children will dawdle over it. It may seem a paradox that dawdling may lead to bolting, but so it often is; for a mother or nurse will take the spoon to hasten matters, and shovel food into the unfortunate child's mouth at such a rate that no act of mastication can take place. When it is necessary, as it often is, to help on the meal in this way, take care to feed slowly, and let there be a well-marked interval between the spoonfuls. It need hardly be said that meals should have their appointed times and that these times should be strictly adhered to. The intervals between meals should be from four to four and a half hours.

There follows a list of foods, in which I shall point out which are suitable and which are unsuitable for children, and from it you will be able to construct your nursery menu.

MEATS.—Beef and mutton are the best meats, and it is better if possible to give them underdone. The latter is the more digestible of the two, and lamb is far less digestible than either. The breast of chicken and turkey are good, and the gravy of fried bacon is excellent for breakfast. Bacon fat may be

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given after the age of three. Sweetbreads, tripe, and brains are all digestible. Mutton, beef, chicken, and veal broths are all allowable; meat soups are better than vegetable ones. The forbidden meats are: pork, veal, ham, sausage, corned beef, twice-cooked meats, goose, duck, game, kidney, and liver.

FISH.—The best are boiled sole, plaice, turbot, and hake. Whiting and cod may also be given, but salmon, herrings, eels, mackerel, all shell-fish and all dried or salted fish, must be avoided. Sardines in oil are wholesome and nutritious and may be given for tea.

VEGETABLES.—Fresh green vegetables (without stalk) are all wholesome, especially spinach, asparagus tops, seakale, stewed celery, cauliflower head, and mashed brussels sprouts; vegetable marrow and young green peas may also be given, but the latter should be well mashed or put through a sieve. Potatoes may be given in small quantities; children are generally very fond of them, but they are one of the most fecund sources of indigestion. The vegetables to be avoided are: onions, radishes, lettuce, raw celery, cucumbers, beetroot, carrots, turnips, tomatoes, mushrooms, broad

beans and, of course, pickles. Vegetables should not be given fried.

MILK.—Though milk represents the most important article of diet during the first two years of life it has to be remembered that it is not the most important after that time. It is a common mistake to give children an excess of milk and thus interfere with their appetite for other foods. Nor is milk by any means easy of digestion for many children, and it is often better to give it diluted.

Cream is a valuable addition to the diet, especially where there is a tendency to constipation; it may be given on the potato, or may be added to broths or puddings to the extent of from two to eight tablespoonfuls a day.

EGGS.—These are excellent food for children, though exceptionally they disagree. They may be given for breakfast or supper ("tea" if you prefer to call it so), and children who take them well may have one or even two a day. Eggs must be lightly boiled or poached, or they may be given raw; they must never be hard-boiled or fried. There seems to be a prejudice against eggs for children, but it is

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quite unfounded. In all but very exceptional circumstances they are one of the most nutritious and digestible foods.

PORRIDGE is a very popular breakfast dish—much more popular than it deserves to be. It may be given occasionally, but should not, in my opinion, be given daily, as it so generally is. It very often causes indigestion, and not infrequently kills the appetite for other and more suitable food.

PUDDINGS.—Custard and junket are very good and digestible; rice, sago, and cornflour puddings may also be given, but these are starchy things, and starch is the most frequent cause of indigestion. When a child has some digestive disturbance its mother generally cuts out the meat, which is probably doing no harm, whereas the trouble really arises from an excess of bread, potatoes, and milk puddings. This is not to say that milk puddings are not wholesome in ordinary circumstances, but given in excess they certainly are. Pies, tarts, pastries, and puddings containing dried fruits should not be given.

BREAD.—As has already been pointed out,

it is better to give newly weaned babies toast to chew than to give them bread soaked in milk, because toast makes them bite; and for the same reason toast, baked bread, and crusty rolls are better than plain bread for older children. There is a wide-spread belief that "whole meal" bread is more digestible than white bread, and so it is often given the preference in a child's dietary, particularly if the digestion is weak. Unfortunately, the truth lies in an exactly opposite direction, for "whole meal" bread owes whatever virtue it possesses to the fact that it contains a good deal of indigestible matter, and therefore, being irritating to the intestines, acts as a laxative. A common dietetic error is to allow too much bread in the meals. Many children will, if they are allowed to, live almost exclusively on bread-and-butter. But they must not be allowed to.

FATS.—A certain amount of fat is a dietetic necessity, and a child gets it in various forms. The best form I think is cream, which is the fat of milk and which has been referred to above. Then there is butter, very good in moderation, and there is also "dripping," a most excellent

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stuff which children generally are very fond of and which, as far as my observation goes, they very seldom get. I suppose there is a prejudice against it; at any rate, I once saw the report of a district visitor who inserted as a heart-rending item that at one cottage she had seen the children eating bread and dripping. The lady might have saved her pity for a more deserving object. Another excellent form of fat is bacon fat and bacon "gravy," which, as a rule, is thoroughly enjoyed; and there is also a high proportion of fat in yolk of egg. We have, then, many forms of fat which children take well and pleasurably. There remains another form which, though some children like, many of them hate, and that is the fat of mutton and beef. Now, on behalf of many suffering children, I beg of parents not to force this form of fat on the unwilling palates of their offspring. It is a cruel thing to do, though of course it is well-intentioned, like many cruel acts, and it is quite unnecessary. And not only that, but it is generally futile; for if a child is coerced into eating fat a loathing for it is created which often lasts a lifetime, whereas if the child's palate is

not outraged by forcing, the liking for fat is acquired insensibly. When it is necessary, as it sometimes is, to add fat to the diet, it may be given in the form of cod liver oil, which, though it is extremely nasty to an adult's taste, is often well liked, or at all events not objected to, by children. It should be given after meals, and the dose should not exceed ten drops night and morning. I mention this because the amateur prescriber generally gives too much. Cod liver oil may be usefully combined with malt extract, but see that the preparation bears the name of a reputable firm of manufacturing chemists, for there is much inferior malt extract on the market. The oil may also be given in the form of an emulsion, and is then more palatable than in the crude state.

CAKE.—The most wholesome cake is Madeira cake, and after this comes sponge cake, but any sort of cake should be looked on as an occasional luxury and not as a food. Fruit cakes should not be given to children below the age of six.

FRUITS.—Some sort of fruit ought to be given every day, and quite young babies

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may be given orange juice or grape juice. Oranges are very wholesome, so are baked apples and so are stewed prunes; only, if there are digestive disturbances prunes must be withheld on account of the skins, but the juice may then be given alone. All kinds of fruit juice are to be recommended. The forbidden fruits are nuts, all dried and preserved fruits such as currants, dates, and figs; also bananas. I have a few special words of dispraise to say about the banana-or the plantain which is generally sold under that name. Some years ago somebody circulated a rumour that bananas are a highly nutritious and easily digestible food, and therefore specially suitable for children. The statement was eagerly seized upon by mothers, and the supposed truth has become so firmly rooted that when one attributes a case of childish indigestion to banana-eating one is looked upon as a crank and a faddist. But the banana, though admittedly it contains much valuable food substance, is certainly not easy of digestion. If you will only take the trouble to look at one you will see that it is largely composed of long stringy fibres, and these fibres (as anyone, even

though possessing no knowledge of physiology, would naturally surmise) are very indigestible, so much so that they are frequently passed unchanged in the motions, and have been mistaken for thread-worms. Very often fruit is given to children before breakfast; this is wrong. The proper time to give it is at the end of a meal. The rôle of fresh fruits, and particularly apples, as natural cleansers of the teeth, has already been spoken of.

PRESERVES AND SWEETS.—A little wholesome jam is I think a useful addition to a child's diet, only, for reasons stated above, it must not be given at the end of a meal, and particularly not at the end of the last meal of the day. The best jams for children are the jelly jams, because they contain no skins or pips. The question of allowing children to eat sweets is at the moment a vexed one. Nobody will deny that the promiscuous consumption of sweets at all times of the day and at the expense of the proper meals is harmful; nor will it be disputed that most of the sweetmeats sold in the shops are very unwholesome. The only question is whether,

and to what extent, sweets are responsible for dental decay, and the opinion of the dental profession is that they are very largely responsible for it. As before mentioned, starchy foods and sugar cling about the teeth and set up those processes which are known to attack the teeth; it would therefore seem obvious that such things should not be given at the end of a meal; and seeing that dental decay makes most progress at night they most certainly must not be given at bedtime. The piece of chocolate in bed, however harmless it may appear to be, is in reality fraught with danger to the teeth. On the other side, it is argued that children are very fond of sweets, and that this fondness is simply the expression of the need of the organism for sugar. Well, most men are fond of alcohol and tobacco, but nobody seriously argues that alcohol and tobacco are therefore a necessity to them; and, as a matter of fact, Dr. Sim Wallace has found that children who have been brought up on food which teaches them to bite have not this craving for sweets; and, further, that such children prefer to spend their money on toys and not on sweets, even when no restrictions are placed on them and they

are given complete liberty of choice. If sweets are given at all they ought to form part of a meal, and they must not be the last item in the meal.

DRINKS.—The best drink for children is water, and they may have as much of it as they like; it does them good. If a child is thirsty between meals let it be given a drink of water, and it will be found that much supposed hunger is really thirst, and the apparent necessity for eating between meals will be done away with. Drinking-water is better filtered if a reliable filter is used, but most forms of filter, after they have been in use a little time, are merely storehouses for germs, and so only aggravate what they are supposed to cure. The only efficient filters that I know of are those that depend in principle on the forcing of water under pressure through a dense substance like porcelain: such are the Berkfeld and the Pasteur-Chamberland filters. Tea is better withheld till the age of four, and should then be given very weak and of course freshly prepared; China tea is better than Ceylon or Indian tea. Limejuice and home-made lemonade are permis-

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sible as occasional drinks, but should not be allowed to usurp the place of water. No form of alcoholic beverage should ever be given to children except as medicine, and strictly under doctor's orders. To recapitulate, the principal points in the feeding of children—

Meals must be taken at regular hours and at an interval of not more than four and a half hours between them (excluding the night).

Three meals a day must be given and nothing between meals except water.

Children may be allowed to eat as much as they like at meals provided they eat slowly.

Excess of milk is to be avoided.

Starchy and sugary foods must not be given as the last item in a meal.

Some fresh fruit must be given daily, and it should be given at the end of meals.

Appended are sample dietaries for different ages—

9 months.—8 a.m.—Milk and water, with a yoke of egg mixed in it.

11 a.m.—A piece of toast.

1.30 p.m.—Milk and water. Ground-rice pudding.

5 p.m.-Milk and water.

I year.—8 a.m.—Bread-crumbs fried in bacon fat.
Milk and water.

11 a.m.—Rusks, or milk and water.

1.30 p.m.—Boiled fish or broth. Toast. Water.

5 p.m.—Milk and water with yoke of egg (raw or lightly boiled).

18 months.—8 a.m.—Bacon gravy or egg. Milk and water.

11 a.m.--Rusks, or milk and water.

1.30 p.m.—Beef or mutton. Sago, rice, or custard pudding or junket. Water.

5 p.m.—Milk and water. Egg, if this has not been given at a previous meal.

4 years.—Breakfast.—Fish or bacon. Toast and butter. Very weak tea.

Dinner.—Meat or poultry. Salad or green vegetable. Baked bread. Fresh fruit. Water.

Supper.—Rusks, toast, or roll with butter.

Egg or fish. A piece of apple.

Water or weak tea.

The following dietary is instanced by Dr. Sim Wallace as the type which produces dental decay, and is therefore to be avoided—

Breakfast.—Porridge and milk, bread and marmalade; and a later breakfast of milk and a sweet biscuit:

Lunch.—Mashed potatoes and gravy, or minced meat, milk pudding.

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Supper.—Bread soaked in milk, or bread and jam, cocoa and cake; and a supplementary supper on going to bed of a glass of milk and a biscuit, or "just a tiny piece of chocolate."

CHAPTER VIII

COMMON AILMENTS

In dealing with the disorders of infancy and childhood I shall endeavour to indicate how, when preventable, they may be prevented rather than how they may be cured. You will find little mention of drugs in these pages, for the giving of drugs to children is a delicate matter and one to be handled only by the expert; drugs, too, really play only a secondary rôle in the treatment of disease. Nor shall I give any elaborate descriptions of diseases, for such descriptions in a book of this kind are always useless and often harmful—useless because it is impossible to learn medicine from a book, and harmful because they may lead to needless apprehension on the one hand or to a sense of false security on the other. One often meets women who, having read a detailed account of some disease, immediately find the stigmata of it in

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their babies, and not only worry themselves, which is bad, but give supposed appropriate remedies to their perfectly healthy children, which is a great deal worse. If any mother buys this book thinking that by its aid she will be able to recognize and treat every disease to which children are heirs, I am afraid she will be disappointed. And if she bought every book that was ever written on the subject she would still be in the same predicament.

JAUNDICE.—A large number of infants have this disorder. It consists in a yellowing of the skin and the whites of the eyes. It occurs on the third or fourth day of life and usually lasts four days, sometimes as long as a week, seldom as long as a fortnight. It is of no importance and requires no treatment except to keep the baby warm—a thing that ought to be done whether it has jaundice or not. There is also a more grave form of jaundice, which however occurs very rarely; but, seeing that it does occur, any sign of jaundice in the newly born should be reported to the doctor. Jaundice also occurs in older children, being commonest between

the ages of two and six. It is preceded by languor and drowsiness, and is associated with loss of appetite, fretfulness, vomiting, the passage of dark-coloured urine, and pale motions which may be either loose or constipated. It usually lasts ten days or a fortnight and is not as a rule serious, though rarely it may be a symptom of grave disease. When such a case occurs keep the child in bed, put him on slop diet, and send for a doctor.

INFLAMMATION OF THE BREASTS.

—The breasts of newly born infants frequently contain some secretion, and this occurs as frequently in the male as in the female sex. As a rule it does no harm and will disappear if it is let alone; all that is necessary is to cover the breasts with some cotton-wool to prevent friction. But there are some nurses who cannot let things alone; they say this is "stagnation of the milk" (they used to call it "witches' milk"), and to disperse it they rub and knead the breasts, causing considerable pain to the wretched infant and most probably setting up inflammation. Or they pull at the nipple "to

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break the nipple strings," whatever they may be, and thereby effect the same unfortunate result. Inflammation having started, an abscess will probably follow, and this will have to be opened and give no end of trouble. In such a case the ignorance of the nurse has made work for the doctor. Ignorance often does. I need hardly say that no properly trained nurse would ever be guilty of such stupidity; but there are still a lot of women who go out as nurses who are not properly trained.

In its mild form this amounts to nothing alarming—a redness of the membrane which covers the eye and the exudation of some sticky secretion. It is usually caused by allowing the baby to lie in a draught of cold air, though I have sometimes suspected the use of too strong an antiseptic solution to wash the eyes at birth as a cause. This, however, is a point for nurses rather than for mothers. The preventive treatment lies in keeping the child out of draughts. The curative treatment must be left to the doctor. There is also a severe form of the

disease-known as Ophthalmia Neonatorum -appearing on the second day of life, and giving rise to swelling and inflammation of the eyelids and a discharge of thick matter from the eyes. This is a most serious condition, and must be treated by a doctor at once or there is grave danger of the baby losing its sight; it is, in fact, the commonest cause of blindness. But do not, because your baby has a "cold in the eyes," frighten yourself into the idea that it will go blind. It will not. The complaint will yield to simple treatment. The grave condition of ophthalmia only occurs as the result of an infectious discharge from the mother, which no feeling of shame should prevent her having treated as soon as it appears, both for her own sake and for that of her child.

BLEEDING OF THE NAVEL.—At birth the cord (known as the umbilical cord) by which the child has gained its blood-supply while in the womb is cut by the accoucheur, leaving a stump attached to the child's navel. This stump separates off in from three to six days, and as a rule the navel rapidly heals. But occasionally, after the cord has fallen off, there

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happen at any time during the first fortnight of life. The condition may be due to certain constitutional diseases, but the commonest cause is ulceration due to lack of cleanliness. The tending of the navel is of course the nurse's business; therefore in order that that and other things are properly performed engage only a trained nurse or one who has been recommended by a doctor as reliable. When bleeding occurs, send for a doctor immediately, stating what has occurred, and until he arrives apply firm and constant pressure to the bleeding part with a pad of wool.

"STARTING OF THE NAVEL."—
(Hernia, or "rupture" of the navel.) During infancy there sometimes appears a soft rounded swelling at the navel, which becomes more prominent during crying or straining and may disappear altogether when the baby is quiet. The swelling is caused by a protrusion of a piece of gut between the abdominal muscles, and can be easily pressed back by the fingers. The condition practically always undergoes a spontaneous cure, though sometimes it may be necessary to keep the

A convenient form of pad is made by wrapping a flat piece of cork or a penny in a piece of lint; this is applied to the swelling and is kept in position by a firm abdominal bandage.

RED GUM.—This is the popular name of a rash commonly occurring in early infancy, which consists of scattered red pimples with a small yellow speck at their summit. Its appearance need cause no alarm. It generally lasts from two to six days, though sometimes it is more persistent. It is usually caused by keeping the baby too hot, and the treatment consists in removing the cause, viz., an excess of clothing. In addition, three or four times a day apply the powder recommended in Chapter V for use after the bath.

THRUSH.—This consists in the formation of small white patches inside the mouth. It is frequently associated with diarrhœa and with conditions of mal-nutrition. These conditions may indeed be a contributary cause of the disease, but the primary cause is the presence of a fungus which grows in impure

milk. Thus the disease may arise from milk which has been allowed to dry on the nipple of the mother, or, in artificially fed children, from unclean bottles or teats. Preventive treatment consists in washing the nipple before giving the breast, or, in the other case, in scrupulous care in cleansing the artificial feeding apparatus. If thrush arises the baby's mouth must be washed out after every feed with a soft rag dipped in warm water, and this must be followed by swabbing with a rag soaked in glycerine and borax. At the same time the diet will have to be looked to and probably cream will have to be added to it. Thrush is not a disease to be treated lightly.

CONVULSIONS.—Convulsive attacks, though they occur more frequently in later childhood, are by no means uncommon in early infancy. At the same time they are not so common as some nurses would have us believe. We are frequently told that a baby is suffering from "internal convulsions" when all that happens is that it draws up its legs and contracts the muscles of its face owing to the pain of flatulence. I was once

told by a nurse of considerable experience that the babies' motions were "convulsed." What she meant I have not the faintest notion, nor, as far as I could discover, had she. Convulsions occurring in the first few days of life are generally preceded by unusual drowsiness, but those occurring after the first few weeks come on suddenly and without warning.

The symptoms of a convulsion are: twitching of the muscles of the face and eyes, rigidity of the body, clenching of the fists, and shallow breathing; the face is pale and may take on a bluish tinge; sometimes there is slight frothing at the mouth. It has to be remembered that convulsions do not constitute a disease, they are merely a symptom which may be caused by a variety of conditions. What the underlying condition is in any particular instance must be discovered and if possible removed. In some cases convulsions are caused by disease of the brain, but in the great majority of cases the cause is something much simpler and more easily dealt with. The commonest cause is indigestion in some form-either the presence of unsuitable food in the stomach or some

decomposing matter in the bowels. In susceptible children convulsions may be induced by all kinds of irritation, such as the sudden application of cold to the body, teething, the presence of worms, sometimes too by the scratching of a pin in the clothing. The infectious fevers or any of the acute diseases are sometimes ushered in by a convulsion, while a very common cause is the disease known as rickets. Now, rickets, as I shall show later, is a diet disease, and it will thus be seen that the fundamental cause of most cases of convulsions is improper feeding. Feed your children at regular hours and on suitable food and you will greatly minimize the chances of their suffering from convulsions. When the condition arises it is alarming and it is serious. Send for a doctor at once and immediately prepare a hot bath (temperature 100° F.); undress the baby (do it quietly, do not get flustered) and place it in the bath; keep it there for five minutes immersed up to the neck and apply cold to the head-ice if you have it, but if not a sponge wrung out of cold water. Then remove the child from the bath, dry it rapidly but gently, wrap it up in something warm and

put it to bed with a cold compress applied to its head. Supposing by this time the doctor has not arrived and the attack is thought to be due to something that has recently been swallowed, give something to make the child sick, e.g., one quarter to a teaspoonful of ipecacuanha wine, followed by drinks of warm water. In any case, to no matter what cause attributed, a purgative should be administered at once. All further drug treatment must be left to the doctor. Sometimes one convulsion follows another in quick succession, but as a rule treatment is successful in stopping the attacks and in curing the underlying condition.

LARYNGISMUS STRIDULUS ("False Croup" or "Passion Fits").—Nearly related to convulsions and sometimes associated with them is the condition now to be described. It occurs more frequently in boys than in girls; it may appear in the first month of life and is sometimes seen as late as the ninth year, but it is most common between the fourth month and the end of the second year. The onset is usually sudden and generally occurs at night. Probably the child has gone

to sleep with no appearance of anything wrong; suddenly it awakens struggling for breath. The head is thrown back, the face is livid, and there is pallor around the mouth. The hands are clenched, the muscles of the face twitch, breathing is carried on with difficulty and may even stop altogether for a few seconds, and the child appears to be on the verge of suffocation. Then, after a time varying from fifteen seconds to two minutes, he takes a long deep breath and the worst of the attack is over. A croupy cough often remains after the seizure, and other attacks may follow either the same night or later. The causes of the condition are the same as the causes of convulsions—that is to say, mainly and fundamentally improper feeding. The children who suffer from these attacks are nearly always rickety, and very often they suffer from adenoids as well. As in convulsions, the preventive treatment consists in proper dieting and hygiene, with, in addition, the measures proper to the prevention and treatment of adenoids.

When an attack occurs, loosen any clothing that may be tight and throw open the windows. Open the jaws with your left hand and pass

the first finger of your right hand to the root of the tongue; there you will feel a plate of cartilage known as the epiglottis. Hook your finger over this and draw it forward. This manœuvre will relieve the spasm more quickly than anything, but if you are unable to accomplish it at the first attempt substitute the following: Wrap a piece of linen round the point of the tongue and seize this organ between the thumb and first finger; draw the tongue well forward, hold it there for a few seconds and then let it fall back into its natural position; keep on doing this at the rate of about eighteen times a minute-you can time it by your own breathing-pull forward once with every breath you take. Whilst you are doing this let someone else apply cold water to the face and chest, hold smelling salts to the nose, and slap the back. Rubbing the lips with a towel is also useful; so is the hot bath with cold applications to the head, but the measures above described are the more usually effective. After an attack, treatment will have to be instituted to prevent a recurrence. This of course is for the doctor to prescribe, but in essence it will consist in the exhibition of tonics, an over-

hauling of the diet, and the prohibition of too heavy clothing and confinement in stuffy rooms and of unhealthy conditions generally.

"CHILD CROWING, OR CROAKING."
—Properly speaking, this condition should not be described under the head of common ailments, for it is quite rare; but I mention it here because it is sometimes mistaken for Laryngismus Stridulus. It is characterized by a peculiar sound during breathing, which may be like the clucking of fowls, the croaking of a frog, or the purring of a cat. It occurs in perfectly healthy babies and is due to an abnormal formation of the larynx. The sound may be noticed at birth or soon after. It nearly always disappears during the second year and requires no treatment.

FLATULENCE is the commonest of infantile disorders, and it is always dependent on faults in feeding. The symptoms are well known, the most prominent one being fits of screaming; these are followed by pallor and a drawn look of the face, coldness of the hands and feet, and exhaustion. The cause of the trouble may be found in one or more of the following—

- (i) Too frequent feeding. If a proper interval is not allowed between the feeds the last meal is not digested by the time the next is taken, and there is always a residue of undigested food in the stomach. This sets up fermentation, with the evolution of gas. Further, in the case of breastfed children, if the breast is given too frequently the proportion of curd in the milk is too high, and this causes indigestion.
- (ii) Too large feeds, which cause overdistension of the stomach.
- (iii) The milk is being given too strong.

 The result is that large pieces of curd are undigested and cause griping pains. The presence of undigested curd in the motions will be an indication in this case of the cause of the colic.
- (iv) Too high a proportion of sugar in the feeds. This generally arises from adding heaped teaspoonfuls instead of level teaspoonfuls to the milk mixture.

- (v) The use of patent foods. Many of the patent foods contain starch, and as in the first six months a baby has not developed the starch-digesting part of its gastric outfit, such foods naturally cause digestive disturbances. But even those foods which contain no starch are many of them too rich in carbo-hydrates, a class of food substance of which starch is a member. The effect of this excess of carbo-hydrates is seen in loose stools, flatulence, and colic.
- (vi) Too high a proportion of cream. This probably is but rarely an effective cause, but when there are digestive troubles, and especially if they are accompanied by looseness of the bowels, it is well to try reducing temporarily the amount of added cream.
- (vii) All such stupidities as giving babies odd pieces of cake or whatever happens to be going "because they love it so." Of these evil things, Dr. Still particularly instances bananas,

"no doubt in consequence of the popular fallacy that bananas are easily digestible," and I myself have frequently seen nurslings gripping a dirty stump of this indigestible fruit, which in some families seems to have usurped the pride of place hitherto allotted to the dummy soother.

(viii) As a contributary cause of colic there must be added the too frequent and unnecessary condition of cold feet.

The treatment of flatulent colic consists primarily, like the rational treatment of any disease, in removal of the cause. Thus, if the feeds have been irregular or given at too frequent intervals they must be made regular and at proper intervals, as detailed in the preceding chapters on infant feeding. If the feeds have been too large they must be reduced in bulk, whilst if curds in the motions point to the fact that the milk is too strong it must be still further diluted; but the addition of citrate of sodium to a milk mixture generally corrects this defect in bottle-fed babies, and if this addition to the food has been omitted it should be started. When breast-

fed babies suffer from colic with the presence of undigested curds in the motions they should be given two teaspoonfuls or more of water before each feed. This dilutes the milk and relieves the symptoms.

When a baby is in the throes of colic there are certain things which are proper to be done to ease its pain, and certain other things which are very improper. It is easy to gain temporary quiet by giving the breast or the bottle, but this is only gaining immediate relief at the expense of a slightly more remote but infinitely greater disadvantage; it is, in fact, perpetuating the cause of the trouble. It is easy, too, to have recourse to the "dummy soother," which acts in a similar way; that is to say, the stomach being already distended with wind, the soother is the means of yet more wind being sucked in. Then, the limit of distension having been reached, a portion of the contained wind is eructated and temporary relief is obtained, with the complete certainty that the whole trouble will shortly recur. The pain may be relieved in the first place by position. Nurses are in the habit of turning the baby over on its stomach, putting it face downwards over their shoulders

and patting it on the back; all these methods help materially, both by assisting the child to bring up the wind and by giving the relief afforded by pressure. Hot applications also give relief, and they may be given in the form of wool or lint wrung out of hot water and applied to the abdomen; or the baby may be laid on its stomach over a rubber hot-water bottle. In all cases an enema of four ounces of warm water should be given, or, better still, one ounce of olive oil followed by the injection of warm water, and this whether the child is constipated or not. A warm bath sometimes gives relief. Internal remedies consist in the administration of some aromatic substance, of which the best known and most popular is dill-water. Such things often act like a charm and therefore justify their official name of carminative. But to rely on them instead of removing the cause is merely to lay up trouble for the future. In extreme cases you may have recourse to brandy, but only in extreme cases. Five to ten drops of brandy in two tablespoonfuls of dill-water will generally succeed when all else fails. But you must look upon it as a desperate remedy and reserve it for extreme cases.

Having dealt with the immediate necessity, once more I say: Go back to the beginning of things—the fons et origo mali—and remove the cause.

CONSTIPATION in infants results as a rule from some defect in the diet, and this defect is often a deficiency of fat. That this is the case is indicated by hard dry stools passed at the rate of two a day or less. Another dietetic cause of constipation is too high a proportion of proteid matter, and this is shown by the appearance of curds in the motions. Apart from causes connected with the diet, the peculiar anatomical arrangement of an infant's bowels often tends to cause a sluggishness of movement, and the neglect on the part of the mother or nurse to cultivate a regular habit in the child is also responsible for a good deal of the constipation of even quite young infants. With regard to treatment, this will vary somewhat according to whether the baby is breast or bottle fed; and it may be noted that breast-fed babies are far less liable to constipation than bottle-fed babies. If curds in the motions show that the milk is too strong, the baby, if it is being

breast fed, should be given water before the feeds, while, if it is being bottle fed, a further dilution of the milk mixture is indicated. When hardness and dryness of the motions show an insufficiency of fat an attempt may be made to improve the quality of the breast milk by a richer diet for the mother; or, if this fails, two feeds a day may be given, made of one teaspoonful of centrifugalized cream mixed with eleven teaspoonfuls of water. If the fat appears to be deficient in the food of a hand-fed baby it is necessary to consider whether the milk mixture is being correctly made; it may be that no cream at all is being added, or it may be that "gravity cream" is being used in the amounts that would be proper for "centrifugal cream." If this is so, the matter may be easily corrected, though it should be done gradually, like all changes in a baby's diet. But if a right proportion of cream is already being given you cannot go on adding to it indefinitely, for if you do you will only make the baby sick. You must then try to combat the constipation in other ways. Sometimes the substitution of demerara sugar for milk-sugar is successful. Barley water also acts as a mild laxative, and

it may be used instead of plain water to dilute the milk, but not for a long-continued period because it contains starch, and though the amount is small it may in time prove harmful.

Massaging the abdomen will help to tone up the intestines and overcome the anatomical disadvantages spoken of above; massage is performed by rubbing with the flat of the well-warmed hand, starting from the bottom right-hand corner of the abdomen' up the right side, across the top and down the left side, and repeating these movements for from five to ten minutes. If all else fails it may be necessary to have recourse to more drastic measures just to start things going, but you must be very careful how you give purgatives to babies. In them a habit is very easily started, but by no means so easily broken. Still, if a baby is constipated and modification of the diet does not correct it, something has to be done. I think that the administration of some form of local stimulation, either a glycerine suppository or an enema, is generally better than giving drugs by the mouth, and for this purpose either a teaspoonful of glycerine may be injected with

one of the syringes made for the purpose, or a glycerine suppository may be inserted; or an injection may be given of an ounce of olive oil followed by three or four ounces of warm water. Having cleared out the lower end of the bowel by one of these means, an opportunity is given for dietetic measures to prove efficient. Sometimes, however, it may be necessary to give drugs by the mouth, in which case it is best to give something simple like olive oil or manna, or, if these fail, grey powder. The dose of olive oil is a teaspoonful, and of manna from half to four teaspoonfuls, but as this latter is apt to gripe it is better given in a little dill-water. Grey powder you cannot measure out for yourself, but it may be obtained from the chemist's in appropriate doses for different ages; but remember that grey powder is not to be used continuously unless it is so ordered by a doctor. It is sometimes recommended to purge the baby by giving Seidlitz powders or other saline purgatives to the mother; this method is most unsatisfactory and unpleasant, and should, in my opinion, be abandoned.

Constipation in older children is too often due to neglect of regular habits. A proper

time should be appointed for going to stool every day, and this time should be rigidly observed whether there is any desire to evacuate the bowels or not. The fear of being late for school, causing them to hurry off directly after breakfast, is responsible for a good deal of the constipation of children of the school age. Breakfast should always be at such an hour that there can be no excuse for this neglect of physiological duty; and, in any case, to rush off directly after breakfast is bad from the digestive point of view. It does not greatly matter what hour of the day the bowels are opened, whether before breakfast, after breakfast or at night. The important point is that it shall not vary from day to day. Too great monotony in the diet will also cause constipation, so that the meals should be varied as much as possible from day to day. But you will not prevent constipation by giving excessive quantities of fruit. Everybody knows that fruits are laxative, and almost everybody knows that when laxative medicines are used habitually they very soon lose their effect, and in this respect fruit does not differ from other laxatives. I am not decrying the use

of fruit in the diet, far from it; it is only the excessive and improper administration of itsuch as the giving of an apple every morning before breakfast-that I am warning you against. As an occasional laxative some juice of stewed figs or prunes given with the last meal is often highly efficacious. Habitual constipation may to some extent be overcome by exercise and by abdominal massage applied in the manner described above, but generally some form of drug treatment is necessary. One of the best drugs for the purpose is syrup of senna, of which the dose is from ten to twenty drops three times a day. A well-known patent medicine which is much used for constipation in children owes its laxative properties to senna, and its popularity to the fact that it is flavoured with and named after a fruit syrup. Cascara is also a useful drug in these cases, and in some cases fluid magnesia, Friedrichshall, Condal, and Apenta waters are very effective. But whatever drug is used must be continued over a sufficient length of time for regular habits to be regained, and must then be gradually diminished until it is no longer necessary.

On no account must castor oil be used in cases of habitual constipation. When constipation is associated with vomiting a doctor must be called in, because this combination of symptoms is often of serious import.

DIARRHŒA in infancy occurs in two forms—the one mild, the other severe and highly dangerous to life. The severe form may arise spontaneously—that is to say, the case may be of the dangerous type from the first, but a case of the mild type may develop into one of the severe type if it is left untreated; therefore no case of infantile diarrhœa is to be lightly regarded. Diarrhœa in an infant consists in the passage of something more than six stools a day. The motions are often green in colour, foul-smelling, and contain masses of half-digested curds. Often there is vomiting also, together with colic and sometimes convulsions. The causes of diarrhœa of the mild type are: unsuitable diet or lack of cleanliness in preparing it, cold to the abdomen from unsuitable clothing, teething, and the onset of the acute fevers. The direct cause of the diarrhœa is the presence

of irritating matter in the stomach and bowels, and the treatment consists in removing this matter first of all. For this purpose there is nothing better than castor oil, of which the dose is from half to one teaspoonful for a child under one year old. Castor oil has the advantage that, after cleaning out the bowels, it tends to cause constipation and so cure the diarrhœa. Mothers often seem startled at the idea of giving a purgative as a cure for diarrhœa, but while the cause remains the disease cannot be cured, and castor oil in this case removes the cause. If there is vomiting, and even if there is not, it is well to give the castor oil in a little brandy, thus: put a couple of drops of brandy in a teaspoonful, and see that they wet the spoon thoroughly, then fill up the spoon with castor oil, then put another couple of drops of brandy on the top of the oil. The brandy is useful as a stimulant, it tends to relieve vomiting, if that is present, and it covers the taste of the castor oil and so prevents it being returned from the stomach. If this simple treatment does not quickly cure the diarrhœa it is necessary to seek medical advice, because a mild case

neglected may soon become a severe and intractable one.

The dangerous form of diarrhœa is the so-called epidemic diarrhœa or infantile cholera. It occurs in the summer months, is more prevalent in hot summers than in cool ones, and it is seen almost without exception in bottle-fed babies. The great prevalence of the disease and the very high mortality from it furnish a powerful argument against the wanton use of bottle-feeding; and in those cases where bottle-feeding cannot be avoided, they emphasize the necessity for extreme care both in cleansing the bottles and teats and in sterilizing the milk itself. The disease is characterized by the passage of many loose, foul-smelling motions, together with very rapid wasting and collapse. The temperature may be raised at first, but soon falls to below normal; the face is pale with sunken eyes and an anxious impression, and the child moans feebly. Often vomiting accompanies the diarrhœa. Seeing how rapidly such a case may sink you must send for a doctor at once; but if for any reason his coming is delayed you may anticipate his advice by absolutely

stopping milk-feeding and substituting table-spoonful feeds of egg-water; if the baby seems very collapsed and feeble give it from 5 to 10 drops of brandy in a tablespoonful of dill-water, or in plain water if you have no dill-water handy. If the brandy does not revive it, administer a mustard bath, and if necessary repeat the dose of brandy in one hour.

RICKETS.—This disease is very common among the poor, and the slighter manifestations of it are by no means uncommon among the children of the well-to-do. It occurs sometimes in babies of three months old, but the most usual time for its appearance is during the second year. Like so many of the diseases we have been considering, rickets is caused by faults in diet. And the primary cause of the trouble is fat starvation. Any kind of food which is either too poor in fat or contains something which prevents the proper assimilation of fat will cause rickets, and it is because the patent foods err in one or both of these respects that they are so often responsible for the onset of the disease. Many of the patent foods contain starch, and starch is the principal offender in

preventing the assimilation of fat. But it is not the only one, for even those foods which are starch free, and therefore claimed to be harmless, often contain an excess of carbohydrate which, by upsetting the digestion, will cause rickets. Sometimes even breast-fed babies are made rickety by supplementing the milk feeds with some such starch-containing foods as boiled bread, cornflour, rusks, or even potatoes. In bottle-fed babies the commonest cause of rickets, apart from the use of patent foods, is a deficiency of cream; either the milk is given so dilute that the proportion of cream in the mixture is too low, or, what is more common, no cream is added to the mixture at all. Even though a baby has been well and properly fed up to weaning time the danger of rickets has not yet passed, for many a child is given an excess of starch during its second year of life. Feeding on starchy foods must be begun very gradually, and throughout the second year such foods should be quite subsidiary and not, as is so often the case, the principal articles of diet. To continue to suckle a baby after the proper weaning time is also to court rickets, for after this time the milk becomes poor in quality

and the baby is partially starved. Want of fresh air and sunshine are only contributary causes of the disease, and the sterilization of milk, contrary to popular belief, is not a cause at all. The symptoms of rickets are many and varied, and only a few will be here described. The earliest sign is fretfulness with marked restlessness at night, so that the child throws off the bed-clothes and lies tossing about uncovered. Sweating of the forehead is a well-known sign, but taken alone it is not of much value, for babies sweat very readily when they are out of sorts; still, if there is profuse sweating about the head during sleep while the rest of the body remains dry it is a probable indication of the presence of rickets. A baby afflicted with this disease is generally abnormally plump in the early stages, and that is why babies fed on patent foods make such attractive photographs; but later this plumpness is replaced by wasting. The teeth are late in making their appearance, and when they do appear they are very prone to decay; also, the child is late in learning to walk, or, if it has already learnt to walk, when the disease shows itself it "goes off its legs." The bones and ligaments are soft and yielding,

so that there is a great tendency to the formation of such deformities as "knock-knee," "bow-legs," and "hump-back." The aspect of a baby with well-marked rickets is fairly typical: the head is large and square, with blue veins running over it; the face is pallid and the expression stolid; the chest is misshapen, with a furrow running down each side of the breast-bone; the abdomen is prominent, and the joints are enlarged. Children afflicted with rickets are very liable to suffer from bronchitis and diarrhæa; also from the various convulsive attacks mentioned earlier in this chapter.

The necessity for the treatment of rickets ought seldom to arise, for it is one of the most preventable of diseases; none the less, some degree of rickets is a very common affection. Nearly all the rickety babies are bottle-fed, showing that the first step in the prevention of the disease is to bring children up on the breast. Where this is impossible the next best thing is to feed with fresh cow's milk, prepared according to the directions given in Chapter II, and to avoid all such substitutes as dried or condensed milk and every patent food soever. Give no sort of starchy

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food till the age of nine months, and then give it gradually and in small amounts. Thus may rickets be avoided. When rickets has arisen it has to be treated first of all by correcting the errors in diet, and secondly by the administering of cod liver oil; this treatment will be carried out under medical direction, but there is one point which may here be emphasized. It is very necessary that a child with acute rickets should be kept off its legs, because the bones being soft there is great liability to deformity. But mothers, seeing that their children are backward in walking, are very apt to encourage them to try, and to disregard their doctors' orders in this matter. Or, short of this, they often do not realize the importance of keeping their children off their feet, and so the doctors' orders are by no means strictly carried out. Thus are the children exposed to risks of deformity and stunted growth. Plenty of fresh air and sunshine will assist in the cure of rickets, as they will in the cure of any disease; but in this case they play only a secondary part, the principal one being taken by the diet.

CHAPTER IX

COMMON AILMENTS (continued)

COLDS.—The common cold is a type of mild disorder to which children are particularly liable. The symptoms-stuffiness, running from the nose, fretfulness, thirst, and loss of appetite-make their appearance in from two to three days after exposure to infection; they remain at their height for about three days, and generally disappear in another three days. A cold is an infectious disease, and when practicable it is well to isolate any member of a family who is afflicted with it, in order to prevent the cold "running through the house." At all events, close contact with an infected person, as by kissing for instance, must be avoided. Many children have a great tendency to "take cold," but this tendency can be greatly lessened by proper attention to domestic hygiene. The conditions which predispose to colds are such things as the hot and vitiated air of ill-

ventilated rooms, the neglect of bathing, and the overloading of the body with clothes. All these things have been referred to before, but I may here again emphasize the importance of a proper amount of fresh air both night and day. Fresh air is often blamed as a cause of colds, but always unjustly. It is the lack of it that causes the trouble. The patients in an open-air sanatorium never catch cold. It is only during a fog that windows should be kept closed, and then doors should be opened instead. Baths increase the resistance to cold, not by toughening the skin, but by cleansing and stimulating it to healthy activity, and for this reason warm baths, followed by a good brisk towelling, are more effective than cold ones. Too much clothing is probably responsible for more colds than too little, but clothing of the wrong sort and clothing in the wrong place have also their toll of catarrh. Clothing of the wrong sort is "flannel next the skin," and clothing in the wrong place is, for instance, the muffler round the throat. During outdoor games the upper garments, such as jackets and overcoats, should be discarded, to be put on after the game, while cooling down. That may seem a pretty obvious piece of advice, but for all that

it is one that is frequently neglected in the case of young children; older children, who are left more to their own devices, generally follow it by instinct. Gas stoves predispose to colds because they dry the air too much and ventilate the room too little. Probably the most frequent direct cause of catching cold in children is sitting in wet boots.

An occasional cold may be a comparatively trivial thing, but repeated colds are by no means trivial, because repeated colds often give rise to adenoids. Also, the cold which begins in the nose not infrequently spreads to the chest and sets up bronchitis. Therefore a cold is not to be neglected. A child who has a cold should always be kept indoors and in an even temperature, and if the symptoms are at all marked he should be kept in bed for three days; thus may much future trouble be avoided. It is very doubtful if treatment will cut short a cold, but you can certainly prevent it extending beyond its proper limits, and you can also add a good deal to the patient's comfort. Proceed as follows: As soon as the symptoms appear, give the child a hot bath and put it to bed. Wrap it up well, put hot bottles in the bed, wrap the head

up in a shawl and open the windows, leaving them open day and night. Administer a laxative at night, and for this purpose nothing is better than grey powder (dose varying according to age), followed by some magnesia or other saline in the morning. Keep the diet light, giving little meat, but plenty of hot drinks such as linseed tea, hot water, and hot lemonade. The soreness of the lip which results from nasal discharge may be prevented by the application of a little vaseline or zinc ointment. A cold is often followed by a cough because the catarrh spreads from the nose down to the throat. A simple remedy for a cough is a mixture of equal parts of honey, glycerine, and lemon juice, of which a teaspoonful may be given every three or four hours. What you must on no account do is to give your children any of the patent cough medicines, and for this reason: Nearly all of these medicines contain opium, which, though useful in some forms of cough and quite the reverse in others, is an extremely dangerous drug to give to children; for they are very susceptible to its influence and are rapidly poisoned by it. Here is a prescription which helps to ease a cough and is quite harmless-

Ipecacuanha wine - - I teaspoonful
Honey of squills - - 4 teaspoonfuls
Syrup of tolu - - 3 ,,
Water - - - 4 ,,

One teaspoonful to be given every four hours for a child of one year. For older children the dose may be increased to from one and a half to two teaspoonfuls.

That is almost the only prescription you will find in this book.

ADENOIDS.—This is the name given to an overgrowth of the tissue at the back of the nose, which overgrowth causes obstruction to nasal breathing. The nose is the organ through which, in the main, air is taken into and breathed out of the lungs, the mouth being normally only an accessory in the performance of respiration. It is the function of the nose to warm the air which passes through it, to add moisture to it, and to free it of microbes; the mouth does none of these things, or at all events only does them very imperfectly, so that air taken into the lungs through the mouth is too cold, too dry, and impure. And not only so, but when the nasal passages are blocked by a mass of adenoids, either an insufficient amount of air is taken in and so

the blood is not properly aerated, and the chest insufficiently expanded, or else forced efforts are made at nasal inspiration, with the result that the chest becomes deformed. It is therefore not surprising to find that adenoids are responsible for many evils. The trouble may be present in infancy, but is much more commonly seen at the age of three years and onwards. In the infant the chief result of the nasal obstruction is an inability to take the breast, for with the nose stopped up the child is unable to breathe when the nipple is in its mouth.

Other symptoms noticed in the infant are snuffling, "fighting for breath," and what mothers describe as "tongue swallowing." Babies afflicted with adenoids are very liable to convulsions, laryngismus stridulus, and vomiting. But it is in older children that the results of adenoids are best seen. They are—constant running from the nose or a great tendency to catch cold; earache and discharge from the ears; deafness, noisy respiration, shortness of breath at games and snoring at night, disturbed sleep, bad dreams and "night terrors"; enlarged glands in the neck, anæmia, chronic bronchitis, gastric troubles and vomit-

ing, asthma, laryngismus stridulus, St. Vitus' dance, stammering, convulsions, and "the fidgets"; constant cough and bed-wetting; a difficulty in paying attention, with consequent backwardness at school. That is a fairly formidable list of evils, and it could be added to; but it is not to be supposed that every child with adenoids suffers from all these troubles, or even from most of them, nor must it be inferred that any or all of them are necessarily the result of adenoids. The list is given to show how far-reaching and varied the results may be. But some of the symptoms are fairly constant, and where they are met with the presence of adenoids may be inferred with agood deal of certainty. For instance, constant running from the nose and frequent coldcatching are almost always the result of adenoids; so too is discharge from the ears, and adenoids are far and away the commonest cause of deafness in childhood; snoring and bad dreams are also noticed in most cases.

The appearance of a child with well-marked adenoids is typical. The mouth is constantly open, the aspect is dull and stupid, the nostrils are narrow from disuse, the bridge of the nose is thickened and has often a prominent vein

running across it; the childish attractiveness is wanting, the shoulders are rounded, and the gait is stooping and listless. The voice of a child with bad adenoids is dead, because of the lack of nasal resonance, and the so-called "talking through the nose"—which is really talking without using the nose—is common. Adenoids often give rise to food bolting, because when the mouth is full of food the obstruction to breathing is increased; in this way they are an indirect cause of dental decay. Also, they are sometimes the way of entrance of the tubercle bacillus. The moral to be drawn from this lurid picture is that the growth of adenoids must be prevented in so far as prevention is possible, and when that is not possible they must be cured. The preventive treatment might be easy if we knew of any one definite cause. Unfortunately we do not, but we do know that certain things predispose to the disease, and thus we can by taking thought prevent it to some extent. Thus frequent colds, which may be a symptom, may certainly also be a cause, and if you will follow the advice laid down in the section on colds you will in preventing colds also help to prevent adenoids;

and if, further, you will treat colds when they arise by confinement to bed for a few days you will do something more in the same direction. Mouth-breathing, like cold-catching, may be a cause as well as a symptom, and therefore the habit must be corrected as soon as it is noticed. Make your children lie on their backs and breathe through their noses for ten minutes a day, and you will do much to prevent the growth of adenoids. All sorts of hygienic mistakes contribute to the causation, such as want of fresh air, improper clothing, neglect of open-air exercise, and particularly sitting in wet boots. The 'comforter' has also been blamed in this matter, and I think justly; for though it may not by itself be enough to cause adenoids, it certainly contributes to their causation, and that in more ways than one.

The great prevalence of adenoids has been considered by some observers to be a symptom of degeneracy of the race, but there is no evidence that the disease is on the increase, and it was certainly known to the ancients, for the symptoms (though not the disease) are described by Hippocrates. But if it is not a symptom of degeneracy it could,

if neglected, easily become a cause of it; for it gives rise to both physical and mental lassitude, and school inspection has shown that children with adenoids are nearly always found at the bottom of their class, and the tail of the classes is always composed of children with adenoids. Therefore it is very necessary to deal with adenoids as soon as their presence is revealed by the symptoms. Mild cases may be cured by breathing exercises and attention to general hygiene, together with the administration of air. A cold damp atmosphere is very bad for adenoids —in fact, is directly concerned in the causation of them; that is why the disease is so very prevalent in England, and that is why one of the best places for children who suffer from it is Egypt. Only, unfortunately, very few people can afford to take their offspring to Egypt. In all cases in which the symptoms are well marked, or which breathing exercises have failed to cure after a fair trial, operation offers the only hope of recovery. It is sometimes urged against operative treatment that adenoids tend to disappear spontaneously between the ages of ten and fifteen years. That is true, but it is not fair to keep a child

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with a millstone tied round its neck for seven or twelve years in the hope that at the end of that time the rope will break. For it is not only that the child is mentally and physically handicapped during all these important years of its life, but the ill effects of the disease become permanent. Therefore, if an operation for removal of adenoids is advised, on no account refuse it, for not only are the effects of such a refusal disastrous, but the good results of the operation are remarkable and almost immediate.

In ninety-nine per cent. of the cases a complete cure follows quickly, and the operation is one of the most successful and satisfactory in surgery. In a few cases the cure is not permanent and the operation has to be done again, but this is nearly always due to neglect of after-treatment. It is most important that after the operation breathing exercises should be rigorously carried out, so that the lost habit of nose-breathing may be regained. If this is not done there is a grave danger that the operation will have been in vain. There are many forms of breathing exercise, but a quite simple and efficient one is to swing the arms round and, keeping the

mouth shut, to breathe in as they go up and to breathe out as they go down; this simple manœuvre is repeated daily fifty times in succession. A yet more simple method is to make the child run, or skip, or bowl a hoop with the mouth firmly closed; but, whatever method is adopted, you must see that it is really and efficiently carried out and that it is continued until nasal breathing is re-established as a habit. Watch your child as it sleeps at night; if the chest expands fully and evenly, and if the nostrils dilate with each inspiration, you may be pretty sure that there is no obstruction to the breathing. If, on the other hand, you have reason to believe that the breathing is obstructed, or if your child is always catching cold, or has running from the ears, or is deaf, or is stupid, or snores at night, or has a combination of these symptoms, then you must seek medical advice, and if an operation is advised you must on no account refuse it. If you do you will be accepting a very grave responsibility and greatly handicapping your child in the race of life.

ENLARGED TONSILS.—These fre-

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quently accompany adenoids, and are either caused by them or there is a common cause for the two conditions. Enlarged tonsils give rise to obstructed breathing, frequent sorethroats, and often to enlargement of the glands of the neck. The popular treatment of enlarged tonsils by painting with glycerine and tannic acid seldom does any real good; the only efficient treatment when treatment is necessary is by operation.

"BILIOUS ATTACKS."-This is popular name for a condition of no very definite medical significance and due to a variety of causes. What is usually understood by the term is a suddenly arising headache accompanied by sickness and constipation, the attack lasting only a day or half a day. Children are also said to be "bilious" who without any such definite attacks are constantly pallid and lethargic, whose tongues are furred and whose breath is offensive, whose appetite is bad and whose evacuations are hard, dry, and pale. The explanation of these "bilious" manifestations is, as a rule, a chronic indigestion; and particularly an indigestion which is due to an excessively starchy diet. The

purge and in correcting any dietary errors. A breakfast consisting of porridge and much bread-and-butter, a dinner made up largely of rice pudding, and a tea of bread-and-butter and cake is the sort of diet that causes indigestion in children. Cut out the porridge and substitute egg or fish or bacon for breakfast, and instead of rice or sago or tapioca for dinner give custard or junket, and you will find a 'bad digestion' improve wonderfully.

The bilious habit is sometimes due to excessive milk drinking. Mothers often think that milk is so good for children that it is impossible to give them too much of it, and they sometimes give a quart or more a day. In all cases of indigestion the amount of milk must be reduced to within reasonable limits, and what milk is given had better be given diluted. But sometimes the term "bilious attack" is applied by parents to what is really a more serious condition. Particularly, what is thought to be 'only a bilious attack' may really be an attack of appendicitis, of which the symptoms are often very similar. Therefore you must be on your guard; and if you have a child who is

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subject to bilious attacks you ought to get your doctor to see him during an attack, for although, if the case is one of appendicitis, the attack may possibly pass off without apparent harm, yet sooner or later another attack will arise in which the issue may be by no means so satisfactory. I have seen a child at death's door with appendicitis who had been treated by her parents for three days for a "bilious attack." An operation saved the life of this little girl, in spite of the extreme peril she was in, but there are plenty of cases on record where operation has come too late. Therefore be very careful how you dismiss any case of vomiting, with headache, constipation, and feverishness, as 'only a bilious attack.'

WORMS.—Three varieties of worm may inhabit the intestines of children: these are thread-worms, round-worms, and tape-worms. Of these, thread-worms are far the most common, the other varieties being but rarely met with. When thread-worms are present they may be seen in the motions, sometimes in great numbers; they are whitish in colour and are from an eighth to half an inch long.

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Many symptoms have been attributed to the presence of worms, but the only ones that can be called constant are a general 'below par-ness,' colicky pains in the abdomen, diarrhœa with much mucus in the stools and itching about the back passage. Nose-picking is popularly supposed to be provoked by worms, although there is no evidence that it is really so; but a child suffering from worms is often in a state of nervous irritation, and is liable therefore to develop tricks of which nose-picking may be one. This same condition of nervous irritability accounts for the fact that worms will sometimes cause true convulsions or will give rise to muscle twitchings or to movements like those seen in St. Vitus' dance. Teeth-grinding, night terrors, and general timidity are other among the occasional results, and are further evidence of nervousness. The direct irritation of the worms in the rectum sometimes causes bedwetting, while the extreme discomfort in the region of the genital organs may be the means of starting habits of self-abuse. It is not always easy to say how any given child becomes infected with worms, but some of the thread-worm ova must be swallowed as

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a preliminary, and these may often be conveyed in drinking-water; also, one child may infect another. A deficiency of salt in the diet is said to have a causal influence on the breeding of intestinal worms. The treatment consists in the killing and removal of the worms. Overnight give a dose of simple purgative such as castor oil; next morning, after the purgative has operated, give an enema of half a pint of infusion of quassia; the same night give another dose of aperient medicine. I have generally found this treatment successful in getting rid of the worms, but if it is not you must consult a doctor, who will order some more powerful remedy. The irritation is best dealt with by smearing on some mercurial ointment, but at the same time the finger-nails must be cut short and gloves worn at night to prevent scratching, which not only aggravates the irritation, but also may cause reinfection.

"GROWING PAINS."—The vague pains in the limbs from which many children suffer are generally described by parents as "growing pains," and are thought to be of no importance whatever. Now, there is no conceivable reason

why the process of growth should be painful, and, as a matter of fact, it never is. Therefore such pains must have another explanation, and that explanation is that they are an early symptom of rheumatism. The rheumatic origin of the pains is overlooked because they are not felt in the joints, and it is thought that rheumatism is a joint disease; but though rheumatism primarily affects the joints in adults, in children it is not so. The importance of recognizing the fact that the so-called "growing pains" are really caused by rheumatism is this: rheumatism is the great cause of heart disease, but if it is treated in its early stages this most serious result can be avoided. On the other hand, if you neglect these early warnings you may one day find that heart trouble has developed, and your child has now an incurable disease which might in all probability have been prevented. If children are liable to suffer from vague pains or headaches or stiff-necks they should be taken to be examined for signs of rheumatism, and this applies with double force to children who are the offspring of rheumatic parents.

"RUNNING EARS" are generally the

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result of adenoids, though the condition sometimes follows on measles and other acute diseases. I mention the matter in order to emphasize the point that every case of discharge from the ears must be seen by a doctor, and seen early. For if not, permanent loss of hearing may result, and, moreover, the chances of a complete cure are far greater if treatment is begun in the early stages. If syringing the ears is the treatment ordered the syringing must be carefully and thoroughly done; the reason why this treatment is so tedious and so often inefficient is that it is generally very imperfectly carried out. For syringing, the child should be in a sitting position. The syringe should have a capacity of at least two ounces, and the water or whatever lotion is to be used should be at a temperature of 100° F. In order to expel any air from the syringe after it has been charged, hold it with the nozzle upwards and press the piston till the lotion begins to flow. Take the ear in the left hand and draw it backwards and upwards, and then gently syringe, directing the stream slightly upwards so that the fluid flows along the roof of the canal. Continue syringing till the lotion comes out perfectly clear, and

repeat the operation as often as may be ordered.

CHILBLAINS are too well known to need description. They occur usually on the hands and feet, but sometimes on the ears and the tip of the nose. They are due to the action of cold on children with a feeble circulation. The preventive treatment consists in taking care to keep the hands and feet warm and dry by suitable clothing, in using warm water for washing followed by brisk friction and thorough drying, in improving the circulation by plenty of exercise, and the general condition by the administration of cod liver oil. The curative treatment is rather unsatisfactory. In the early stages chilblains may be painted with tincture of iodine, or friction may be applied with some such stimulant as camphor liniment; but friction must always be gentle for fear of breaking through the skin and leading to the troublesome form of ulceration which constitutes the "broken chilblain." When this latter condition has arisen it must be treated by carefully keeping the parts clean and covered with some antiseptic ointment. Far and away the best form of

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treatment for chilblains is the electric bath, which, if applied in the early stages, is generally successful.

RINGWORM occurs in two forms, one affecting the body, the other the scalp. Ringworm of the body appears as a reddish patch covered with scales and with a somewhat raised circular border which gradually spreads. Ringworm of the scalp seldom shows the characteristic ring appearance. In this form the most noticeable feature is a patch of scurf from the region of which the hair has fallen away; and on looking closely stumps of broken-off diseased hairs may be seen. Sometimes it occurs in a more diffuse form, in which the head is covered with scurf, so that when ringworm is about, scurfy heads must be regarded with suspicion. Ringworm of the body generally yields readily to treatment, but ringworm of the scalp is often a very stubborn affair. The treatment can only be carried out under the direction of a medical man, but, as the disease is contagious, precautions must be taken to prevent it from spreading. Where possible, isolation of the patient is advisable, but in any case all direct

contact must be avoided. The head should be kept covered with a linen cap, which should be burnt when it is done with. Separate brushes, combs, and toilet articles should be provided, the patient's clothing should be kept away from that of others, and at the end of the illness everything that has come into contact with the patient should be either baked, boiled, or destroyed.

CHAPTER X

INFECTIOUS DISEASES

The infectious diseases form a group marked by certain common characteristics. They are conveyed from one person to another by means of the virus of the particular disease, and they are liable to occur in epidemics. When the virus has entered the body of a patient, a certain fairly definite time elapses before the recognized symptoms of the disease show themselves; this is known as the "incubation period." When a child has been exposed to infection it is necessary, to prevent the spread of the disease, to keep him isolated until it is certain that he has escaped infection. This time is calculated from the known incubation period of the particular disease, reckoning from the last possible exposure to infection, and adding a few days so as to have a safe margin. The result arrived at is known as the "period of quarantine." These

diseases have also a fairly definite period during which they remain infectious, and this may be called the "infectious period." From a knowledge of these three periods in any given disease you can get a good deal of useful information: thus, if a child has been to a party where there was another child subsequently found to have been suffering from measles, the known incubation period of that disease gives you the length of time which must elapse before signs of it can appear in your own child; supposing he falls with the disease, the quarantine period gives the time during which the other children of the household must be kept away from school, and the infectious period tells you how soon it will be safe for the patient to mingle with other children. Most of the infectious diseases are marked by fever, and many of them have a characteristic rash. The rash appears at a definite date after the first onset of the disease, and this gives us yet a fourth period-the premonitory or prodromal period. In the following pages I am not going to give any minute description of the rashes or other symptoms of the various infectious diseases. You can only recognize rashes by having

actually seen them before, and then it is sometimes very difficult for even an expert to be certain. I shall therefore confine myself to the facts which are useful to be known.

MEASLES is so common a disease that almost every child suffers from it. One attack generally gives immunity from the disease, so that second attacks are rare, though by no means unknown. People of all ages are subject to measles, and it is even stated that babies have been born with the rash; it is, however, rare before the age of six months or after the age of thirteen years. The incubation period may be as short as five days or as long as fourteen days, but in the great majority of cases it is ten days. The first symptoms noticed are running from the eyes and nose, cough, and raised temperature. The rash appears on the fourth day after the first onset or (in the majority of cases) on the fourteenth day after infection. It first appears behind the ears and on the forehead, and spreads downwards successively over the face, trunk, and limbs. In twenty-four hours it begins to fade, disappearing first in the situations where it first appeared. The eruptive

stage lasts from three to six days, after which convalescence is generally rapid, and in from ten to fourteen days from the first onset of symptoms the child may be apparently well. Measles is so common and so generally favourable in its course that there is a danger of treating it with contempt. But it has to be remembered that the disease has a not inconsiderable mortality, and this mortality is due in large measure to a want of proper precautions. The great danger of measles lies in the lung complications. Practically in every case there are signs of bronchitis, and this, if neglected, may develop into broncho-pneumonia, which is the cause of death in nearly all cases where death supervenes. I find that a great many people regard measles so lightly that they do not call in a doctor at all when a case occurs in their family. It is perfectly true that generally the disease is benign (if any disease can be said to be benign), but every now and then one meets with cases of a highly malignant type, and in these cases the rash is often scanty. In such cases one often hears ignorant persons state that the fatal result was "due to the doctor giving something which drove the rash

inwards." This, of course, is merely silly; there is no known drug or combination of drugs which will 'drive a rash inwards,' even supposing that phrase bore any intelligible meaning; which it doesn't. But in all cases, whether you call in a doctor or not, you must bear in mind the great danger of bronchopneumonia. To prevent its onset keep the child either in bed or in a room at a temperature of 65° F. during the four days of the prodromal stage, and in bed for at least as long as the rash lasts, and do this even in the mildest cases. The most infectious stage of measles is the premonitory stage, when there is much discharge from the eyes and nose; infection continues, though in a less degree, during the eruptive stage, after which it rapidly disappears. Seeing that nearly all children have to have measles, it is common practice when a case appears in a family to expose the other children to infection so that they may all have it at once and get it over. If all the children are over four years old there may be something to be said for this, but otherwise it is quite unjustifiable, because nearly all the deaths from measles occur below this age, and the younger the child

the greater the danger. The period of quarantine, during which the apparently uninfected children of the household must not mix with other children, is sixteen days—that is, of course, supposing that the patient has been isolated. A child who has had measles may return to school or mix with its fellows three weeks after the onset of the disease, provided the rash and the cough have completely disappeared and there is no peeling of the skin.

SCARLET FEVER, though much less common, is much more serious than measles. And here I may correct the popular impression that there exists a mild and harmless disease somewhat resembling scarlet fever and called scarlatina. As a matter of fact, scarlatina and scarlet fever are two names for one and the same disease. Babies of under one year are not very liable to contract scarlet fever, but after this age the incidence of the disease increases rapidly and reaches its maximum during the fifth and sixth year. The incubation period is from one to seven days; generally it is either two, three, or four days. The first symptoms are vomiting,

headache, and sore-throat, often accompanied by diarrhœa. Of these symptoms, sore-throat is the most constant and headache (in children) the least. The rash appears in about twentyfour hours, and is generally first seen on the neck and chest. The tongue is at first thickly coated, but in three or four days it cleans, presenting the appearance of a strawberry, which is characteristic of the disease. Scarlet fever is the only disease in which sore-throat is accompanied by a clean tongue. I mention this fact because sometimes cases occur which are so slight that they may be overlooked. Therefore if you meet with such a phenomenon you must be suspicious and seek advice. In an ordinary uncomplicated case of scarlet fever convalescence begins in a week after the onset. Peeling begins on the face sometimes as early as the second day and is well established at the end of a week. end of the second week peeling is general all over the body; in another two weeks the body will be clear, with the exception of the palms of the hands and soles of the feet, which do not peel completely for two or three weeks more. Scarlet fever is spread by means of the discharges from another case, by inhaling

the breath of a patient suffering from the disease, or by the dried particles of skin, the result of peeling, which may be borne in the air. It will thus be seen that a patient suffering from scarlet fever is infectious, and must be isolated as long as peeling lasts, that is for at least six weeks. But the disease may also be conveyed by means of books, toys, bedding, clothes, etc., which have been exposed to infection and have been imperfectly disinfected; and this may happen long after the original case has recovered. Another means by which the disease may be spread is an infected milk supply. I have nothing to say here about the treatment of the disease, which must in all cases be carried out by a doctor. The best place for a child suffering from scarlet fever is a fever hospital, not so much for its own sake as for the sake of others. You need not fear to send your child to one of these institutions because you think it will be unhappy there; for, as a matter of fact, if there is one person on earth whose lot is to be envied it is the child in hospital. But if your house is so arranged that complete isolation can be carried out at home, then you must scrupulously regard the details of that isolation as laid

down at the end of this chapter. The quarantine period for persons who have been exposed to the infection of scarlet fever is ten days from the last possible exposure.

GERMAN MEASLES .- This is an infectious disease of a mild type, characterized by a rash which sometimes resembles the rash of scarlet fever, but more often that of measles. It is met with between infancy and the age of forty, but most frequently occurs between five and fifteen years. It is highly infectious and spreads by personal contact, a patient being capable of conveying the infection two or three days before the rash appears. The incubation period varies from twelve to twenty-two days, but is generally about eighteen days. The rash appears during the first day of the illness and is preceded by a variable amount of constitutional disturbance; often the rash is the only thing noticed. The temperature rises to about 100° F., when the rash appears, but sometimes it remains scarcely above normal throughout the attack. The rash begins behind the ears and on the face, and spreads rapidly over the trunk and limbs; it fades on the third day, and with

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the disappearance of the rash the temperature falls. In nearly all cases there is painless swelling of the glands of the neck, and this may sometimes be detected before the rash comes out. As a rule, the disease is extremely mild and has run its course in four days, but occasionally a severe type is met with. The treatment consists in giving an aperient at the outset, keeping the child in bed for four days, and indoors for a few days more. Some tonic treatment will generally be required after the disappearance of the symptoms. The quarantine period for those who have been exposed to infection is three weeks, and a child who has had the disease may return to school two weeks after the rash has disappeared.

DIPHTHERIA is an acute infectious disease mainly characterized by throat symptoms and not giving rise to any specific skin eruption. It occurs most commonly between the ages of two and ten. Infection is conveyed mostly by close contact between person and person, so that doctors and nurses attending on cases are more liable to contract the disease than are members of the house-

hold less intimately associated with the patient. Articles of clothing which have been in contact with the patient, and such things as table utensils used by him, may convey the disease to others, and therefore the same precautions against spread of infection as in scarlet fever are necessary in diphtheria. Albeit the danger of infection is not so great in the latter disease as in the former. Domestic animals suffer from diphtheria, and may convey the disease to human beings; infection is often spread by cats. Milk is another source of infection. It may become contaminated by cowmen or dairymaids themselves suffering from the disease, or it may be infected from the cow herself. Scalding the milk removes all danger of infection from this source. The influence of bad smells and deficient sanitation is probably only an indirect one; that is to say, such conditions do not actually cause the disease, but they increase the liability to it. Dampness of the soil and of dwellings also seems to have an unfavourable influence in the propagation of diphtheria. The incubation period is from two to four days, occasionally a few days more. The

premonitory signs are headache, nausea, and lassitude, together with fever. In about twenty-four hours the patient complains of sore-throat, with cough and difficulty in swallowing, the breathing is noisy, and there is swelling at the sides of the neck owing to enlargement of glands. That is in a wellmarked case, but sometimes the symptoms are so slight as to be put down merely to "sore-throat" or a cold, or even no soreness of the throat may be complained of at all. The characteristic of the diphtheritic throat is the formation of a membrane on the tonsils and soft palate; but sometimes the nose is the seat of the false membrane, and particularly is this the case in sucklings. Any thick discharge from one nostril only should suggest the possibility of nasal diphtheria. The course of the disease varies, but in a favourable case the membrane begins to disappear in three or four days and the throat is clear in ten days. The administration of antitoxin greatly diminishes the severity of the disease, and improves the chances of ultimate recovery; the introduction of this mode of treatment has indeed robbed diphtheria of most of its terrors, and when such treatment is urged by

the doctor it must never be refused. A child who has had diphtheria will be allowed to mix with its fellows three weeks after the throat has got well, provided there are no discharges or other symptoms remaining. The quarantine is ten days; that is to say, that supposing the infected child has been removed to an isolation hospital, the other children may be regarded as safe ten days later. But if the sick child is kept at home, then the other children should be kept in quarantine as long as there is diphtheria in the house.

CHICKEN-POX occurs both in infants and in adults, but it most frequently attacks children, the common age being from three to four years. The usual incubation period is fourteen days, but it may be as few as eleven or as many as nineteen days. There may be some constitutional disturbance at the onset, such as shivering fits, or vomiting, but very often the first symptom noticed is the spots, which come out on the first day of the disease, sometimes all appearing at once but generally coming out in successive crops. The spots, which, when fully developed, are

in the form of round or oval vesicles (or "white blisters"), may keep on making their appearance for from four to six days or more, the older ones beginning to dry up as the newer ones appear. The eruption generally appears first on the chest or back, and is most abundant there; it also appears on the face, scalp, arms, and legs, and inside the mouth; the palms and soles often escape. In mild cases the only treatment required is rest in bed and a light diet, with the application of some cold-cream or simple ointment to relieve the itching; but in severe attacks the febrile and other symptoms may require more active attention. The disease spreads by personal contact and by infected articles, therefore children suffering from it should be isolated, and all due precautions should be taken to prevent spread of infection. Isolation should be kept up for a week after all the crusts have dropped off-that is to say, for about three weeks from the commencement, in the majority of cases. The quarantine period is twenty days.

SMALL-POX.—This, which was once one of the commonest of infectious diseases, is

now, thanks to the discovery of vaccination, but seldom seen. To people unprotected by vaccination or a previous attack, small-pox is the most infectious disease there is, and the infection may be conveyed either by contact with a patient sick of the disease, by infected articles, by the bodies of those dead of the disease, by the air, or by healthy persons in attendance on small-pox cases. The incubation period is twelve days. The onset is sudden, and the premonitory symptoms are headache, backache, vomiting, loss of appetite, thirst, and high temperature. The characteristic rash, which is not unlike that of chicken-pox, appears on the third day after the onset, though other rashes may appear before the typical one comes out. Small-pox cases must be sent at once to an isolation hospital; this is imperative for the sake of the community; there can never be any question of nursing at home. Isolation will be continued for one week after all the crusts have separated, and the quarantine for those who have been exposed to infection is eighteen days. As soon as any member of a household has been exposed to infection he must be vaccinated at once, supposing this has not

been done within the last five years. I cannot here go into all the facts and figures which prove—incontrovertibly, I think, to the unprejudiced mind—the efficacy of vaccination, but I will quote some of the conclusions of the Royal Commission which fully investigated the subject and based its conclusions on an enormous bulk of evidence. This Commission concluded:

- (i) Vaccination diminishes the liability to be attacked by small-pox.
- (ii) It modifies the character of the attack, and renders it (a) less fatal and (b) of a milder type.
- (iii) The protection afforded by vaccination diminishes with lapse of time.
- (iv) Revaccination restores the protection which lapse of time has diminished.
- (v) The beneficial effects of vaccination are mostly experienced by those in whose case it has been most thorough.

These findings of an impartial tribunal are very striking, and demonstrate clearly not only the efficacy of vaccination, but also the necessity for revaccination after a term of years. Much of the prejudice against vaccination is undoubtedly due to the fact that in the old

days arm-to-arm vaccination was practised, and sometimes, though rarely, vaccine from an unhealthy child was inoculated into a healthy child, who was thus infected with the other child's disease. Now arm-to-arm vaccination is no longer legal, and every vaccination must be made with calf lymph. Also, the methods of preparing and sterilizing lymph have been greatly improved of recent years, so that the operation is practically free from risk. Formerly the great and undoubtedly serious objection to vaccination was, that by it syphilis might be inoculated; but, since calves do not suffer from syphilis, this objection no longer holds. I labour this point a little because mothers have so often begged me not to use human lymph, being apparently ignorant of the fact that the use of human lymph has been discontinued these many years.

The facts in favour of vaccination seem to me overwhelming, and one has only to question one's parents or grandparents as to the diminution in the number of pitted persons to be met with now and in the days before vaccination became compulsory to be fairly well convinced of its efficacy. Still, if you have a conscientious objection to the practice,

you have only got to make a statutory declaration to that effect. It is quite easy, and there is no need to be a martyr. Only first weigh well the arguments for and against, and remember above all that everything which happens after vaccination is not necessarily caused by vaccination. Undoubtedly vaccination may do harm to an unhealthy child, but in such a case the doctor will give you a certificate postponing the operation till the child's health has improved. But, whatever theoretical objections may be urged against vaccination, I can only say that in a fairly extensive experience I have never seen the slightest untoward result, nor have I ever heard of one in the practice of my colleagues. The law says that every child (unless the parents offer a formal objection) shall be vaccinated before it is five months old. There are those who prefer to vaccinate during the first week of life, but myself I think there is some risk in this, and I prefer to wait till the third month; if vaccination is postponed till later, it may clash with teething and thus there will be two causes of fretfulness operating at the same time. After the operation of vaccination a spot appears at

each site of inoculation on the third day, and on the fifth day this becomes a 'blister,' which on the eighth day reaches maturity. On the ninth day there is some inflammatory reaction around the vesicle, and this is the time when the child becomes fretful and out of sorts. On the tenth day the vesicle begins to dry up, and on the fourteenth day forms a scab, which falls off during the fourth week. The main things to be observed during this time are cleanliness and the prevention of injury; the former is best maintained by keeping the sleeve lined with a piece of clean linen, and the latter, in my opinion, chiefly by avoiding the use of vaccination shields, which are sources of injury rather than protection.

MUMPS is a highly contagious disease, mild in its course and generally harmless in its results. It frequently occurs in epidemics, and is most common between the ages of four and fourteen. The incubation period varies from fourteen to twenty-five days, and the patient is infectious before the symptoms appear, during their existence, and for a week after their subsidence. Before the characteristic swelling arises the child looks pale,

and perhaps complains of headache and is sick; the temperature rises to 102° or 103° F., and in a few hours there is stiffness about the jaws. Pain in the hollow under the ear (generally the left) is next complained of, and this is followed by swelling, spreading over the side of the face and neck. Sometimes the swelling is limited to one side, but as a rule both sides are affected, the opposite side becoming involved at a variable period after the commencement. The disease takes three or four days to develop, remains stationary for a couple of days, and then begins to subside. As a rule, all swelling has disappeared in ten or twelve days from the onset. By way of treatment the child must be kept in bed as long as there is any fever, and indoors for ten days. The food must be fluid or semi-solid, since mastication is difficult or impossible, and an aperient should be administered at the outset. Pain must be relieved by the local application of hot fomentations or bread poultices, or, if these fail, by certain anodyne applications which cannot be made at home. An antiseptic mouth-wash is also advisable. Children of from twelve to sixteen years, and particularly boys, should be kept

in bed throughout the attack. The quarantine should be four weeks, and a child who has had the disease should not return to school for a like period.

WHOOPING-COUGH occurs more frequently in children under seven years than at a later age, and the younger the child the more likely he is to take it. The incubation period is from four to fourteen days, and the disease is infectious from the first onset of the symptoms. It is customary to divide the attack into two stages—the catarrhal stage and the whooping stage. In the first stage, the initial symptoms are those of an ordinary cold, with some feverishness and a cough, which is more troublesome or only present at night. Gradually the cough gets worse and more ringing in character. By about the end of the second week (sometimes sooner, sometimes later) the characteristic cough develops; it is a series of short sharp explosive coughs which seem almost to suffocate the child, until at the end of the paroxysm a long breath is taken, and the long breath is accompanied by the whooping sound which gives the complaint its name. Often a

coughing fit is followed by vomiting, and another peculiarity of the attack is that it seems to awaken a sense of fear, so that children will run to their mothers for protection when a paroxysm begins. After a time, and especially if the cough is frequent and severe. the face becomes swollen and puffy, with watery eyes and dusky complexion. Sometimes the whoop is late in developing, or is only heard occasionally; sometimes it is entirely absent. In such cases the true nature of the disease may be overlooked, but a convulsive cough which is worse at night, and particularly if it is followed by sickness, ought always to arouse a suspicion of whoopingcough. And it is important that the disease should be recognized, because it has a high mortality, and the mortality is largely due to neglect of proper precautions and treatment. The most frequent complication of whoopingcough and the one responsible for most of the deaths is broncho-pneumonia, and this is to be avoided by keeping the patient indoors during the catarrhal stage, and in bed as long as there is any fever. If possible, two rooms should be set apart for the whooping-cough patient; they should be kept at a temperature

of 65° F., and the air may with advantage be medicated with creosote, eucalyptus, or carbolic acid by means of some form of volatilizing lamp. During the whooping stage the child should be sent out and given plenty of fresh air, but always provided the weather is clement. Exciting and boisterous games must be avoided, and so should such irritating things as lessons. There are many drugs which diminish the number and the violence of the paroxysms in varying degree, but they are not such as can be handled by the layman. The duration of the disease is very variable, and may be as little as two weeks or as much as ten. It is most infectious during the catarrhal stage-in fact, some authorities state that during the whooping stage it is not infectious at all. The period of infectiousness is, however, generally put down at six weeks. Infection is conveyed by close contact with patients, and chiefly by means of the mucus which is coughed up or discharged from the nose. As this mucus may adhere to the clothing of the children and those in attendance on them, it is obvious that infected clothing may cause the spread of the disease. Children who have had whooping-

cough may return to school six weeks from the commencement of the disease provided the characteristic cough and all symptoms have disappeared. The quarantine for children who have been exposed to contagion is three weeks.

TYPHOID FEVER occurs at all ages and sometimes attacks children. The onset is often insidious, and in the early stages the disease may be overlooked. At first there is generally fretfulness and headache, with feverishness, most noticeable at night. Later there is diarrhœa, and ten days from the onset a few rose-red pimples may appear on the body. The source of infection is the excreta of an infected person, and infection may be conveyed by water which has become contaminated. Milk does not carry the disease in ordinary circumstances, but if it has been stored in vessels washed in contaminated water, or if such water has been used for the purposes of adulteration, it may do so. The incubation period is from seven to twenty-one days, but is most commonly a fortnight. The quarantine period is three weeks and the isolation period is six weeks,

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though in children who often recover from the disease quickly this last may sometimes be reduced. The disease is often difficult to recognize in the early stages, and a definite opinion as to its nature has to be withheld till characteristic signs show themselves. The treatment is, of course, entirely expert; it can be carried out at home provided proper accommodation and first-rate skilled nursing are available.

PRECAUTIONS TO BE OBSERVED IN CASES OF INFECTIOUS DISEASES. -In the more serious of the infections, such as scarlet fever, prompt removal to an isolation hospital is most advisable; but where hospital accommodation is not available or the patient is too ill for removal, or for any reason the patient is to be treated at home, special precautions are necessary, and must be rigorously carried out. If possible, a room at the top of the house should be chosen for the sick-room, and this room should be stripped of curtains and carpets, and all unnecessary pieces of furniture should be removed. A sheet soaked in some such disinfectant as Sanitas or permanganate of potash should be hung outside M

the door and should be kept constantly wet. Only those in attendance on the patient must enter the room, and the other members of the family must be put in quarantine at once. Everything that is used in the sick-room, such as clothing and table utensils, must be disinfected before it is brought out, and for this purpose a plentiful supply of disinfectant must be provided. All linen must be steeped in the disinfectant solution (not Condy's fluid, because it stains), then soaked in cold water for three hours and then boiled. Of course, nothing must be sent away to a laundry as long as infection remains in the house. Every person in attendance on the patient should wear an overall, which must be removed before leaving the sick-room, or, failing that, the dress should be changed, and at the same time the hands must be carefully washed in an antiseptic solution. At the termination of the illness or after the patient has been removed, it is most convenient to communicate with the local sanitary authority, who will carry out the disinfection of the house and the infected articles. Where such aid is not available or in cases where such elaborate precautions are deemed unnecessary you may

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disinfect the sick-room in the following way: Close all windows, ventilators, and fireplaces, sealing up all crevices with brown paper and making the place as nearly air-tight as possible. Stretch clothes-lines across the room and hang the infected clothing, etc., on them, and arrange those articles, like mattresses, which cannot be hung up, in such a way that as great a surface as possible shall be exposed to the action of the disinfectant. The disinfectant used should be either sulphurous acid gas, or formalin gas; the former is the more generally used, but it has the disadvantage that it blackens such things as picture-frames and brass bedsteads. Formalin is free from this drawback and is quite as efficient. It is put up in the form of tablets, and these are vaporized by means of a special lamp which can be obtained, together with the tablets, from any chemist. Sulphurous acid gas is obtained by burning sulphur, either in the form of sulphur candles or in the lump. The amount of sulphur used should be I lb. for every thousand cubit feet the room contains, and this amount, to avoid risk of fire, should be put on a saucer which rests on a pair of tongs over a bucket of water. Whichever

gas is employed, as soon as vaporization is started the door must be closed and sealed from without, and it must be kept so for six hours. Then the door and windows must be thrown wide open and a good fire must be lighted. But be careful not to enter the room till the gas has to some extent cleared off, for the vapours, particularly that of formalin, are very irritating. To complete the cleansing of the room the paper should be stripped, the ceiling whitewashed, and the floor and furniture should be scrubbed with disinfectant solution.

CHAPTER XI

NERVOUS DISORDERS

Under this head I shall group a number of conditions which, whatever their physical starting point may be, all have their origin in an underlying "nervous constitution." To people who imagine that 'nervousness' is the result only of stress of living it may seem absurd to speak of inexperienced children being nervous, or 'having nerves,' as the popular expression has it. But the fact is that nervousness is not so much the result of environment as of heredity, and if one or both parents be of the neurotic type, then the offspring are likely to exhibit nervous tendencies. Naturally, where there is an insane strain on the one side or the other, one would expect the development of nervous disorders in the children, but I speak of conditions far short of insanity-mere peculiarities of temperament, indefinable conditions

which are none the less perfectly well recognized, and are liable to be handed down and perhaps intensified in the offspring. But there is another condition, not generally recognized as having any connection with nervous disease, but which is a powerful agent in the procreation of it, and that is rheumatism. The children of rheumatic parents are all too frequently of the nervous type, and this is easily understood when it is remembered that rheumatism often attacks, not the joints, but the nervous system, giving rise to the disorder known as St. Vitus' dance. But, whatever the antecedent cause, if you have a nervous child you have a very difficult proposition to tackle; and I have been insisting on the hereditary origin of the trouble because it may help you to help your child if you will first be at pains to know yourself. And, though it is difficult or impossible to lay down definite instructions, much may be done to prevent the appearance of nervous disorders. In the first place, all children, irrespective of the nervosity of their parents, should be kept quiet during the first two years of life. The brain grows more, relatively to the rest of the body, in these two years than in all the

remainder of life, and it is therefore important to put no strain upon it during a particularly unstable period. It is a pretty thing to see a baby laugh, and nobody would contend that spontaneous laughter is a bad thing at any age; but it becomes a bad thing when it is not spontaneous, and to stimulate an infant to fits of laughter merely to amuse one's self, or to show off the baby's accomplishments to one's friends, is a highly selfish thing to do, and one fraught with real and grave risks for the child. Up to the age of two, babies should be kept as placid as possible, and as someone has rather well said, before that age 'children should neither be interesting or interested.'

The nervous child is apt to be shy and timid, but quick to learn, and therefore education becomes a difficult matter. For teachers are apt to push such children because they are brilliant at examinations and so bring credit on the school; but what is really wanted is not pushing, but keeping back. Nervous children are better kept away from school altogether until they have become mentally more stable. Quite a lot can be learnt at home at the feet of judicious parents, and

there need be no fear that the child will be handicapped in the race of life. There will be far more lost than gained in sending a sensitive child too early to school, where the hours will be too long, the work will be too hard, and where, if he be of uncommon mould, every effort will be made by chaff, bullying, and the system of education to suppress his individuality and reduce him to the dull level of his companions. For it is to be remembered that though the nervous are potentially the intellectual salt of the earth, yet they are in their early days always in danger of being crushed or made miserable by the incubus of mediocrity. While on the subject of education I would say that, for nervously constituted children especially, but in less degree for all children, "home lessons" (by which I mean studies which have to be pursued out of school-hours) are a mistake. They always seem to me to be a confession of weakness on the part of the pedagogues, and I would like to see the system entirely done away with. I think, too, that half the inefficiency, which is enormous, in our system of education is due to the fact that too much time at a stretch is given to any given subject.

It is usual in schools—at least, it was; I hope it is so no longer-to devote at least one hour on end to each subject. Now, few grown persons can concentrate on anything in which they are not specially interested for anything like an hour, and why children, who have a natural bias towards avoiding lessons, should be expected to stick at things which would weary mature brains quite passes comprehension. I think if twenty minutes or half an hour were given to each subject, and frequent intervals of recreation were afforded in between whiles, more would be learnt and less strain would be thrown on the brain than is the case under the present system. Also, I would like to see early morning 'preparation' abolished in our schools; for growing children, breakfast should be the first business of the day, and no work should be done before the machine has been properly stoked. Another question which arises in this connection is the question of punishments. Difficult at all times, the question is trebly difficult in the case of nervous children; for on the one hand you have to avoid meting out punishment for what the child cannot help, and on the other hand you have to be careful not to let the

child get out of hand and think that, whatever it does, no punishment will result. But, on the whole, I think you are more likely to be right in avoiding punishments than in being too insistent on them. The best method is to appeal to a child's better nature, which is easy, because children are nearly all better nature. Only, to do it you have got to get next to the child, and to get next to a child you have got to treat it on the dead-level. (There are two Americanisms in that sentence, for which I make no apology at all, because they express exactly what I want to say.) What I mean by treating a child 'on the level' is to talk to it as an equal and not as an inferior; I believe there is nothing which children resent so much as the superior attitude adopted by their elders, an attitude which they are just as well aware as we are is quite unjustifiable. When it is necessary to punish I believe there is nothing so effective as to 'take no notice.' Children feel personal neglect of that sort very keenly, and they will soon be 'good' to avoid it. Deprivation of luxuries of course is an obvious method, but it should never take the form of reduction of meals. Even now one often hears of the bread-and-water'

punishment, but to give a child only bread and water is to deprive it of its proper means of sustenance, and therefore to do a very silly and injurious thing. Another thing to be avoided is the shutting up in dark rooms or appealing to the sense of fear in any form; such foolish procedures may do irreparable harm to a sensitive child. One of the most ill-judged things to do is to threaten a child with a doctor-" If you are not good I shall fetch the doctor to give you some nasty medicine." What could be more idiotic? And when a doctor does come to a child who has been so threatened, what possible chance will he have of winning the child's confidence and getting at the bottom of his illness? This is not at all hypothetical. I have heard it done.

Then there is the question of corporal punishment. My own unaided judgment would be against it in every case, but many very sensible mothers have told me they are quite sure that when their children get unmanageable they are the better for an occasional whacking. Some children may be the better for it, some are doubtless unaffected one way or the other, and for some the effect is certainly

merely to inculcate a capacity for avoiding future punishment, at the same time hardening their hearts against their parents. It is difficult to decide when a whipping will do good and when a whipping will do harm. I suppose it depends on the child, and that is why it is necessary to know your child, and to know your child it is necessary, as I have pointed out above, to know yourself. Here I have been speaking of the ordinary normal child. But however doubtful the question may be in the case of normal children, there is no doubt whatever in the case of the nervous, sensitive children. For such children corporal punishment is absolutely to be avoided, for it will never be productive of anything but harm.

"GRIMACING," ETC.—Grimaces may generally be attributable to one of two conditions: either they are the spasmodic twitchings of certain muscles due to nervousness, or they are a manifestation of chorea (St. Vitus' dance). In either case there is often a close association with rheumatism, but nevertheless the two conditions are quite distinct. In nervous twitching (habit-spasm,

as it is called) the grimace or movement is very fairly constant; that is to say, the child has one particular habit, such as blinking, or nose twitching, or shoulder shrugging, and always performs the same movement. Chorea, on the other hand, is notable for the great diversity of the grimaces and jerkings to which it gives rise. Another point of distinction is that in habit-spasm the child will generally keep perfectly still while under observation, whereas in chorea the more attention he is given the worse the twitchings will become. Although nervousness is the underlying cause in all cases of habit-spasm, still some such physical defect as a decayed tooth, or adenoids, or eye troubles may be the starting point, and determine of what kind the spasm shall be. Therefore the remedying of all such defects when present will be an important part of the treatment. The general treatment consists in removing the child from school, stopping all lessons and nerve strain of any kind whatever, and where possible sending him to the country and letting him run wild. Drugs, and particularly tonics, sometimes help in the treatment of habit-spasm, but the general measures are far more important. Chorea,

which also calls for important general treatment, requires prolonged treatment by drugs as well. Agreeable to my intentions previously expressed, I do not mention the names of the drugs which are employed, because they are not such as can be handled by a layman, and the disease calls for the skilled care of a medical man.

NAIL-BITING is one of those bad habits which more often than not are merely the outcome of a nervous temperament. It is sometimes a very difficult habit to cure, and the time-honoured method of putting bitter aloes or some such unpleasant thing on the fingers is generally useless. In quite young children it is best to keep the hands in gloves, and these must be worn at night, as well as during the day, because the habit may be continued during sleep. For children who are old enough to appreciate and use it, the gift of a pair of nail-scissors is the best cure; this, combined with encouragement, often works wonders.

TEETH-GRINDING is a common habit with children of the neurotic type. It usually occurs at night and is rare during the daytime.

When it occurs during the daytime it is generally a symptom of serious disease, in which case of course it is only one of a number of symptoms, but when it occurs at night it is as a rule due to something much more simple. Popularly it is always attributed to the presence of worms in the intestines, but though worms may sometimes be the cause a far more frequent one is chronic indigestion in a nervously constituted child. Often, too, it is associated with constipation. Obviously, the treatment must consist in regulating the bowels and in correcting the diet by the light of experience and the information given in the chapter on the subject. Also the symptom will serve as a warning that the child is 'nervous,' and must be treated accordingly.

HEAD-ROLLING.—This occurs usually in children of two years and under, and consists in a rhythmical rolling of the head from side to side as the child lies in its cot. It is not particularly common, but I draw attention to it because parents are often alarmed by it, thinking it is a manifestation of brain disease. As a matter of fact it is merely a nervous symptom, started

sometimes by the irritation of teething, often associated with some degree of rickets, but not really of ominous portent.

NIGHT TERRORS.—These occur mostly between the ages of three and eight, though they are sometimes seen in older children, and I have known an adult to suffer from them. After a child has been in bed from half to three hours he suddenly awakes screaming. He sits up in bed, or jumps out of bed and rushes to the door, or hides in a corner or flees to his mother's room, fear depicted on his countenance. Sometimes he will indicate what it is that is frightening him, sometimes not; the older the child the less likely is he to reveal the nature of his hallucination. But it is generally something black—a black man, a black dog, or a black monster-and perhaps it was from visions of this kind that Satan acquired his traditional colour. Or possibly the visions acquire their blackness from the traditional powers of darkness, for such visions are much affected by the impressions of the waking state. Night terrors seldom occur more than once in a night, though they may be repeated on sub-

sequent nights. The attack lasts from a few minutes to half an hour, and often ends with the passing of a large quantity of water. This is often voided unconsciously, so that night terrors are frequently associated with bed-wetting. Generally the child is too much taken up with what is frightening him to recognize things or people during the attack, but when the first fear has passed he will cling to his nurse or mother for protection and then sink into a rather troubled sleep.

Night terrors are often supposed to be caused by worms, which in the view of some mothers seem to be the cause of every ill to which baby flesh is heir. Worms may sometimes be the starting point, so may indigestion, so may toothache, or earache, or almost any other kind of ill health. But the trouble often arises quite apart from and independently of any bodily disorder, and is then simply and solely a manifestation of nervous instability. Children who suffer from night terrors are generally unusually shy and timid, but are gifted with a remarkable imagination. They are apt to become secretive and self-conscious, and frequently they develop a leaning towards religion which is quite unnatural in children;

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the normal child is a first-class pagan. Overpressure at school accounts for a large number of cases of night terrors; so, too, do the terrifying pictures and stories with which children are sometimes allowed to regale themselves.

For the treatment of night terrors of course any specific cause, such as worms, adenoids, or indigestion will have to be dealt with, but probably that alone will not effect a cure. The underlying nervousness has to be treated, and that in general by means already hinted at. Much comfort may be afforded children who suffer from this complaint by never letting them sleep alone and always providing them with a night-light. Leonard Guthrie tells of a child who when told that she need not fear the dark because "God would be with her," said, "I wish you'd take God away and leave the candle."

DAY TERRORS are much less common than night terrors, but are essentially the same thing, and occur in the same timid, nervous class of children. They consist of a sudden access of fear coming on in broad daylight and for no obvious reason. The

child will sometimes cling to its mother or nurse for protection; sometimes, on the other hand, it will seem to be afraid of them. Sometimes the attack is manifested by a fit of screaming, in which case it is likely to be attributed to naughtiness, and the child punished accordingly. It is important to distinguish between the two conditions, because to punish a child for a fit of passion when he is in reality suffering from a day terror is not only unjust, but eminently harmful to the child. The points of distinction are, that in an attack of the kind the fit of crying lasts much longer and is more violent than in a mere passionate outburst; it comes on quite suddenly and without apparent cause, and during the attack, although the child cries without restraint, he sheds no tears. The cure of such a case is similar to that of a case of night terrors.

SLEEP-WALKING is another condition common in nervous children. It is sometimes associated with gastric troubles, sometimes rheumatism. The direct cause is generally the worry of lessons or preparation for an examination. Sleep-walking is carried on in

a half-waking state, and though wonderful feats may be performed, such as the scaling of a wall or walking along a narrow ledge, yet nasty accidents sometimes happen. It is therefore necessary that a child suffering from this affliction should sleep under observation, or that the door should be kept locked and the windows protected. It is also a good plan to tether one leg to the bedpost. As in other conditions of the kind, proper drug treatment can afford much relief, but more important still is the general treatment of the causes and underlying condition.

standering, or as it is more properly called, 'stuttering,' is due to defective nervous control of the mechanism of speech and not to malformation of the mouth or throat. It is usually found in association with some other evidence of the nervous temperament. It is more common in boys than in girls and appears at about the age of six years. The symptoms are well known. The stutterer generally has difficulty with one or more of the explosive consonants—p, b, t, d, g, and k. And as a rule it is only when they occur at the beginning of a word that they cause trouble.

Treatment consists in the first place in getting the general health into good order by means of fresh air, exercise, freedom from worry, and perhaps the use of tonics. Children who stutter should be removed from school till they are cured, because the chaff and imitation to which they will be submitted naturally has a very bad effect upon what is a purely nervous disorder; also, since stuttering is 'catching,' they may transmit their defect to other similarly constituted children. In order to deal directly with the defect it is necessary first to find out exactly at which letter or letters the difficulty occurs. Make the child read aloud, and note carefully which words give trouble. Then make him breathe regularly and deeply; stutterers generally speak with an empty chest, and one of the first essentials in the cure is to teach them proper breathing. When you have got the child taking good full breaths make him phonate vowel-sounds as he breathes out; this he will probably do without difficulty. Then introduce consonantsounds before the vowel-sounds, beginning first with the consonants he is known to have no trouble with, so as to gain confidence, and

following with the difficult ones. Of course the consonant and vowel sound must be continuous, there must be no interruption between pronouncing the one and the other. As an example: supposing obstruction takes place over the letter c; first of all make the child take a deep breath, and as he breathes out let him voice the sound at in cat; then, continuing to breathe deeply, let him try to tack on the c with the next expiration. Much patience will be required in carrying out the treatment, and you may have to go long before you will see any definite result. Singing is a great help. Reading aloud is also very beneficial, and should be practised daily, care being taken to make the child read with expression. It is good for all children, whether they are stammerers or not, to read aloud, and much improvement may be made in their speech by teaching them to recite little poems, of which there are none better than the ancient nursery rhymes. This accomplishment, when acquired, is however best kept for home consumption—performing children are nearly as tiresome as performing animals.

BED-WETTING.—This extremely dis198

tressing complaint may be merely a persistence of infantile lack of control, or it may develop later in life after control has been acquired. In the latter case, the onset is usually between the ages of five and nine years. Sometimes there is a purely physical and local cause for the trouble, but in all cases the nervous constitution of the child is what is really at fault. The physical causes most often blamed are the presence of threadworms, an abnormal condition of the urine, adenoids, and length or tightness of the prepuce; of these, the first named is frequently operative, the second less frequently, and the two last seldom or never. Nearly always the trouble disappears spontaneously at or about the age of puberty, but it is not fair to the child to let it suffer all the misery that the disorder entails when it might be cut short by proper treatment. Many drugs are used in the treatment, the most generally successful being belladonna, of whose properties you probably know enough to recognize that it is not a medicament you can administer yourself, more particularly when it is added that for the successful treatment of these cases it is often necessary to push it to an extreme

degree. And here I would put in a plea for the doctor who has the case in hand. It is not fair to expect him to cure the disorder with one or two bottles of medicine. Treatment has to be patient and prolonged, and if the child gets well in three weeks you may count yourself very fortunate, while if the disorder is not vanquished till the end of three months you have no ground for complaint. But, apart from drug treatment, much may be done by general management to assist in the cure. First of all, regular habits must be inculcated, if this has not already been done, and the emptying of the bladder last thing before going to bed must be insisted on; but I do not think the plan of waking a child at intervals during the night is a good one; it is simply perpetuating the habit of passing water during the night. Also, it is not efficacious, for I have known children who have been waked and made to pass water and who yet wetted the bed shortly afterwards. No fluid must be given to drink after the last meal (which should not be too late), and the amount of fluid allowed during the afternoon should be restricted. Tea and coffee must be forbidden. A certain number

of cases can be favourably influenced by modifying the diet, particularly in the direction of stopping sweets and sugary things and greatly diminishing the amount of potato and starchy puddings. On the other hand, there are some cases which do better if meat is withheld, and these are generally the cases which are associated with rheumatism; for this, like all nervous troubles, is often of rheumatic origin. Of course, if worms are present they will have to be removed, as will any other local cause of irritation; but the various surgical measures that have been proposed are for the most part useless. Children who suffer from this complaint are better kept away from school; certainly they should not be sent to boarding-school, where the chaff and opprobrium to which they are submitted will only make them worse. And it is quite unjustifiable and cruel to punish them. One often hears, "I have tried whipping him, but it does not do any good." Of course not, it can only do infinite harm. Children who are afflicted in this way are miserable and shamed enough by their misfortune without having their sufferings added to by blows, or, what often hurts them more, hard words.

MASTURBATION.-I make no apology for introducing a section on the subject of self-abuse, but I suppose it is necessary to offer an excuse. And the excuse is that it is a thing that mothers especially ought to know about. Everybody knows, at any rate vaguely, about the practice in older children, and most people are content either to let it alone or to leave it to schoolmasters or mistresses to deal with. But very few people know that the habit is often started in quite early infancy, before the age of six months, even; that is why mothers and nurses ought to understand the matter, because, if early recognized, the habit may be prevented from becoming ingrained. The practice is said to be more common in little girls than in little boys, and it is often started by some form of local irritation which the child endeavours to relieve by rubbing, and, finding that this gives rise to pleasurable sensations, the manipulations are continued to evoke them. In boys such irritation may be set up by retention of secretion by a tight foreskin, while in girls there is often a form of inflammation set up by the presence of worms in the rectum or by want of cleanliness. In little girls, too,

irritation may be caused by the caking of powder about the interstices of the private parts, and that is why, when applying powder after the bath, this region should be avoided. But often there is no obvious local cause, and the phenomenon is purely psychic. Recently I have met with the case of a small boy who, though having an exaggerated sense of modesty when awake, always masturbates in his sleep. He, like most young children who are afflicted with this habit, is of the nervous type and comes of a neurotic stock. It is necessary to know something of the methods employed.

The hands are seldom used, in girls at any rate; generally the child crosses her thighs and rubs them together, or she lies rocking or wriggling in her cot or on her mother's knee. While the habit is being practised the child appears to be excited and perhaps utters crowing or grunting sounds; the face is flushed and presently perspiration breaks out, and this is followed by pallor of the face and exhaustion. When you observe such symptoms the first thing to do is to inform a medical man. He will make search for any local cause and take such steps as may be

necessary to remove it, and will also be able by advice and the administration of medicine to help to check the habit. But, obviously, much may be done in the way of prevention. In girls, strict attention must be paid to local cleanliness; and powder, as shown above, must be avoided.

In boys, the foreskin must be retracted daily and the white secretion which forms beneath it washed away. Sometimes the foreskin cannot be retracted; if so, it is the duty of the nurse to call the doctor's attention to the fact. And I find the usual formula employed by nurses in such circumstances is: "Doctor, the baby wants circumcising." Well, as a matter of fact, in a large proportion of cases he wants no such thing; the trouble is, that the foreskin is adherent to the underlying parts, and all that is required is separation with a probe. Whether circumcision is necessary, or whether the lesser procedure will suffice, is of course a question that only the doctor can decide. All I wish to insist on here is-supposing it is deemed sufficient only to break down the adhesions without any cutting operation, that after this has been done the foreskin must be retracted

daily, or the adhesions will re-form. I have sometimes found nurses rather negligent in this respect. And I would here point out that the operation of circumcision is not the panacea for masturbation that it is popularly supposed to be; if it were so, the practice should be unknown among the Jews, whereas there is no evidence to show that it is less common among them than among Christians. Indeed, the rite may sometimes even be a cause rather than a preventive, for it exposes the more sensitive parts to the friction of the clothing; and that brings up another possible starting point of the trouble, which is the discomfort caused by ill-fitting knickers or combinations. One often sees small boys clutching at the fork of their knickers, obviously unhappy because of their misfit. Of course, the children's clothing is primarily the mother's affair, but in this respect possibly the father might be able to give some useful advice.

In very young babies, and especially when the practice is indulged in at night, some form of mechanical restraint may be necessary, as, for instance, keeping the legs apart by tying them to the pillars of the cot.

But children who are able to understand require careful and tactful moral treatment. In the first place, punishment is uncalled for and will only do harm; it is uncalled for because the child is not conscious of wrongdoing, and it is harmful because while failing to cure the habit it will make the child secretive about it, and thus add deception to the other vice. What you have to do is to be sympathetic. You have to impress on the child that it is the victim of a bad habit which you want to help to cure. You will explain that the thing is naughty and that nice children do not do such things; or you will make such gentle appeal as you best know will be effective. And if punishments for indulging in the practice do harm, rewards for abstaining from it may certainly do much good; for with all nervous children, and probably too with children of all sorts of temperaments, a system of rewards is in all things better and more effective than a system of punishments. I am here referring only to the treatment of the habit in quite young children; in children about the age of puberty, where the practice is the result of the sudden awakening of sexual instincts

before the development of higher control, punishment is sometimes justifiable. But even in these cases it must be very tactfully administered, and the moral appeal will generally be far more effective.

CHAPTER XII

INJURIES AND EMERGENCIES

BLEEDING .- In any case of injury the first thing to do is to stop the bleeding, if any. And the pre-eminent way of stopping bleeding in all cases is by pressure, so the first thing to do is always to apply pressure to the bleeding spot. Take a wad of absorbent wool or a piece of lint, wring it out of very hot water, and with it press firmly on the wound and keep on pressing; it is no good to dab gently or to relax the pressure in a few seconds; the pressure must be firm and continuous. If it is found that pressure on the spot is successful, bind a pad firmly on to the wound and elevate and support the limb, if it is a limb that is injured; elevation and support of the limb is arranged in the case of the arm by putting it in a sling, so arranged that the forearm hangs above the horizontal, and, in the case of the leg, by placing the

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patient in a recumbent position and raising the limb on a pillow. But if a large bloodvessel has been injured, pressure on the bleeding point will sometimes fail to arrest the hæmorrhage; it will then be necessary to tie a tight ligature round the limb in such a way that the circulation will be stopped. If the blood is bright red and spurts up in a jet you must tie your ligature (which may be a handkerchief or a necktie or a bandage, or anything of the kind that is handy) between the wound and the body; but if the blood is of a purplish hue and wells up from the wound, then you must place your ligature on the side of the wound away from the body. As before, you must elevate and support the limb. In any case of severe bleeding you must send for medical aid at once, but it falls to the lot of few laymen to meet with a case of bleeding from an injury which cannot be controlled by direct pressure on the bleeding spot.

CUTS.—There are three things to be done in dealing with a cut: the first is to stop the bleeding, the second is to get the wound clean, and the third is to keep it clean. You already know how to stop the bleeding. Cleanliness

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is obtained by washing either with chemical substances known as antiseptics or with the more simple and always obtainable soap and water. Wash the skin surrounding the wound with soap and water, using a wad of absorbent wool to apply the soap with; be very gentle, especially if there has been much bleeding, for fear you may restart it. Bathe the wound itself either with hot water or with some hot antiseptic lotion. A useful and harmless antiseptic lotion is made by dissolving boracic acid in hot water (see page 246). In order to keep the wound clean you must apply a perfectly clean dressing; this may be a piece of boracic lint, or of one of the medicated gauzes wrung out of hot water, or a piece of ordinary cotton lint wrung out of the antiseptic lotion; or, failing any of these, a simple piece of lint or linen or a handkerchief, the point being that it must be perfectly clean. Over the dressing which is next the wound place a pad of absorbent wool, and bind the whole on firmly with a bandage. If it remains comfortable and there is no local throbbing or aching, and no signs of general ill health, the dressing may remain undisturbed for a week-that is, if your bandaging has been sufficiently skilful

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to keep it so. At the end of that time the dressing should be soaked off, and a simple clean cut will be found to be almost healed. But if the cut is not clean, or you are in doubt as to whether you have got it clean, then it is better to start at once with the application of hot fomentations. To make hot fomentations proceed as follows: Cut out a piece of boracic lint of the size required to cover the wound; cut out a piece of oiled silk or gutta-percha tissue large enough not only to cover but to overlap the piece of lint; cut out a piece of absorbent wool which is larger again than the piece of oiled silk; take a clean pudding-basin and a clean dish-cloth, spread the dish-cloth in the basin and place the piece of lint in the dish-cloth; pour boiling water on the lint and use the dish-cloth to wring it nearly dry; test the heat of the lint with the lips, and, when it is cool enough to be borne, apply it to the wound, then quickly cover it with the oiled silk, and this again with the wool. Secure the whole in position with a bandage. The object of the hot moist lint is to draw out any dirt or discharges, to act, in fact, like a clean edition of the old-fashioned poultice; the object of the oiled silk is to keep the dressing moist,

and the object of the wool is to keep it warm. Such a dressing must be changed every three or four hours. If a wound gapes, the edges must be brought together, or it will be long in healing, and will leave an ugly scar; but it is only a clean-cut wound that has been thoroughly washed which will heal quickly and without conspicuous scarring. In some cases the edges of a wound can be drawn together by means of strips of some such antiseptic strapping-plaster as Mead's, applied at interval across the wound, a space being left between the strips to allow of the escape of the discharges. But generally a much more satisfactory method is the application of stitches, which, by accurately approximating the edges of the wound, greatly hasten healing and minimize the subsequent scar. The pain from the insertion of stitches is not so great as might be supposed, and at any rate it is quickly over; removal of the stitches is as a rule quite painless, and if the patient's eyes are covered he often does not know it has been done. The ancient custom of applying court-plaster and gold-beater's skin to cuts should be abandoned; and the recently popular "new skin" is only applicable to

small wounds which are absolutely clean and free from oozing.

NOSE-BLEEDING, though rare in infancy, is common in children between the ages of three and fourteen years, and particularly so about the age of puberty. It may be caused by injury such as a blow on the nose, or by a variety of diseases. It is not as a rule of serious import in children, but at the same time it may be a symptom of some grave disorder; so that if a child should be subject to the complaint he should always be medically examined. Also, if the bleeding occurs combined with other symptoms of ill health, it must on no account be neglected; for instance, the combination of nose-bleeding with 'growing pains' would be an unmistakable warning of rheumatism which was very probably affecting the heart. However, as I have said, the phenomenon as a rule is not serious when occurring in children, and it will generally stop without any very active treatment provided it is properly managed. But often the treatment directed to stopping the bleeding is the cause of its persistence; usually the head is hung down over a basin and the patient keeps

on sniffing down to expel the blood from the nose. In order to stop nose-bleeding the patient must either sit upright with the head held erect, or he must lie down flat, and instead of sniffing down he must sniff up; at the same time ice should be applied to the root of the nose and be given to suck, or, if ice is not available, the face should be sponged with cold water. As a rule that is all that is necessary, but if these measures fail the patient should lie in bed on his side and compress the end of the nose between his own thumb and forefinger for fifteen minutes; or a plug of cotton-wool may be inserted in the nostril from which the blood is flowing, and the side of the nose pressed against it for the same length of time. In all cases the child must be kept as quiet as possible, and you had best make light of the trouble, particularly if he is of the nervous type, because alarm tends to perpetuate the bleeding.

BURNS AND SCALDS.—The distinction between burns and scalds is that the former are caused by dry heat, the latter by moist heat; the effect is much the same in both cases. Burning is a form of injury to which

young children are particularly liable, and one which, if at all extensive, is likely to be followed by the gravest results. Special precautions have to be taken against this danger because the unburnt child, so far from fearing the fire, is much attracted by it. Common sense will dictate that the fires in the rooms where children play shall have proper guards to them; also that matches shall not be left where they can get at them, for the lighting and blowing out of matches is one of the most fascinating of games. Earlier in this book I have spoken in condemnation of the use of flannelette, with its smoking hecatombs of slaughtered babes, and I repeat that condemnation now. Scalds are sometimes caused by a child going to drink at the spout of a kettle which has been left to boil on the stove in a room where the child has been left alone; to know of this danger is to know how to guard against it. Another way in which scalds are often caused is by putting a child into a bath which is too hot, boiling it may be, or nearly so. This disastrous accident is to be guarded against by always observing the simple 'bath rules'; which are: first, always to turn on the cold tap

first; second, always to turn off the taps before the child is put into the bath; and third, always first to test the temperature of the bath either with the hand or, far better, with the bath thermometer.

When a child's clothing catches fire, as it may do from approaching too near a fire or from standing over a gas-ring, the first thing to do is to lay the patient down on the floor with the burning part of the clothing uppermost. Then immediately extinguish the flames by smothering them with a blanket, table-cloth, overcoat, or anything thick and massive that happens to be handy.

Burns are of varying degrees of severity; there may be mere reddening of the skin, there may be blistering, or there may be destruction of the skin and underlying tissues. The principles to be observed in treating burns are to relieve the pain, to keep the injured parts clean and covered, and to treat the constitutional shock. Shock is often considerable, and is dependent on the extent and position of the burns rather than their depth; so that an extensive superficial burn, particularly if it involved the chest and abdomen, would be more serious than a

circumscribed but deeply destructive burn involving an arm or leg. To relieve the pain some sort of alkali is useful, and thus it is that the pain of small burns is relieved by the application of soap; a burn dressing should also be of an oily nature, and it should be antiseptic. An old-fashioned remedy for burns is Carron oil, which is made by mixing equal parts of lime-water and linseed oil. This preparation is alkaline and oily, but it has the disadvantage that it is not antiseptic. None the less, it is one of the most soothing preparations and very quickly lulls the pain; and though it would be an unsuitable dressing for extensive burns, yet for slight burns its use is quite legitimate. A very good and cleanly dressing for burns is a mixture of equal parts of boracic ointment and vaseline; this, if the burn is at all extensive, is spread on a number of strips of lint, which are applied to the wound with the edges of the strips overlapping, the object of this arrangement being to diminish the pain and shock when the dressing is removed. But possibly you will have neither Carron oil nor boracic ointment at hand when a burn is to be treated; you must then make shift with such material

as you have. For superficial burns it is good to sprinkle with flour or starch powder. A useful dressing may be made by soaking strips of lint in salad oil and applying as above directed, or any sort of vegetable oil will do. But, whatever sort of application is used, the dressing must be covered with a thick layer of absorbent wool. In dealing with a burn, first cut away the clothing, if necessary, and bathe with warm boracic lotion, if it is obtainable; but if any portion of the clothing remains sticking to the wound do not attempt to tear it away, but leave it for the doctor to deal with. If there are blisters, let them alone; one's instinct is to prick blisters, but they really act as a natural protection, and should not be interfered with by the amateur. Having got the parts as clean as possible, working gently and expeditiously, the next thing is to apply the dressing. Then treat the condition of shock; this you must do by getting the patient warm in bed, using hotwater bottles if necessary, by giving hot drinks such as tea or coffee, or one of the advertised meat extracts, which are all very good stimulants, but mostly very poor foods, and in cases of much collapse by administering

brandy. All burns, except the most trivial, will have to be attended to by a medical man, as they are a serious injury, and in young babies the mortality is high. All I have been indicating here is the first-aid treatment to be applied before medical help can be obtained.

BRUISES are the result of the breaking of minute blood-vessels beneath the skin without rupture of the skin itself. They go through various stages of discoloration, being at first black and blue, and afterwards purplish-green, brown, and yellow. If bruising is at all severe, the bruised part should be kept at rest and should be dressed with lint wrung out of spirit lotion, which is made by mixing one tablespoonful of methylated spirit with three tablespoonfuls of water. This is covered with wool, and changed as often as it becomes dry. Spirit lotion must not be used when the skin is broken. Hazeline is also a good application, and may be used either in the form of an ointment or a lotion. Tincture of arnica (I part to 3 parts of water) is the popular remedy, but it probably owes its efficacy more to the spirit it contains than to the arnica.

FOREIGN BODY IN THE EYE .-When a foreign body, such as a piece of coaldust, gets into the eye you must prevent the child rubbing the eye, and the best way to accomplish this is to remove the foreign body. First of all, get the child in a good light and pull down the lower lid; if you can see the foreign body, sweep it away with a piece of wool or with the moistened corner of a handkerchief. If you do not see it, draw up the upper lid, and, if you still do not see it, lift the upper lid from off the eyeball and push the lower lid beneath it with a sweeping movement. This will very often dislodge the foreign body, but if it fails you may, if you know how, evert the upper lid, and this will bring the foreign body into view. But this manipulation is difficult, and you should never attempt it unless you have acquired the knack at an ambulance class, and even then only when skilled attention cannot be obtained. Generally, when a patient comes to a doctor with a piece of coal-dust in the eye, he is suffering less from the presence of the foreign body than from the attempts of well-meaning amateurs to remove it. If you are unable to find the foreign body, or, having

found it, you are unable to remove it by gently wiping it away, place a drop of castor oil in the inner corner of the lower lid, cut out a round pad of wool the size of the eye-socket, put this over the eye, and fix it on firmly with a handkerchief or bandage tied slantwise round the head. Then take the child off to the doctor. Thus kept at rest, there will be but little pain, and the chances of inflammation of the eye will be reduced. Of course, if the accident occurs out of doors you cannot apply these remedies at once, but you can keep the lids closed, and the eye at rest by the pressure of a handkerchief. If you are successful in removing the foreign body yourself it is always a good plan to drop castor oil into the eye afterwards, as it helps to allay the irritation.

FOREIGN BODIES IN THE NOSE.— Children often push such small round objects as beads, boot-buttons, and peas into their nostrils. Unless the foreign body is quite easily accessible no attempt should be made to remove it, but the child should be taken to the doctor. No immediate harm will come from the presence of the foreign body, but

much might arise from unskilled attempts at removal. Often it will be quite unknown that any foreign body has been inserted into the nose until persistent stuffiness or thick yellow discharge from one nostril raise suspicions that such is the case.

FOREIGN BODIES IN THE EAR .-These may give rise to no symptoms at all, or, on the other hand, may set up cough, vomiting, or convulsive seizures, whilst anything completely blocking the canal will cause deafness, noises in the head, and giddiness. Here again there is no immediate danger, but there is danger in attempts at removal by persons unskilled in the art. Syringing is sometimes recommended, and is successful in many cases, but since in some cases it may do harm and no good, and since you have not the necessary knowledge to decide whether it will do harm or good in any given case I advise you to leave it alone. But there is one class of foreign body which you can and must remove yourself without waiting for the doctor, and that is the living insect, such as the fly, the flea, the earwig, or the maggot. These insects sometimes, though rarely, enter

the ear and give rise to excruciating pain and noises in the head. In such a case lay the child on the side, with the affected ear uppermost and instil some drops of oil into the ear so as to kill the insect. Leave the oil in for five minutes, and then gently syringe out the canal till the oil and the insect are removed.

FOREIGN BODIES IN THE THROAT OR GULLET .- Sometimes, through insufficiently masticating a piece of meat or through taking too large a mouthful of food, the mass, instead of being swallowed, sticks in the child's throat, giving rise to choking, stoppage of breathing, and blueness of the face. When this happens you must attempt to right matters without loss of time. Standing behind the child open the jaw by seizing it with your left hand and support the head against your body with your left arm; then stick the forefinger of your right hand down the child's throat and endeavour to hook the foreign body up; if you fail to hook it up you will perhaps succeed in pushing it down, or if you fail in both you will very likely make the child sick, and so the obstruction will be removed. While you are making these attempts yourself let somebody

else fetch a doctor, not forgetting to tell him what he is wanted for. If you have succeeded in removing the foreign body yourself before he comes so much the better, but if you have not it may be necessary for the doctor to perform an immediate operation in order to save the child's life. When the foreign body is some such small hard substance as a piece of slate-pencil you can sometimes dislodge it by turning the child upside down and holding him up by his heels. Do not think that these heroic measures are called for whenever a foreign body sticks in the throat or something 'goes the wrong way.' It is only when there are urgent symptoms of suffocation that there need be grave alarm, and, in fact, when the foreign body is a fishbone or pin or something that gives rise to no such urgent symptoms you had better leave the case alone and let the doctor deal with it.

FOREIGN BODIES SWALLOWED.— Children have a great liking for putting all sorts of things in their mouths, and consequently every now and then something unfit for human food gets swallowed. But at the same time there is a remarkable tendency

among mothers to think that every mislaid article has been swallowed by one of the children. However, if there is any doubt about the matter, it can be cleared up by the use of the X-rays. If a foreign body really has been swallowed the matter as a rule is not serious. Of course, with a sharp or pointed object there would be danger of injury to the intestines, and the question of removal by surgical operation would arise. But rounded objects such as coins never do any great mischief, and are generally passed naturally in about a week or so. Formerly it was supposed that swallowed bodies like date and cherry stones were the cause of appendicitis, but though the sequence is possible it is highly improbable, and, as a matter of fact, happens very rarely. If recently swallowed, a foreign body may be removed by means of an emetic, but, if it has been swallowed some time, emetics are useless. If the body is angular in shape it is well to feed the child largely on porridge in the hope of surrounding it and rounding off its corners, so to speak; but purgatives should not be given because they only retard the expulsion, and by irritating the intestinal walls render them more liable to injury.

FISHHOOK IN THE FINGER.—This accident is not uncommon when small boys go fishing. It is no good trying to get the hook out by pulling it back the way it went in, because, the point being barbed, the barbs stick in the flesh and anchor the hook firmly. The proper method of extraction is first to cut off the "dressing" from the blunt end of the hook and then to push the hook onwards the same way as it went in. After extraction the bleeding must be stopped by pressure, the wound must be washed, and a clean dressing must be applied.

STINGS.—These cause pain and swelling because of an acid poison secreted by the insect. The treatment is to remove the 'sting,' when it has been left in the skin, as in the case of a bee-sting, and then to neutralize the poison by the application of an alkaline and cooling lotion. Sal-volatile answers this purpose very well, and so does a solution of bicarbonate of soda. Hazeline is another useful preparation, and there is always the well-known remedy—the bluebag. Children often suffer much from the attacks of gnats during the summer; some tincture of

pyrethrum dabbed on the bare parts of the skin will be found to be an efficient preventive.

BITES.—The treatment of the bites of animals is the same as the treatment of any other wound. Formerly there was always the dread of hydrophobia, but the 'Muzzling Order' succeeded in stamping out the disease in dogs in this country, and the quarantine regulations have kept them free from a return of it. It is true that foxes also suffer from rabies, and a fox may bite a hound and so infect a whole pack, but the disease is now so well recognized and its infectivity is so well known that any further spread of the disease would be prevented. Cats also suffer from rabies, but this is rare—one seldom hears of a mad cat. It is also to be remembered that dogs do not go suddenly mad, but show premonitory signs of illness, refusing their food, and slinking away into dark corners. Therefore you can practically always dismiss the fear of hydrophobia from your mind. Still, if there is any doubt about the state of the offending animal's health, the proper treatment is to encourage the wound to bleed, so as to eliminate the poison, and then to apply

caustic freely; this is not home treatment as a rule, but if no doctor is available you may cauterize the wound yourself either by applying lunar caustic, if by any chance you happen to have it in the house, or by touching with a red-hot wire. But such strenuous methods are very rarely called for. There exists a curious superstition among a certain class of people that if a dog is killed after it has inflicted a bite the victim will be thereby saved from all danger of developing hydrophobia—a curious application of the principle of shutting the stable door after the steed has been stolen.

POISONS.—Children will often gather leaves and berries and roots in the fields or garden and eat them either for their attractive look or taste, or in mistake for some edible thing, or, again, simply from the childish instinct of tasting everything. Most children are out for adventures, and very often they find them. Many plants and vegetables are extremely poisonous, as, for instance, hemlock (which may be mistaken for parsley), wild celery, fool's-parsley, wild spinach, deadly nightshade, monk's-hood (whose root may be

mistaken for horse-radish), yew-leaves, juniper berries, and laburnum seeds, which, growing in a pod, are taken for edible peas. Also, there are poisonous fungi which, being supposed to be mushrooms, or perhaps with a view to reproducing some of the exploits of Alice in Wonderland, are nibbled, with disastrous results. A particularly poisonous one is the fly fungus, which is distinguished by its bright-red speckled top. But there are other kinds of poisons and other ways in which children may be poisoned than by eating noxious herbs. They may, for instance, be given an overdose of medicine, or the wrong medicine; the way to guard against this mistake is always, every time you give a dose of medicine, whether it be twice a day or twenty times, to read carefully the directions on the label. Or, if the medicine is pleasant to take, as is the way with modern medicines for children, they may surreptitiously help themselves to a drink of it, so that all medicines should be kept out of the children's reach. Again, they may be poisoned by one or other of the quack nostrums, and particularly the cough mixtures, which often contain opium, a drug to whose poisonous

action children are particularly susceptible. Then they may drink by mistake some antiseptic or corrosive fluid, though this is less likely, because such things have not as a rule an attractive smell or appearance. To these various ways of poisoning must be added ptomaine poisoning, which is caused by the ingestion of tinned or unsound food.

Cases of acute poisoning are marked by the suddenness of their onset, which generally occurs soon after swallowing the particular poison. The symptoms that should make you suspect that poison has been taken are sudden violent pain in the stomach, followed by vomiting and generally diarrhœa. With this there will be great collapse, shown by pallor, shallow breathing, and feeble pulse. Sometimes there will be complete unconsciousness.

Though there are special antidotes for many of the poisons there are certain lines of treatment applicable to all of them. In the first place, you must of course send for a doctor, and you must let him know what has happened and, if possible, the nature of the poison that has been swallowed, so that he may come properly equipped. Also, you must save anything that is vomited, because it may

be important for purposes of analysis. The objects to be aimed at in treating cases of poisoning are—to get rid of the poison, to neutralize its effects, and to overcome the collapse. To get rid of the poison we endeavour to make the patient sick by administering an emetic, which may either be a tablespoonful of mustard or two tablespoonfuls of salt in half a pint of tepid water, or from a dessert-spoonful to a tablespoonful of ipecacuanha wine followed by copious draughts of tepid water, and repeated if necessary in a quarter of an hour. The only condition in which an emetic should not be given is when there are marks about the lips and mouth showing that a strong corrosive (acid or alkali) has been swallowed. To neutralize the effects of a poison there are certain antidotes proper to each, but they are not for the most part within the knowledge of, nor available to the hand of, the layman. None the less, there are certain things to be given which, though not specific antidotes, soothe the passages and help to prevent the absorption of the poison. One of these is white of egg, which, though useful in all cases, is specially called for in mercurial poisoning

(e.g., swallowing corrosive sublimate), where it acts as a direct antidote. Other good and soothing things to be given after the emetic has worked are milk, linseed tea, and any kind of vegetable oil-not, of course, mineral oils like petrol or paraffin. When marks about the mouth indicate that one of the strong acids or strong ammonia has been swallowed you must give, in the case of the acids, some lime-water to drink or a solution made by dissolving 'whiting' (from the ceiling or elsewhere) in water, and in the case of ammonia you must give some weak acid such as vinegar or lemon juice. It is, however, unlikely that a child will swallow one of these strong corrosive poisons, except perhaps carbolic acid, which is much used as an antiseptic and has a pleasant smell. Carbolic acid causes white marks about the lips and mouth; in this case it is permissible to give an emetic, though probably it will not be effective; as an antidote, Epsom salts are specially indicated, one tablespoonful in six tablespoonfuls of water. To treat the collapse the patient must be wrapped in hot blankets, hot-water bottles must be placed at the feet and round the body, and hot stimulating

drinks must be given, if the patient is able to swallow them; such drinks may be brandy, whiskey, tea, or coffee. These remarks about treating poisoning by giving things by the mouth only apply when the patient is conscious and able to swallow. Nothing should ever be given by the mouth to an unconscious patient.

Opium poisoning calls for a few words of special mention. The notable symptoms of it are great contraction of the pupil of the eye, slowness of the breathing, and a great tendency to go to sleep. The treatment is first of all to administer an emetic and then to do everything possible by the aid of draughts of hot coffee, by slapping, shaking, and walking him about to prevent the patient from going to sleep. Opium or its derivatives are contained in paregoric, chlorodyne, and many of the quack cough mixtures, teething powders, cordials, and soothing syrups.

FRACTURES.—To fracture a bone is to break it. That may seem like a statement of the obvious, but there is a widespread idea that there is some difference between a fracture and a break, and that one is much more serious than the other. I am not sure which is

generally supposed to be the more serious, but one would suppose the former; it sounds more terrifying. As a matter of fact, the two expressions mean precisely the same thing. Possibly the mistake has arisen from a confusion of ideas between the two different kinds of fracture, the 'simple' and the 'compound'; in the former the bone is broken, but the skin remains intact; in the latter there is a wound of the skin communicating with the site of the fracture, and because of the danger of dirt and septic matter getting in and setting up general or local blood-poisoning the latter condition is very much more serious than the former. There are a number of varieties of fractures (though all belong to one or other of the above-named classes), but the only one peculiar to children is the 'green-stick' variety. The bones of children being soft, they often do not snap clean through like those of an adult, but are partly broken and partly bent, just as happens when you try to break a green stick. I do not propose to enter in detail into the signs or the first-aid treatment of fractures, because you can only gain a practical knowledge of the subject by attending a course of ambulance classes; but

if, as a result of a fall or a blow, a child complains of pain and is unable to move a limb, you may strongly suspect that that limb has sustained a fracture; and if, on looking at it, you notice that the limb is twisted out of shape you may be pretty sure it has. If there is a compound fracture the most important things to do are to stop the bleeding, if it is excessive, and to cleanse the wound thoroughly, afterwards applying an antiseptic dressing. Where there is a simple fracture, treatment is directed to preventing it from becoming a compound fracture. To this end the injured part must be disturbed as little as possible, and, supposing it is the lower extremity that has been hurt, it is best not to move the child at all, but to leave him lying where he fell until skilled help can be obtained. If the accident happens indoors there will seldom be any difficulty about this, but if it happens out of doors it may not be possible; in that case the limb ought to be immobilized by the proper application of splints before any attempt is made to move the patient. It would serve no useful purpose to describe here how the splints should be applied, for such things cannot be acquired from books, but if you

cannot get a doctor you can generally get the assistance of a policeman or some other person trained in the rendering of first aid. When it is the upper arm that is injured you can keep it still by binding it to the side, and when it is the forearm you can keep it supported and at rest by putting it in a sling. A fracture is a considerable injury and therefore always gives rise to a good deal of constitutional shock, which must be dealt with in the way previously described, but particularly by keeping the patient warm.

SPRAINS are caused by the sudden wrenching of a joint, and consist in the stretching and even tearing of ligaments and tendons; with this there is generally a good deal of bruising, caused by the rupture of small bloodvessels. If there is much pain it is best relieved by the application of hot fomentations, and of course the injured limb must be supported in a comfortable position. I advise you to send for a doctor in all but the mildest cases of sprains, partly because a nice discrimination is necessary in their treatment if they are to be got well quickly, and partly because what is apparently only a sprain may in reality be a fracture. When the injury is

so slight that you feel justified in treating it yourself, use hot applications for a day till the acute pain has subsided, then rub the joint in an upward direction, starting gently and afterwards becoming more vigorous; then apply a bandage and, if it is the ankle which is injured, make the child stand up and bear his weight on it, and then, when he has gained confidence, make him walk. This will be painful at first, but you must disregard the pain and it will soon pass off. It is rather the fear of pain than the presence of it that holds him back, and this apparently Spartan treatment is really the kindest in the end. When a sprained ankle occurs out of doors do not remove the boot, but bind the joint up firmly with a handkerchief tied round it in a figure of eight fashion; then, if there is any water at hand, wet the handkerchief, and this will tighten it up still more.

RUPTURE.—This is the name given to the protrusion of a knuckle of gut through one of the natural openings in the abdominal wall. The name is a bad one, because nothing is broken; the scientific name is Hernia. Hernia at the navel has been described already; the other common situation is the groin. A small

round swelling appears suddenly in the groin; sometimes it causes pain, but often it does not, and is only noticed when the child is in the bath. Hernia may be caused by lifting too heavy weights or by any sort of straining, as, for instance, straining at stool; in boys it is sometimes caused by difficulty in passing water, due to tightness of the prepuce. When such a swelling is observed the child should be laid on its back, when the swelling will sometimes disappear spontaneously; if it does not it must be pressed back into the abdomen with the flat of the fingers. Having got it back, apply a pad of wool to the spot where the hernia appeared, and bind it on firmly before allowing the child to get up. If you are unable to get the hernia back by gentle pressure, or if there is any pain or tenderness, apply an icebag and send for a doctor at once. Hernia must never be neglected; it may be cured by operation, or it may be kept in check by wearing a truss. Only, a truss must be worn constantly and the hernia never allowed to come down. Though it frequently gives rise to no symptoms and no discomfort, and may be to all appearance an innocuous thing, it must be remembered that a hernia, when it is down, is a constant source of danger.

CHAPTER XIII

REMEDIES AND RECIPES

THE CLINICAL THERMOMETER .-A clinical thermometer is a useful thing to have in a house, but it must be used with discretion. If you are constantly taking your children's temperatures you will worry yourself to death and make them into infantile hypochondriacs. Still, when children are obviously ill, their temperature ought to be taken, and if it reaches 100° they ought to be kept in bed. The clinical thermometer has a constriction just above the bulb, which prevents the column of mercury from falling back into the bulb after the temperature has been taken. It is graduated from 95 to 110 degrees on the Fahrenheit scale, and each degree is subdivided into fifths. The normal temperature is 98.4 degrees, that is to say, ninety-eight and twofifths, and the normal is indicated on the thermometer by an arrow-head. Before the temperature is taken the mercury is shaken

down to below the normal mark by successive jerks of the wrist. The domestic thermometer is generally difficult to shake down, because the chemist sells the amateur the thermometers that the expert won't buy. Not wittingly, of course, but he naturally gets the bad ones left on his hands, and somebody has got to have them. When you are buying a thermometer, get the chemist to warm it up to above normal and then try if you can shake it down easily; if you cannot, go through his stock till you get an easy one. Children above the age of six years may have the temperature taken in the mouth; below that age they usually bite the bulb of the thermometer. To take the temperature in the mouth, place the bulb of the thermometer under and to one side of the tongue, and make the patient close the lips but not the teeth. The ordinary thermometer must be left in position for from three to five minutes, but rather more expensive and much more convenient thermometers are made which will register in thirty seconds. Thermometers are also sold with a magnifying lense, which is supposed to make them easier to read; but if you cannot read the ordinary thermometer you ought to get your eyesight

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attended to. For children below the age of six the temperature must be taken either in the armpit or the groin, the latter being the more convenient for infants. When using the groin or armpit the skin must be quite dry before the temperature is taken, and the bulb of the thermometer must be completely surrounded by and in close contact with the skin. This is insured in the case of the armpit by bringing the arm well over the chest and placing the hand on the opposite shoulder, and in the case of the groin by flexing the thigh well up on to the abdomen. After using, the thermometer must be washed in cold water, and where there is any suspicion of infection it must be dipped in an antiseptic.

A BATH THERMOMETER, which is a thermometer graduated to the Fahrenheit scale and framed in a metal holder, is a desirable article in a nursery.

BATHS.—The cold bath is given at a temperature of not less than 60° F. It is seldom suitable for children, but may sometimes be ordered for medicinal purposes. To attain so low a temperature it is necessary in warm

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weather to cool the water down with lumps of ice.

The warm bath is given at a temperature of from 86° to 92° F.

The hot bath is given at a temperature of from 98° to 110° F.

The mustard bath is made by adding one heaped tablespoonful of mustard to every gallon of warm water. The required amount of mustard—about 4 or 5 tablespoonfuls—is mixed into a thin paste with tepid water, and this is added to 4 to 5 gallons of water at 100° F. The child is kept in the bath for from 3 to 10 minutes. This bath is a very useful stimulant, and is indicated in cases of collapse; it is also given for convulsions.

The bran bath.—Put one quart of wheat bran in a muslin bag and immerse in 4 to 5 gallons of water. Squeeze the bag and move it about in the water till the bath is of the consistence of thin porridge. This form of bath is excellent for eczema and excoriations about the buttocks.

The soda bath.—One tablespoonful of washing soda to 4 or 5 gallons of water makes a soothing bath for such irritating conditions of the skin as 'red gum.'

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POULTICES.—This is a form of application which has been largely superseded by less clumsy and more cleanly dressings. Nevertheless, poultices still have their uses. A poultice owes its virtue to its dampness and its heat, and a poultice when it has been allowed to grow cold is uncomfortable and harmful. The secret of making a poultice retain its heat is to have everything hot to start with; heat the dish, heat the cloth, and heat the spoon with which you mix and spread it. As soon as the poultice loses its heat, change it for another. Always test the heat of a poultice before applying it by putting it to your own cheek.

The bread poultice.—Add eight tablespoonfuls of boiling water to twelve tablespoonfuls of stale bread-crumbs, pouring gradually and thoroughly stirring all the time. Let the mixture stand close to the fire for ten minutes. Then drain off the water, spread on muslin and apply.

The linseed poultice.—You will require four parts of crushed linseed to ten parts of boiling water. Put a little of the linseed into a hot basin and add a little water; stir thoroughly. Then add a little more linseed and a little

more water and continue stirring, and so on till the mixture is completed. The mixture should be of even consistence and not at all lumpy, and this is attained by careful and thorough stirring. Spread the mixture evenly on a piece of muslin to a thickness of not more than a quarter of an inch. Put a little oil on the surface, to prevent the poultice sticking to the skin. Fold the muslin over the linseed and apply.

The mustard poultice.—This is made with mustard and linseed, in the proportion of one part of mustard to two parts of linseed. Mix 3 tablespoonfuls of mustard in 8 tablespoonfuls of lukewarm water, mix 5 tablespoonfuls of linseed with 16 tablespoonfuls of boiling water in the manner above described. Add the mustard to the linseed and stir them together thoroughly.

THE MEDICINE CUPBOARD.—The following is a list of articles useful in the practice of domestic medicine—

Cotton lint.—May be used as a dressing for wounds after soaking it in some antiseptic solution. Ointments spread on lint make a better dressing than when spread on linen.

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Boracic lint.—This is the well-known pink lint, and is made by treating cotton lint with boracic acid. It is a very useful and inexpensive dressing. It may either be applied dry or wrung out of warm water. It is applicable to every sort of wound and should always be used in preference to sticking-plaster, collodion, Friars' balsam, and such surgically unclean things. Applied in the form of a hot fomentation it has entirely superseded the poultice as a dressing for wounds.

Oiled silk is used for covering dressings when it is desired to keep them moist. If it is to serve its purpose it must be cut larger than the dressing it is to cover. Gutta-percha tissue or jacquonet may be used in place of oiled silk, but these impervious materials must not be applied over a dressing of spirit lotion, for they prevent evaporation, which is the vaison d'être of spirit lotion. Also, spirit lotion covered with an impervious substance soon becomes painful.

ABSORBENT WOOL.—This is not ordinary jewellers' cotton-wool, which is not absorbent at all; it is a special wool made for surgical purposes. All dressings should

be covered with a layer of wool which is larger than the dressing. The object of it is to keep the injured parts warm and to soak up the discharges. Little wads of absorbent wool should be used for cleaning up wounds in place of ordinary sponges, which can never be surgically clean. Pieces of wool wrung out of very hot water can be used as pads for applying pressure to arrest bleeding.

BORACIC ACID POWDER is useful as a dusting powder, or as an ingredient of dusting powder. It is a very good antiseptic for household use because it is unirritating and only very slightly poisonous. Boracic lotion is made by dissolving one part of boracic acid in twenty fluid parts of hot water and, when cold, pouring off the clear solution. Lint soaked in this lotion makes a good dressing, and, boiling, it is used for hot boracic fomentations; boracic lint is, however, more convenient for these purposes. Boracic lotion is also good for bathing inflamed eyes and for syringing out running ears.

PERMANGANATE OF POTASH is another useful and harmless antiseptic. In solution it is similar to Condy's fluid and may

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be used for the same purposes. A penny packet of permanganate crystals will make the equivalent of a good many bottles of Condy's fluid. A sufficient number of crystals should be dissolved in water to make a bright red solution.

Carbolic acid and perchloride of mercury are both very efficient antiseptics, but these are extremely poisonous, and there is a danger that they may be used in too strong a solution. They are therefore better avoided unless specially ordered.

BORACIC OINTMENT is a good application for abrasions and raw surfaces.

ZINC OINTMENT is a soothing ointment which is good in a large number of skin complaints. All ointments should be applied evenly spread on lint in situations where such a method of application is possible, and the dressing should as a rule be changed night and morning, or at least should be freshly applied once a day. Before a fresh dressing of ointment is applied all the old ointment must be wiped away.

BANDAGES are used for holding dressings in their place, and as supports for injured limbs. They are made in different widths,

one inch, two inches, and two inches and a half being the most generally convenient. You can only learn bandaging by practice and personal instruction, but by the exercise of a little ingenuity you can often apply them sufficiently well for temporary purposes. Try to apply the bandage firmly and evenly, pay out as little as possible of the bandage at a time, and let the bandage go the way it wants to; those are the most helpful hints I can give you.

IPECACUANHA WINE.—Used for coughs and as an emetic. Dose: as a cough medicine, from two to fifteen drops according to the age of the child; as an emetic, one to four teaspoonfuls in half a pint of tepid water.

CASTOR OIL.—A safe and quickly acting purgative, but its constipating after-effects must be remembered. Particularly useful in cases of diarrhæa. It should not be used for chronic constipation. Dose: from half to two teaspoonfuls according to age. Castor oil owes its nastiness to its smell, not to its taste, so that by holding the nose it can be rendered practically tasteless. Good castor oil is almost colourless; the dark-coloured oil owes its colour to its method of preparation,

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and is extremely nasty. Given in a little brandy the taste is disguised, and vomiting is generally prevented.

GLYCERINE.—Good for coughs and as a laxative. Dose from 10 drops to a teaspoonful. May be used as an enema when it is necessary quickly to empty the lower bowel, and is then administered with a special syringe. Glycerine suppositories serve the same purpose, but they must remain in the bowel long enough to dissolve.

GLYCERINE AND BORAX.—Used for thrush and in inflamed conditions of the mouth. It can be obtained from any chemist.

SYRUP OR HONEY OF SQUILLS.— For coughs. Dose: from two to thirty drops.

HAZELINE LOTION.—A cooling and soothing lotion applied for stings and in irritating conditions of the skin such as chaps and sunburn. It has also some effect in stopping bleeding. It is sometimes sold under the name of Pond's extract. The various hazeline ointments, 'creams,' and 'snows' answer many of the same purposes.

BRANDY.-Whatever may be urged

against alcohol, and there are those who would prohibit it even as a medicine, there is no doubt in my mind that brandy is a most valuable remedy for children in cases of collapse, and I am quite convinced that I have seen life saved by its administration. It is argued that though this may be so there are other things as good; but in my opinion there is nothing as good, and, besides, you can always get it, which is more than can be said of the substitutes. It is particularly of service in cases of infantile diarrhœa; for not only does it combat the collapse, which is often considerable, but it also tends to check the diarrhea and to prevent vomiting. I need hardly say that its repeated use should only be carried out under doctor's orders, but it is often necessary to give it before the doctor comes. Ten drops should be given to an infant under six months, twenty drops under twelve months, and increasing doses up to a teaspoonful according to age for older children. Brandy should always be given diluted in eight parts of water, or it may be added to a feed. A good brandy should always be used for medicinal purposes, such as the "three star" brandy of Martell

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or Hennessy. Whiskey may be used if brandy is not at hand. I do not think it is quite so good, but a good whiskey is better than a bad brandy.

RECIPES

EGG WATER.—Take the whites of two raw eggs and divide them with scissors. Put them in a bottle with a pint of cold water (hot water would coagulate the albumen) and shake up thoroughly. Sweeten, and flavour with dill-water. Albumen water is given as a food in cases of summer diarrhæa when no milk can be taken.

BARLEY WATER.—Take one heaped teaspoonful of prepared barley and mix it into a paste with a little cold water; add boiling water up to half a pint and boil in a saucepan for five minutes, stirring all the time. If ordinary pearl barley is used, double the quantity will be required; the barley must first be washed in cold water and the washings rejected; then a pint of cold water is added and boiled for twenty minutes, and the decoction is then strained. Barley water is sometimes used to dilute cow's milk for infant-feeding, but it contains a small amount of

starch, and so carries with it a slight danger of causing rickets; still, babies often do very well on it. It is slightly laxative and should therefore not be given when there is any looseness of the bowels. When given as a drink in fevers, etc., it may be flavoured with lemon juice.

RICE WATER.—Wash two heaped table-spoonfuls of rice in cold water. Soak for three hours in a quart of warm water, boil slowly for one hour and strain. This contains more starch, but is less laxative than barley water. It is sometimes used to dilute cow's milk, but as a general rule it should not be given till the ninth month. It is also given as a substitute for milk in cases of infantile diarrhæa, but it is less generally effective than albumen water.

BEEF-TEA.—Take one pound of shin beef freed from fat, mince it, and put it in a jar containing one pint of cold water; let it stand for one hour, stirring occasionally. Then place the jar in a saucepan of water, put it over the fire, and let the water boil gently for one hour. Then strain and make up the amount of fluid to one pint by adding

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water (it will have been reduced by evaporation to about two-thirds of a pint). Flavour with salt.

Contrary to popular notions, beef-tea contains but little actual nutriment. It should not be given when there is looseness of the bowels.

MUTTON BROTH.—Take one pound of lean mutton, cut it into small pieces, put it in a saucepan with three pints of cold water, raise the water to the boiling point and keep it gently boiling for three hours. Then strain and allow to cool, afterwards skimming off the fat. Serve warm.

VEAL BROTH.—Cut a pound of knuckle of veal into small pieces, pour upon it three pints of cold water, and boil gently for two hours. For flavouring, throw in for five minutes a small blade of mace, a sprig of parsley, and a sprig of thyme.

CHICKEN BROTH.—Skin a small chicken and remove all the fat, chop it up small and boil it, bones and all, with a blade of mace, a sprig of parsley, and a crust of bread in a quart of water for an hour, skimming it from

time to time. Allow it to stand for an hour, then strain through a coarse sieve.

RAW MEAT JUICE.—Finely mince a rump-steak, put it in a cup, and add enough cold water to cover it. Stir well and allow to stand for an hour. Strain through muslin and squeeze out all the liquor possible by twisting the muslin. The juice may be given mixed with milk, or whey, or barley water. "Raw meat juice is the most easily digested and most restorative of all animal foods; the most valuable of all nitrogenous preparations for children" (Cheadle). It is valuable in the prevention of scurvy in hand-fed children; for this purpose the patent meat extracts and essences are almost or entirely useless, and for all purposes meat juice prepared in the way above described is far better than anything you can buy. It does not keep well and must be freshly prepared. The dose is one teaspoonful for a child of twelve months.

WHEY.—To a pint of milk warmed to 100° F. add one teaspoonful of Benger's Rennet or Fairchild's Pepsencia. Stir thoroughly, and let it stand in a warm place till a firm clot has formed. Beat up the curd until it is finely

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divided and strain off the whey. Whey is used in infant-feeding when milk disagrees, or it is used as a diluent for milk.

SHERRY WHEY .- Half a pint of milk is heated until just boiling, then 21 ounces (accurately measured) of cooking sherry are added, and heat is applied until the mixture begins actually to 'boil up,' when it is removed from the fire and allowed to stand three minutes; the curd is then strained off through a two-fold layer of butter muslin. It is better to use a 'cooking sherry' (costing about a shilling per bottle), not a 'drinking sherry,' for the cooking sherry is more acid, and therefore a less quantity is required; also, the cheaper sherry contains a lower proportion of alcohol (Bernard Myers and Still). Sherry whey is given in cases of infantile wasting and collapse from indigestion.

LINSEED TEA.—To a pint of water add two tablespoonfuls of linseed, half a lemon, a piece of liquorice the size of a filbert, and sugar-candy to taste. Boil for two hours and strain. Good for relieving the cough and irritation due to sore-throat.

ARROWROOT.—Mix two teaspoonfuls of arrowroot with three tablespoonfuls of cold water, stirring thoroughly so that there are no lumps; add half a point of boiling water and stir constantly. Flavour with sugar, nutmeg, or cinnamon. Arrowroot may also be made with milk instead of water. A diet consisting solely of water arrowroot is an effective remedy in diarrhœa. If necessary, brandy may be added to it.

RED OR BLACK CURRANT DRINK.

—Boil two tablespoonfuls of red or black currant jam in a quart of water; let it simmer for half an hour, strain, and replace on the fire. Mix a teaspoonful of arrowroot in cold water, and pour the boiling fluid on and keep stirring until thoroughly mixed. Useful for relieving cough. Laxative.

TREACLE POSSET.—Add two tablespoonfuls of treacle to a pint of boiling milk. Boil up well and strain. A remedy for colds.

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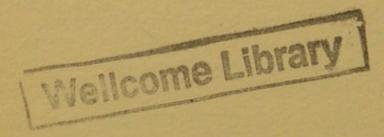
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