

**Helps in sickness and to health : where to go and what to do; being a guide to home nursing and a handbook to health in the habitation, the nursery, the schoolroom, and the person. With a chapter on pleasure and health resorts / by Henry C Burdett.**

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HELPS IN SICKNESS AND TO HEALTH





" Go, little book, God send thee good passage ;  
And specially let this be thy prayere,  
Unto them all that thee will read or hear,  
Where thou art wrong, after their help to call,  
Thee to correct in any part or all."

Chaucer.

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# HELPS IN SICKNESS, AND TO HEALTH

*WHERE TO GO AND WHAT TO DO*

BEING A GUIDE TO HOME NURSING AND  
A HANDBOOK TO HEALTH IN THE  
HABITATION, THE NURSERY, THE  
SCHOOLROOM, AND THE PERSON

WITH A CHAPTER ON PLEASURE AND HEALTH  
RESORTS

BY

HENRY C. BURDETT

AUTHOR OF "HOSPITALS AND ASYLUMS OF THE WORLD"; "PAV HOSPITALS OF THE  
WORLD"; "COTTAGE HOSPITALS; GENERAL, FEVER AND CONVALESCENT";  
"BURDETT'S HOSPITAL AND CHARITIES ANNUAL"; AND EDITOR OF  
"THE HOSPITAL."

*WITH NINETEEN ILLUSTRATIONS*

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## INTRODUCTION.

THIS book is in fact a second edition of the Author's two smaller manuals, entitled *Helps in Sickness* and *Helps to Health* respectively.

More than 15,000 copies of these books have been printed ; and as the demand necessitated the issue of a new edition, the Author hopes to have made them more valuable by combining them into one volume, which has been largely rewritten and brought up to date.

By dividing the volume into three Parts he has been enabled to include, within the modest limits of less than 500 pages, the main principles of hygiene, unencumbered with the technicalities by which professed sanitarians too often obscure their meaning ; together with a handbook which will be serviceable to those whose friends are sick, or who are ailing themselves, and which will give to the housewife, the doctor, the clergyman, the district visitor, and the philanthropist exact information as to where to go or to send patients, whether their ailments are chronic and incurable, or acute and requiring treatment.

It may scarcely be credited, but it is none the less undoubtedly a fact, that no other book contains, in a



handy form, the information which an ordinary person needs to know about health and all that affects it. The aim of the First Part of this book, therefore, is to give, with sufficient amplitude but in the fewest possible words, precise information concerning matters which affect the health and comfort of every class, from childhood to old age. The classification and arrangement of the various subjects treated have been carefully thought out; and, for further help to the reader, an exhaustive index has been added. It is believed that any one who desires to know what he can do to promote his own and his family's health, as well as that of his neighbour, will find in Part I. just the kind of information he requires, in the briefest and simplest language.

Part II. consists of a household surgery and a list of appliances used in the treatment of the sick. In the preparation of this Part, the Author has endeavoured to provide that nothing should be omitted which could usefully be included, and nothing included which, from requiring the control and advice of a medical practitioner, ought necessarily to be excluded. Hints are given upon many points of nursing and domestic medicine which often cause perplexity and difficulty; and it is hoped that the directions as to how to act in cases of sudden emergency and of accidental poisoning, as well as in the many minor accidents which are daily occurring in families, will be found of value by mothers and nurses.



Part III. will, no doubt, prove of great assistance to the suffering poor who attend Hospitals, as well as to those who desire to send patients to those Institutions. An endeavour has been made to include in it the name of every Institution in England and Wales founded for the relief of sickness and infirmity of every kind, the terms of entrance, and the hours of attendance and admission. The detailed list of each group of Institutions is prefaced by a full statement of the steps necessary to be taken in every conceivable circumstance.

The Author's aim has been to make this a useful book for all classes of the community who have a due regard for their own health and surroundings, and for those who have to do with illness in their own families or in those of their neighbours. If this little book proves, in practice, of use to those who are sick and suffering, or who minister to the wants of others and seek to preserve their individual health, the Author will have accomplished the main object for which it was written.

THE LODGE, PORCHESTER SQUARE,  
LONDON, W.



# HELPS IN SICKNESS AND TO HEALTH.

## CHAPTER I.

### THE NURSERY.

*Arrangement—Floors—Walls—Choice of Colours for Walls and Ceilings—Ventilation and Warming—Cubic Space—Lighting—Furniture—Playthings—Rules for Nursery—Sleep—Exercise—Baths and Bathing—Teething—Diseases of Children—Vaccination and Re-vaccination—Dress in the Nursery—Cleanliness in Clothing—Diet of Infants and Young Children—Artificial Human Milk—General Remarks on Children's Food—Times of Meals—Cleanliness in Feeding—Other General Rules—Mr. Ruskin on Nurseries.*

IN this chapter we propose to deal only with such points as may conduce to the health and well-being of the child, without reference to illness. At the very commencement we are met with the difficulty that it is very easy indeed to say what ought to be, but in many cases impossible to carry out the advice given. Thus, taking as a model a somewhat recent work on home hygiene, it might be said: "The day-room should be a quiet cheerful room apart . . . with double doors . . . a sunny aspect, large low windows, a cheerful prospect, and possibly a separate entrance or ready means of going out of doors. The bedrooms, near



together and near to the chief family room, should make a system of their own, with clothes-room or nurse's-room, dressing-room, bath-room, and closet or scullery attached. A separate staircase is always a convenience," etc., etc. Or again, quoting from another recent work : " Gas light should never be admitted into a nursery or play-room. . . . The typical light would be the incandescent electric light of Edison." The writer, however, acknowledges the impracticability of his plan, and allows for the present the use of Colza oil or candles. Surely there is too much nonsense talked about these things now-a-days. Has any one ever entered a nursery which would fulfil all the above requirements ? The best arrangements should certainly be indicated, but it ought further to be shown how far the different details were essential, and what modifications could be permitted to suit the numerous and varied circumstances of each case. Throughout this work such is the object sought to be attained, and it is hoped that the various recommendations will be found practicable, useful, and efficient, whilst not compromising in any respect the essential laws of hygiene.

ARRANGEMENT OF THE NURSERIES.—The old division into day and night nurseries is still the best and most practicable. They should be within easy access of each other, and should, if possible, have a passage between them to admit of their total separation for the purpose of efficient alternate ventilation. For many reasons the top floor is the most convenient for these rooms. They are then away from the kitchen and from the occupants of the ground floor, and the noise inseparable from healthy children is more distant from the business part of the house. A north aspect must be avoided, but



for the night nursery an aspect due south is not altogether desirable, as in summer-time—when the children go to bed in the middle of the day—the room is apt to get very hot and uncomfortable. A small gate with a fastening should protect the head of the stairs. A bath-room, separate closets, etc., may be added, but cannot be regarded as essential, especially as a large proportion even of recently built houses are not provided with the luxury of a bath-room.

FLOORS.—Polished floors are out of place in the nursery; they will occasion frequent tumbles, and the noise from the children's play will be at times unbearable. Linoleum is about the best covering, though it is expensive. It has, however, the great advantage of being easily cleaned. Pieces of carpet and hearthrugs are dangerous, and at all times harbour dust and dirt.

WALLS.—For many reasons it is desirable that the walls of the night nursery should be simply coloured. The colouring is so easily renewed every year, and is so inexpensive that the room can be thoroughly purified after an outbreak of infectious disease without much strain on the pocket. If a simple colour is thought too plain, it may be varied by a light colour above and a dark one below, with a stencilled picking-out in colour between the two. This is rather more expensive, but looks very tasteful. For the day nursery, there are now so many good ideas that only a few of the best can be noted. It may be premised that no paint and no paper should be used except it be varnished.

(1) The upper part of the wall may be coloured, and a dado of scraps may be pasted on the wall below, and then sized and varnished. Some use only coloured scraps, whilst many cut out the pictures from the illus-



trated papers. These form an endless source of amusement and instruction to the children. (2) Or, the upper part may be painted and varnished, with the same dado. (3) Very good nursery papers are now sold, the pattern in which consists of small squares, each square having in it an illustration of some nursery rhyme or well-known child's picture. These, sized and varnished, are very amusing. (4) The walls of the day nursery may be coloured, as the night nursery, with stencil pattern, etc., or paint may be used in the same way and then varnished. *Two* coats of paint with two coats of varnish will last for years, and may be periodically cleaned with carbolic acid and water.

One word about the CEILING. This is invariably whitewashed; if coloured with French grey, or a good blue, however, it looks much better, and is less fatiguing to the eye. The doors, cupboard-doors, skirting-boards, and the like, may be painted and varnished. They are generally very tame and uninteresting. The following arrangement has been under the writer's notice, and is a vast improvement to a room. The upper small panels of the doors and cupboards were filled in with oleographs and gilt-beading round the edge of the panel. The larger panels had large Japanese pictures cut so as to just fill the panel. They are very inexpensive, may be pasted on by the lady of the house in a very short time, and aid greatly to brighten the nursery. As to pictures for the walls, those out of the Christmas numbers of the various illustrated papers are much the most amusing for children. The ordinary black and gold frames are the nicest, and are as inexpensive as any. Where all papers are varnished there will be no danger from



the unlooked-for choice of an arsenical wall paper, and, except the paper is tested, varnishing is the only safeguard. Contrary to the general opinion, the colour is no criterion, for arsenic enters into the composition of a large percentage of all wall papers of the present day.

CHOICE OF COLOURS FOR THE WALLS AND CEILINGS.

—In colouring the walls and ceilings of a nursery much must be left to individual taste ; and too close an adherence to the principles of the decorator's art need not be insisted on. At the same time, it is desirable that no very glaring defiance of the laws of colour should be permitted. Early impressions are often lasting. There is not one of us, who can let memory take him back to his childhood days, who does not recall the pleasing or terrible ideas which were associated with some object seen in our nursery or play-room. Perhaps it was the graceful lines and correct proportions of some old cabinet, sent to the nursery or attic because it was not good enough for any other room, that we still think of with pleasure. Or it may be the curious specimens of carving on the four-post bedstead, which our young minds converted into the horrible faces of a tormenting fiend, as we opened our eyes in the early dawn. Let, therefore, the surroundings of the developing intellect be always true, and in such things truth is almost synonymous with beauty.

We have already said that the ceilings of nurseries ought to be coloured blue or French grey in preference to white, the latter being of all colours or no-colours the worst for the purpose, and deserving to be universally discarded. The difference which this one point will make in the appearance, and comfort, and beauty of a room is almost incredible, and when once adopted there is no



likelihood of its being abandoned. A blue-green ceiling nearly always looks well, and it will be a further improvement, especially when there is no cornice, to have a paper margin, a few inches wide, with a ground colour of a slightly darker shade than the ceiling, and, running through it, a floral or classical design with various shades of brown, red, secondary green, and blue. Paper centre-pieces can now be got for a few shillings each, and they give a look of completeness and finish to the ceiling, being often as decorative as the plaster "ornaments and enrichments" are ugly. It is well to choose one having buff and gold among its colours, and primary red in very small quantities.

It will be asked: "But what will harmonise with this ceiling?" One of the best and simplest wall colourings would be a light orange, and for the wood-work an Indian-red picked out with black; or preferably a dado of dark Indian-red, with doors and shutters of bronze-green. A cream ceiling with pale turquoise wall and orange-red dado go well together, especially if the wood-work be dark olive-green. A dark blue dado, with pale salmon wall and rather light blue ceiling, does not look amiss, although somewhat common. The dado should be enriched with maroon-brown and yellow, and the ceiling ought to have a white or cream stencil pattern around the margin, with a very narrow line of vermilion on the white. A Venetian-red dado with a band of tertiary olive on which is a stencil pattern of lighter olive, blue and red, with the rest of the wall a tertiary olive of a greenish tint, would be another combination, and in this case the ceiling had better be papered, a pattern being chosen in which orange and gold are somewhat prominent.



Should there be a cornice in the room it may be picked out with the three primary colours. If the blue look too blue, it has been recommended, as the space in the moulding cannot possibly be increased, to modify the effect by putting more orange in the yellow, and more scarlet in the red. So, if the yellow seem too prominent, alter the red to crimson, and give the blue a slightly purplish tinge. The primary colours must always be separated by a line of white, and we should remember that when a light and a dark colour are placed together, the light appears lighter and the dark darker.

Below the cornice a very pretty and cheap frieze, about fifteen or twenty inches deep, may be made with stripes of one of the nursery papers already referred to. A great variety of these papers can be had almost anywhere, and there should be no difficulty in choosing one to harmonise with the rest of the room. From the lower edge of the frieze border the pictures ought to be hung so that the cords are not seen interfering with the design of the frieze, whatever it may be. This treatment of the upper part of the wall has the advantage of presenting a pleasing variety, at the same time that it leaves the lower part to be finished in plain paint or distemper admitting of frequent renewal, a course often necessary.

The above are only a few of the more simple methods of treating the walls and ceilings of our nurseries, and the expense of any of them is very trifling. Unfortunately the great majority of house-painters have no notion whatever of choosing or arranging the shades of colour for a room, and consequently not a little trouble has to be incurred by



those who employ them. It is, however, time well spent. There can be no better investment than the time we bestow on anything that conduces to the happiness or comfort of "the children."

VENTILATION AND WARMING.—These matters in their general relations are more fully dealt with in a subsequent chapter; but the following details could scarcely be omitted from a chapter which deals exhaustively with points affecting health in the nursery. Ventilation and warming must be considered together, as the one depends to a very great extent on the other. The windows and chimneys must be looked upon as the chief means of changing the air of a room. The windows should always reach to the ceiling, and if they do not do so, Sheringham valves, opening inwards, should be inserted just under the ceiling, with an Arnott's or Boyle's valve opening into the chimney-flue, or with another Sheringham valve in the opposite outside wall. It is at the top of the room that all the heated foul air accumulates from gas-burners, etc., and great care should be taken in ventilating this part. An open fireplace only is admissible for the warming of the nursery; its use as a ventilator is too great to allow of its abolition. It may be usefully combined with a warm air-chamber and flues; and, in fact, some such system should always be followed in building new nurseries. The true principle to follow is to admit fresh warm air instead of cold into a room, thus obviating some of the numerous causes of draught. Other accessory sources of ventilation may be added at the fancy of the individual, such as vertical tubes, a ventilator in the centre of the ceiling leading to the outside air, or the simple and common plan of nailing a piece of wood under the



bottom window sash, so that it does not quite shut, whereby a stream of air is allowed to enter, directed upwards between the two sashes.

CUBIC SPACE.—As regards the amount of cubic space that should be allowed for each child, it has been put by some authors as high as 800 cubic feet. This, however, in practice is found to be far too high a standard, though, of course, where new nurseries are being built, and space is unlimited, its adoption is to be commended. According to the late Dr. Parkes the cubic space allowed for each soldier is 600 cubic feet, and he allowed for children 2000 cubic feet of air per head per hour, as against 3000 for adults, leaving it to be inferred that 400 cubic feet of space should be allowed for each child. If possible, this should be insisted upon, but there can be no doubt that many nurseries are much more cramped even than this. Amongst the lower classes, in cases of overcrowding, magistrates refuse to convict unless the air space is less than 200 cubic feet for adults. The London School Board allow only 130 to 117 cubic feet for each child, but this is decidedly too low and dangerous to health. Taking, then, 400 cubic feet as necessary for a child, and 600 for an adult, a room 16 feet long, 10 feet wide, and 9 feet high will suffice for a nurse and two children. When the children are out for their walk let the windows be thrown open, top and bottom, and shut shortly before their return. The bedroom window should never be quite shut at the top, except in very cold weather; in fact, some people insist on their children sleeping with it open even in winter. It is a great mistake to imagine that night air is dangerous to children. As a matter of fact, in towns the night air is the purest.



LIGHTING.—In spite of numerous objections, gas is the common way in the present day of lighting rooms, and, notwithstanding all that may be said against this system, it will probably continue to be used. The fact is, that there are so many advantages in using gas that they quite outweigh its disadvantages, and, with proper precautions, it does no harm. It is convenient, always ready for immediate use, out of reach of the children, and not liable to be pulled over by them and upset (as in the case of lamps and candles). There are now, too, so many plans for carrying off the products of combustion that gas is practically harmless. The most simple plan is to have a large bell glass over the globe, and opening at the top into a short, wide tube, leading into the chimney. This small apparatus can be fitted into any chimney for the trifling sum of about 15s., and answers admirably. In this arrangement the gas must be placed over or near the fireplace. If it is desired to have it in the centre of the room, however, there are now numerous arrangements for carrying off the products of combustion by a flue through the ceiling, the gas being burnt in a globe communicating with this flue, so that no difficulty should arise in practically rendering gas harmless for nurseries. In country houses it is a case of “Hobson’s choice,” and lamps or candles must be used. In the event of the former being chosen, Colza oil should be preferred to paraffin, on account of the absence of smell and of its non-inflammability.

FURNITURE.—There should be no useless curtains and bed-hangings to obstruct the air, and cupboards built into recesses in the walls are preferable to chests of drawers, as they do not harbour dust and dirt.



There should be no unnecessary cupboards, but, as far as practicable, clothes, linen, etc., should be stored in a separate room. This must depend greatly on the size of the house and the number of children. Things used daily are most conveniently kept close at hand. Practically, cupboards will be required for clothes, linen, and a certain amount of crockery; a separate one should be provided for the children's playthings, and a small locked one for the safe keeping of poisonous or dangerous articles, as medicines, knives, etc. A high fender fastened by a hook to the side of the fireplace is necessary to protect from burning, but the children should be taught never to throw things on the fire. The bedsteads and cots should be made of iron, and those cots are to be preferred in which the sides are made of close work, not bars. Children often get their arms or feet through the bars, and, in their ignorance of how to release themselves, may give their joints a serious twist or sprain. There must be a table in the day nursery for meals, with a drawer in the centre for the table-cloth. When the child first sits up to meals, the ordinary cane-bottomed chair, with a high seat and a stick to prevent it from falling, may be used. As it gets older, the choice of a good chair is more important. It should be high and straight at the back, with a narrow seat, so that the spine may be supported, and the child may not sit in a heap with its spine curved. The mattresses must be made of horse-hair. When sheets are used, those made of calico are to be preferred, as they are warmer and less expensive than those made of linen. For keeping the infant's food hot when it requires to be fed in the night, the following is a very simple plan: Be-



fore the nurse retires for the night she boils the milk and puts it into the bottle which has been previously made quite hot; the bottle is then corked, wrapped in thick brown paper and also in a flannel folded several times, both the flannel and the paper having been previously warmed. The bottle is then put at the head of the nurse's bed, under the pillow, where it is ready for immediate use, and will keep hot for at least six hours. Other means of heating the food at night are—(1) by means of a bracket over the gas-burner in a small saucepan; or (2) if there is no gas, by means of one of the small spirit-lamp tins known as Etnas. There must be a separate cot for each child, and, for the purposes of ventilation, there must be an open chimney in the night nursery, always kept open, even when there is no fire.

Other articles of furniture call for no comment.

PLAYTHINGS.—These should be harmless, should tend to secure proper exercise for the child, and should combine instruction with amusement as the child gets older. Under the first head all the common tin toys now made, and all playthings painted with bright and dangerous colours, which children are apt to suck, must be condemned. Wooden bricks, wooden and india-rubber animals and dolls are safe. To secure exercise, balls, hoops, the French boat, the rocking horse, the tricycle horse, a swing, and the like, are recommended. Picture alphabets, puzzles, and things which help to instruct the child after the Kindergarten system, can with advantage be gradually and almost imperceptibly added.

GENERAL DIRECTIONS.—Regularity is the first principle to be strictly followed in the nursery. This is



especially the case with feeding, but applies also to other details. The child may be made almost an automaton in this respect, looking for and enjoying its regular routine of life, and flourishing greatly thereby if a proper system be adopted. On the other hand, if a child is accustomed to take its meals at irregular times, or to have tit-bits of divers sorts between meals, it will be continually expecting such luxuries, and will fret if they be not forthcoming, whilst the regular meals will be neglected. The same rule applies to walks and amusements. Children should be taught to play with and amuse each other, and not continually to look to their elders to provide them with games. If the weather is bad, so that they cannot get out of doors, they will become fretful and require some extra amusement: otherwise, a well brought up child will amuse itself for hours with the most trifling toys, whilst another under the same circumstances will be a nuisance to itself and to all around. So, again, it is necessary to insist that the nurse shall not argue with and contradict her charges. It is astonishing how easy it is to lead and divert the attention of a child; and this plan must always be followed, or permanent injury will be done to its temper. Unless a nurse possesses this necessary tact she is worse than useless, and should be at once dismissed.

Cleanliness in the nursery is another point to be insisted upon. All dirty and soiled linen must be at once removed. On no account should any washing of dirty clothes and drying of them at the nursery fire be permitted, though unfortunately that is frequently to be seen. The floors must be regularly and thoroughly cleaned, and any bath-water or slops spilt on the floor



should be immediately wiped away. The authority of the nurse must at all times be upheld, and the child must not be allowed to appeal to its mother in the hope of getting something just forbidden by the nurse. A good nurse ensures the respect and good management of her charges without any trouble; whilst a nurse without tact and discretion causes constant appeals to the higher authority.

SLEEP.—Children vary so much as regards their capacity for sleep that it is almost impossible to lay down strict rules for them. For the first few months of life they sleep and eat alternately, if in a healthy state, waking only at regular times for their meals. If a child is fretful and cries, waking frequently, it is a sign that something is wrong. Either the food does not agree with it, its dress is uncomfortable, or it has kicked itself into an awkward position. It is a mistake, however, and one usually made, to imagine that every time a child cries it is hungry. Often the reverse is the case; yet it frequently happens that no sooner does the poor child cry than it is immediately crammed with more food, and its sufferings thus increased tenfold. As children get older and begin to take more notice, they will as a rule wake early in the morning, when they must be washed and dressed, and afterwards be fed. They will often go to sleep after this, to them, somewhat fatiguing process for one or two hours, when they must be taken for a walk. On their return from the walk, they are again fed, and will then sleep for another two hours or longer. After they are a year old the mid-day sleep should still be encouraged, and continued as long as the child shows any inclination for it. It is mostly a question of habit, and can generally be kept on till the child is



four or five years old. When out of doors a very young infant almost invariably sleeps, but, when old enough to take to a perambulator, such habits should not be encouraged. When the child discontinues its mid-day sleep, it should have twelve hours' rest at night. One hears occasionally of infants that never seem to sleep and yet do not suffer much in health, though they render life a torment to all around them. In these cases mismanagement is probably at the root of the evil. The child is either improperly fed, or not fed at regular intervals, or perhaps suffers from some ailment unknown to the parents. If a doctor were consulted he would no doubt be able to relieve much of this misery.

EXERCISE.—When may a child be first taken out of doors? If in the summer-time, it may safely be taken out about fourteen days after birth, care being taken that it is warmly clothed, but in the winter more discretion must be used. There is even at the present time a great deal of foolish prejudice on this subject. The horrible way in which mothers are often made to spend their lives for the first month after their confinement is disgusting and repulsive. A change for the better has certainly been made in their diet, but it is still believed by many that fresh air is poisonous to lying-in women, and with the baby they are made to pass the days in a room hermetically sealed against the entrance of fresh air, a roaring fire amplifying their torture. In this unwholesome atmosphere the poor infant spends the first months of its life, and when coddled to the state of an exotic plant, with a poor, pale face from want of air, it is totally unfitted to withstand any cold breeze. It is quite time that a crusade



was waged against these senseless and dangerous notions. The causes of almost all children's diseases at the present day are want of air and want of proper food. If any one will try the plan of sending out their children regularly from fourteen days old, except in very bad weather, they will find them grow up much stronger, much less liable to colds, and proof against bronchitis and many other diseases of the lungs and air passages to which children are specially subject.

In one house we shall find the room well ventilated, the windows opened daily, and the child out for a walk whenever the weather is at all practicable; whilst in another, under the sway of some antique monthly nurse, fresh air will be looked upon as a poison, and every horrible and uncomfortable measure will be taken to prevent the imaginary bugbear—"cold." It is quite time that medical men educated their patients out of these unhealthy notions, and declined to play second fiddle to an ignorant monthly nurse. Twice a day are the proper and orthodox times for an infant to be carried out. Soon after it is six months old it may be taken in a perambulator, well propped up with cushions, and when it is old enough to walk it should be taken out for a short run. As it gets still older and can give up the perambulator, it should be encouraged to run with a ball or hoop. A comfortable perambulator with a head to keep off the sun's rays, bicycle wheels and india-rubber tyres is the best. Unless it is raining, children should seldom be kept indoors for a whole day. Even in our English climate the days in a year when a child need be kept entirely indoors are exceedingly few.

If the weather is very cold children must not be kept



out too long, but there seems some provision in children by which they do not feel the cold nearly so keenly as a grown-up person, even though out of doors, and not at the time warming themselves by exercise. The proper hour for the first walk is, if fine, very soon after breakfast. At least one walk in the day is thus secured, even should the weather change. The second walk in winter must be after an early dinner, and before the afternoon sun ceases to warm the atmosphere, and the damp begins to rise. In summer they should have an early tea, and go out in the cool of the evening. In the country, with a large garden, they may play out of doors most of the day in summer. Should a child be fat and heavy, it must not be encouraged to walk too soon, but exercise quickly reduces some of its superfluous fat. When children are unable on account of the weather to get out of doors, they must, during some part of the day, be brought downstairs to another room whilst their nursery is thoroughly aired.

BATHS AND BATHING.—Contrary to what might be expected, a healthy child enjoys its bath, and often cries when removed from it. If a child does not take to its bath, it is generally because of the careless way in which it is administered. Care should especially be taken when washing the head. If water is swilled over its face so that it gets into the eyes and nose, the child will soon take a distaste to the bath. The head should be first well sponged, and then the body may have water dashed over it. Great care must be taken not to frighten the child. As regards the temperature of the bath, theoretically the thermometer should always be used, but in practice the nurse can judge by the hand. This is quite a sufficient guide, for the bath should



never be hot: a tepid bath is the warmest that need be used even for a new-born child. In the summer-time it will soon take a bath quite cold, and enjoy it. In the winter, of course, the chill must be taken off the water. When, also, from ill-health or want of reaction the cold or tepid bath seems to disagree with a child, it must be made warmer. The bath should always be given in a warm room, and in winter the child should be dried and wiped near the fire. The child should always be bathed in the morning before it is dressed, and, if there is plenty of assistance, another bath may be given at night. But where, owing to there being other children, this is impracticable, it may be sponged over in the evening before it is put to bed.

The wiping should always be thoroughly performed with a soft linen towel, the friction promoting reaction. Soap must be used to remove oily and sebaceous matter excreted by the skin glands, and to keep the pores of the skin open. The common irritating kinds must, however, be rejected for the better forms of toilet soap. The so-called antiseptic soaps, especially terebene and sanitas, are very good forms. When the body has been well dried it is customary to dust the flexures of the joints with violet powder or fuller's earth. This is very necessary in the case of a fat child, where the folds of skin lie one over the other, and by the incessant rubbing and necessary confinement of perspiration a very obstinate kind of eczema is often caused. When there seems any tendency to this, the folds of skin should be washed two or three times a day with oatmeal and warm water. Considering the tendency to adulterate violet powder, it is better to use well powdered starch, but lately powdered boracic acid has been in-



troduced for these purposes under the name of "sanitary rose powder," and this form is far preferable to the others, as boracic acid is perfectly unirritating, and is one of the best antiseptics.

TEETHING.—Order of teething (first set of teeth):—

Between 4th and 7th months,	2 lower incisors.
„ 8th „ 10th „ .	4 upper incisors.
„ 12th „ 15th „	{ 2 upper first molars.
	{ 2 lower lateral incisors.
	{ 2 lower first molars.
Between 18th and 24th months,	{ 2 lower canines.
	{ 2 upper canines.
„ 30th „ 36th „	{ 2 last lower molars.
	{ 2 last upper molars.

Order of second set of teeth:—

About 7th year,	. .	4 anterior molars.
„ 8th „	. .	4 central incisors.
„ 9th „	. .	4 lateral incisors.
„ 10th „	. .	4 anterior bicuspid.
„ 11th „	. .	4 posterior bicuspid.
„ 12th „ to 12½,	. .	4 canines.
„ 12½ „ to 14th,	. .	4 posterior molars.
„ 18th „ and upwards,		4 wisdom teeth.

The names of the teeth in order from the front backwards on each side of the middle line are incisors, canines, bicuspid, molars. The period of dentition in infants is always an anxious one. At the best they are fretful and irritable, difficult to amuse, feverish, with little appetite, and almost constantly dribbling. To this is often added some more severe symptom, varying



in different children, and occurring at the cutting of each series of teeth. Thus one child will have the symptoms of a regular catarrh or even of a mild bronchitis at these times, another an attack of diarrhœa, another an eruption of eczema, and another, in whom the nervous system seems to be in a most irritable state, a series of convulsions. If excessive, these symptoms will demand the care of a doctor; but if slight, more attention must be given to the ordinary rules of hygiene at these times, such as a rather lighter diet, attention to the bowels, care to prevent cold, and the like.

DISEASES OF CHILDREN.—The causes of death in children are chiefly convulsions, diseases of the lungs, diarrhœa, and the acute infectious fevers. Convulsions are often set up by some source of irritation in the system—improper food or clothing, or teething,—whilst a convulsion may be the commencement of a serious illness, such as one of the infectious fevers. It is never wise to neglect these, and medical advice must be sought. Diseases of the lungs are usually brought on by a system of over-coddling. If the rules given in another part of this chapter are carried out, there will be little danger from such maladies. Let the child always have plenty of fresh out-door exercise, mostly in spite of the weather, and let him be bathed daily in water as cold as he can conveniently bear it. Diarrhœa depends chiefly on the food and the state of health of the child. The feeding of infants is a most complex subject when they are at all out of health, and a doctor's advice must be sought in these cases. What will suit one child at these times will often make another very much worse, and it will sometimes take all the ingenuity of the best doctor to contrive a suitable diet for the child on these



occasions. But above all things the commencement of a diarrhœa should not be neglected. It is from allowing it to run on that it becomes unmanageable, and many a child has been lost from the mistaken notion of the nurse that a little purging is good for the child. Therefore, should the stools be too frequent, watery, much changed in colour, or very offensive, do not lose any time, unless they improve, in asking the aid of the doctor. Indirectly, diarrhœa may often be prevented by seeing that the opposite condition of constipation does not exist. Let the remedies for this latter condition, however, be limited to a little fluid magnesia, glycerine, or syrup of senna, and if these do not answer get further advice before using stronger remedies.

With regard to the acute infectious fevers, let no parent think that it is necessary for his children to have them, and that the sooner they have them and get them over the better. A mild attack in one child may develop a fatal attack in another, and it is wicked to trifle with human life in this way. It is necessary to emphasise this caution, because of late years these fevers seem to have developed milder types, and it is certain they are not so severe as in former years. In the case, then, of an outbreak of one of these disorders—measles or scarlatina for example—let all measures be taken to strictly isolate the sick from the healthy. This is the chief and almost sole secret of preventing their spread, but to enter into the minutiae of these measures is not the province of this book. One disease, however,—typhoid or enteric fever—requires a passing word. It is more prevalent in children than is generally supposed, and often escapes recognition. It is essentially a filth disease, having its origin in foul air, foul water,



and want of proper drains and sanitary arrangements. A separate bath-room and closet attached to the nursery are not altogether an unmixed blessing; in fact, every separate communication with a drain must in these days be looked on with suspicion, however well trapped it may appear to be. An ordinary bath in the nursery, which can be taken away and emptied down a drain in another part of the house, is a much safer arrangement. On no account should any slop drains communicate with the nurseries. The drinking water and milk supply must also receive attention; but longer reference will be made to these in other parts of this work, to which they more properly belong.

VACCINATION AND RE-VACCINATION.—Vaccination should be performed between the second and third months, before the period of teething has commenced. The details of its performance must necessarily be left to the doctor, but every parent should insist on having four places made, and the supply of calf lymph is now so abundant that if he has any feeling in the matter he may insist on its being used. The precautions with regard to the performance of vaccination are, however, so strict—thanks to the regulations and supervision of the Local Government Board—that very little danger of erysipelas or other skin disease is likely to arise. At any rate, all conceivable precautions are taken against such dangers. In every book on health the following table, compiled by the late Mr. Marson, ought to have a place, especially as at the present day there is in some quarters a great outcry against vaccination. It shows the rate of mortality in cases of small-pox treated at the London Small-pox Hospital over a long series of years.



Classification.	No. of deaths per cent.
Unvaccinated, . . . . .	35'
Stated to have been vaccinated, but no cicatrix,	23'57
Vaccinated—	
Having one cicatrix, . . . . .	7'73
Having two cicatrices, . . . . .	4'70
Having three cicatrices, . . . . .	1'95
Having four or more, . . . . .	'55
Having previously had small-pox, . . . . .	19'

This table, which has been confirmed by many other observers and in many different localities, ought to convince any reasonable being as to the good effect of vaccination, and also as to the necessity of a sufficient number of well-defined cicatrices.

With regard to re-vaccination, this trifling operation should be performed at twelve to fourteen years of age. If quite unsuccessful, it should be again performed till, if possible, some result is obtained. The result as a rule is not so good as in primary vaccination, and sometimes it occasions a great deal more inflammation tending to the erysipelatous type. Efficient re-vaccination may be said to practically give immunity against death from small-pox, and to render even an attack of that disease exceedingly rare.

In a few quarters there is a prejudice against allowing lymph to be taken from the arm. This is absurd, as the child cannot suffer at all from it, and if universal it would render the performance of the operation almost impossible. The prejudice seems to have arisen in the idea that it takes some peculiar virtue from the child, which is a most ignorant notion. It may, however, have also arisen from the fact that after the



eighth day (when the lymph was taken) the arm gets still more inflamed, and this is put down to the fact of lymph having been taken; but in any case the arm is naturally more inflamed about the tenth day. No lymph is taken for vaccination purposes from cases of re-vaccination.

DRESS IN THE NURSERY.—Writers on this subject have mostly dealt with it from a pessimist point of view. Everything about the infant's dress is wrong from beginning to end, yet as a rule they suggest no change, and if they do they go to the other extreme, and advise such outlandish garments that no one will adopt them. All these writings have not done much good, so it may be as well to examine the present arrangement of clothing, and see if by some means and additions it cannot be made to answer its purpose. But at the outset, what are the essential points in dress? First, it should keep the body warm in all parts; secondly, it should be fastened in such a manner that all tight bands may be unnecessary; thirdly, it should allow free escape of perspiration, and thus prevent any excess of temperature.

Ranking dress fabrics in their order as regards warmth, they stand thus—furs, wool, silk, cotton, linen. The first placed, however, are permissible only in very cold climates, and are not healthy, as they keep in the perspiration, and therefore do not conform to our third essential of healthy dress.

What is the present dress of an infant? First, a small shirt of very fine linen, a binder of flannel wound several times round the abdomen and chest, a loosely fitting flannel gown, and, over all, an elaborately worked cotton dress. There are few objections to this, and



with care it is as serviceable as any proposed in its stead. The linen vest serves to protect the tender skin from the chafing of the flannel. The flannel binder helps to keep the upper part of the body warm, and prevents the disarrangement of the clothes in that part every time the napkin has to be changed. It also serves to support those parts which certainly at this time of life do require support, it helps to mitigate the pressure of the strings and bands of the upper garments, and, if it is not put on tightly but with care and judgment, there is not the least objection to its use. A long flannel gown with sleeves is a *sine qua non*. Napkins must be used and frequently changed. All waterproofs over them must be strictly forbidden, or many troublesome skin eruptions will appear; but a square of flannel instead of the waterproof will aid in protecting the other garments.

The worked dress is for ornament, and to this some exception must be taken. It is generally too long and too tightly fitting, and has too many strings. If made to reach one foot lower than the child's feet, instead of three or perhaps sometimes more, it might be made to look just as pretty, and would be more serviceable for the many manipulations required by infants at this age. The sleeves are generally so tight and difficult to get on that it is a wonder the child's arm is not often dislocated in the struggle. They could easily be made loose, and thus secure the freer movement to the child's arms which is so necessary at this period of its existence. A band round the waist is doubtfully permissible, but all strings round the neck should certainly be abolished. When the child goes out of doors a number of ligatures are put round its neck, to keep on



a thick hood and to tie in place a thick woollen cloak. This might be modified with great advantage. A woollen cap might be made to fit the head, and the cloak made loosely to button down the front, with wide sleeves. As, however, an infant generally sleeps when out of doors, a thick shawl wrapped well round it is more simple than anything else.

It is at about the third month, when the child goes into short clothes, that the prejudice of fashion comes into full play. All the above garments are then changed for short ones, not reasonably shorter, but the very shortest that can well be imagined. The arms are left entirely bare as regards clothing, so are the shoulders and neck, whilst the lower part of the body, as high as the waist, is absolutely naked. Certainly, for some months longer a napkin is worn, but not for the purpose of warmth, and when that is abolished a thin pair of drawers is substituted, also destitute of any property of warmth. The first part of this absurd dress may be rectified by putting a knitted woollen jacket with long sleeves under the frock, and many sensible people now use these for their children. When out of doors, too, thick woollen gaiters are put over the legs and thighs, but some such permanent arrangements for in-door wear is desirable.

Little more need be said regarding dress in the nursery. It is the sudden change to a semi-nude condition, to which we have just referred, that is most reprehensible. As the child gets older, its garments are gradually adapted to those of its elders, and they tend to get warmer and to cover more of the body rather than the reverse. The clothing of grown-up people is considered under its proper head.



CLEANLINESS IN CLOTHING.—As far as possible, garments should be made of materials that will wash, and strict care should be taken to change them as frequently as necessary. Napkins should never be re-worn after being simply dried, without having first been washed. No soda, but plenty of soap, should be used in washing infants' clothes. Strict attention should be paid to the airing of the clothes, so that they may be perfectly free from damp before being worn.

DIET OF CHILDREN.—This is an exceedingly large and varied subject, and one which admits of so many subdivisions that it is not at all easy to arrange them. It will perhaps be best to take the different diets suitable at different ages, under somewhat varying conditions, and then to refer to other details connected with the subject.

DIET FROM BIRTH TO ONE MONTH OLD.—The child should, at this period, be nursed, if possible, by the mother. For the first twenty-four hours, and perhaps longer, there will be no milk secreted, but the child will not suffer in any way. On no account let the nurse give it a nasty mess of butter and sugar, and certainly not castor oil. The first milk secreted has a purgative action, which is quite sufficient. At first the child will require feeding every two hours, but an attempt should be made, even directly after birth, to induce the child to wake less frequently during the night. Children are creatures of habit, and it will not take long to teach them to wake only every four hours in the night. Some people advise that the child should be removed from its mother after its last meal at 11 P.M., and taken to the nurse's room. It must then



be taught to take no more milk till 5 or 6 A.M., thus ensuring at least six hours' sleep for the mother. This is seldom practicable, though the mother in most cases should try to take more rest than is the rule. Much harm is done by the constant suckling during the night to which most women unwisely submit, with the worst results to both mother and child. During this month the quantity taken by a child at each meal is about two ounces, which is the quantity usually secreted by one breast. For the first month at any rate, there will in almost all cases, if suckling is carried on, be sufficient milk for the child without resort to anything further. But if the child is brought up by hand, one regular plan must be commenced from the first, and should that not succeed another must be tried.

There is first the question of a wet-nurse. This plan, though theoretically the best, is not much followed now-a-days, and there are many difficulties and objections connected with it. It is not at all easy to be sure of the exact state of health and habits of the wet-nurse, but if a thoroughly reliable person is known, who has a child of her own of as nearly as possible the same age as the one she is to take charge of, the plan should certainly have a trial. Failing this, the milk of some other animal may be tried, and though asses' and goats' milk have their advantages, yet they are procurable for the many with so much difficulty that they need hardly be considered, and we may look on cow's milk as the only substitute for the mother's milk. To make cow's milk as nearly as possible resemble human milk, it must be diluted and have sugar added to it in the proportion of half a teaspoonful to two ounces or a moderate wine-glassful. There is no



advantage in using sugar of milk as some advise—ordinary white sugar is preferable.

The objection to cow's milk is that it is liable to coagulate in thick curds, and thus derange the stomach and bowels. This may be remedied by several expedients. (1) The milk may be boiled, which causes the curd to separate in a more flaky state. (2) It may have lime-water added to it instead of water, which has the same effect. (3) Condensed milk may be used, which from the processes it has undergone somewhat resembles boiled milk. One or other of these processes may first be tried, and if unsuccessful the other can be substituted. If lime-water be added, it must at first be in equal proportions with the milk. The milk must always be new, or, if it has been skimmed, cream must be added to it. The objection to condensed milk is that it contains a large amount of cane sugar, which has been added to preserve it. This addition of sugar renders it liable to cause flatulence in the stomach from its proneness to ferment, and to promote excessive fatness in the child.<sup>1</sup> On the other hand, great care should be exercised in selecting a brand of condensed milk. Various samples of this commodity have, we find from recent reports of the Local Government Board, been found, on analysis, to be almost completely deprived of fat, having been apparently made of skimmed milk. If milk of such inferior brands be further diluted with water, the resulting mixture will possess very slight nutritive qualities. An artificial human milk and

<sup>1</sup> Dr. Cheadle asserts that condensed milk generally disagrees with children because it is given insufficiently diluted. The proportions he recommends are 1 part of condensed milk at first to 30 or 40 parts of water gradually increased till at six months the proportions are 1 to 10.



peptonised milk are manufactured and sold by the Aylesbury Dairy Company. These varieties of milk certainly deserve trial in any case where there is difficulty in bringing up the child by hand.

ARTIFICIAL HUMAN MILK.—So many children suffer from the effects of being deprived of their natural food, owing to the inability of the mother to supply it, that the following substitute may prove of interest and value. In his *Experimental Researches in Pure, Applied, and Physical Chemistry*, Dr. Frankland describes a method by which a liquid of the same composition as human milk can be easily prepared from cow's milk. This liquid is stated by Dr. Frankland to have not only saved the life of one of his own children, but to have proved itself of service in many similar cases in which young infants have been deprived of their proper nourishment. Allow one-third of a pint of new milk to stand for about twelve hours; remove the cream, and add to it two-thirds of a pint of new milk as fresh from the cow as possible. Into the one-third of a pint of blue milk left after the abstraction of the cream, put a piece of rennet, about one inch square, and set the vessel in warm water until the milk is fully curdled, an operation requiring from five to fifteen minutes according to the activity of the rennet. The latter should be removed from the vessel as soon as the curdling commences, and put into an egg-cup for use on subsequent occasions, as it may be employed daily for a month or two. Break up the curd repeatedly, and carefully separate the whole of the whey, which should then be rapidly heated to boiling in a small tin pan placed over a spirit lamp or gas. A further quantity of casein then separates, which must be removed by straining through



muslin. Now dissolve 110 grains of powdered milk sugar in the hot whey, and mix it with the two-thirds of a pint of new milk, to which the cream from the other third of a pint was added, as already described. This artificial milk should be used within twelve hours of its preparation, and it is almost needless to add that all the vessels employed in its manufacture and administration should be kept scrupulously clean.

DIET FROM ONE TO SIX MONTHS OLD. —If suckled, the child will gradually take more at each meal, and will be able to go longer between the meals. At first, feeding will be necessary every three hours, at four months of age every four hours should suffice, and after four months, feeding at night should certainly be discontinued. The last meal should be given about 11 P.M., and, if properly educated, the child will then last till 6 or 7 A.M. the following morning. By this means the mother's rest and health may be assured.

If the mother's milk be poor and scanty, and the child, for that or any other reason, does not seem to thrive on the milk, the mother should nurse the child night and morning only, at other times substituting one of the varieties of milk recommended for a child brought up by hand. It is quite a mistaken and an exploded notion that the two kinds of milk—human and cow's—will not agree if used together in this way.

When a child is entirely brought up by hand, the dilution of the milk must be gradually decreased. At three months of age one-third lime-water may be used, but at four months only one-fourth. At the same time the quantity given at each meal may be gradually increased, from 2 oz. at one month to 4 oz. at three months, whilst after four months 6 oz. may be given.



The intervals between the meals may also be increased, as advised for a child that is nursed.

DIET FROM SIX TO TWELVE MONTHS OF AGE.—From the age of six months the period of weaning should be commenced. By the judicious alternation of the various suitable foods, as presently advised, so as not to disgust the child, the time for leaving off suckling altogether will be reached. Thus, from one meal the child may advance to two, then three, until weaning is arrived at. This plan will be more comfortable and healthy both for mother and child. The age at which the child should be altogether weaned must, to a certain extent, depend on the strength and state of health of the child, but for healthy children the time may be laid down at from ten to twelve months of age, and preferably as near the former age as possible. Any suckling after the child is one year old must be emphatically condemned. After this age, if suckling be continued, the health of the mother will deteriorate, she will get weak and thin, suffer from neuralgia, headache, and great debility. As a consequence, her milk will become thin and poor, the child will suffer, begin to be cross and fretful, and the seed of future disease will be sown. Yet, how common it is to hear a mother say that her child is so ill she cannot wean him at present, and how hard it is to convince such a woman that the child is suffering only from the very process in which she wishes to persevere! Such mothers mistake cause for effect with often disastrous results.

If still nursed regularly at six months of age, one meal of some other food might now be introduced. Each doctor has his particular favourite. Let us



confess to a liking for one of the malted foods. Liebig's food for infants,—usually known as Savory & Moore's—Allen & Hanbury's malted farinaceous food, and Mellin's food, are very good. One of the two former as a rule is to be preferred, since the last mentioned is so easily digested that mothers declare it does not satisfy their children. In the case of a delicate child, however, this will prove to be an advantage. All these foods must be made with milk, and about one-third of a teaspoonful of the food is sufficient for a commencement. Others advise with milk a teaspoonful of thoroughly baked or boiled entire wheat flour, or a teaspoonful of oatmeal if there be constipation, or a scalded German rusk or Robb's biscuit. At six months, five meals a day will suffice, and they may be thus distributed—6.30 or 7 A.M., 10 or 10.30 A.M., 1.30 or 2 P.M., 5 or 5.30 P.M., 10.30 or 11 P.M. For a child partially suckled, one or two meals a day of one of these foods may be given, according to circumstances, with milk at the other meals.

A child entirely brought up by hand may at this age begin with one or two meals of one of the above foods, and gradually increase the number till it takes one or other of the foods, varied if necessary, at each meal. Towards the age of ten months one of the following preparations will form a good mid-day meal for a child, or they may be given alternately: (1) the yolk of an egg beaten up in a small breakfastcup of milk; or (2) a German rusk in a good teacupful of beef-tea.

DIET FROM ONE TO TWO YEARS OLD.—The age of twelve months brings us to the time when the child is weaned, and the three subdivisions we have been previously obliged to make are now merged in one—



the child in future will be brought up by ordinary feeding. The meals may be given at the same hours, save that the 5.30 P.M. meal may be given a little later, and the later meal gradually discontinued except by giving a drink of milk. This will leave four meals a day. These may consist of bread and milk or oatmeal, rusk and beef-tea, sago pudding with egg, potatoes and good gravy. As the child approaches the age of two years he may have bread and butter, an egg occasionally, minced meat and gravy, sago and other light puddings for dinner, with always plenty of milk to drink. In a healthy child, at eighteen months the malted farinaceous food may be entirely discontinued, though up to that age one meal of it a day may be advantageous for some children. It is not advisable in a healthy child to try the vast variety of patent foods now so greatly advertised. The foods necessary to help a child through the first year of its life have been explained, and it is now safer to begin ordinary food, the composition of which is known, rather than to run the risk of disturbing the child's digestion with unknown mixtures.

THE DIET AFTER THE AGE OF TWO YEARS is necessarily much the same. Meat finely minced may be given daily, and vegetables may gradually be added to the diet, till at three years the child gets its treat of coming down to dine with its parents on Sundays or grand occasions, and its diet is thus gradually assimilated to theirs. It is needless to trace the child through any more years; what remains to be added may be included in our general remarks on this subject.

GENERAL REMARKS ON FOOD.—The above diets will prove very useful, but they require in parts some explanation, and what has been said must not be taken



too literally. It is for this reason that so many diets have been given; the idiosyncrasies of each child must as far as possible be suited. Thus, one child will prefer a milk and farinaceous diet, another a meat diet, whilst with many the beef-tea and rusk diet is so great a favourite that it is difficult to get them to take to any other. On the whole, a meat diet of some kind once a day should be urged after the age of ten months. The farinaceous and malted farinaceous foods all contain too little of the nitrogen which is necessary to a growing child, and the deficiency is best supplied by some meat diet. In all cases the farinaceous foods should be made with milk, whereby to a certain extent the deficiency is repaired. There is also great need for the supply of phosphates to a growing child; these exist in oatmeal, maize, and the entire wheat flour, but not in ordinary flour. Hence the entire wheat flour is always to be preferred. As the child approaches the age of three years it should be taught to take at times thin cocoa made with milk, or oatmeal porridge with perhaps a little treacle in it, for breakfast.

It now becomes necessary to tread debatable ground, and to consider a few doubtful foods. For example, pastry, from its mixture of fatty matter with flour, is only with difficulty acted upon by the digesting fluids, and must, therefore, be regarded as not at all easy of digestion. It should only be given as a treat to the elder children in good health. There is an intense craving in all children for sweets. This is a natural desire, as sweets are at this age certainly easily digested, and physiologically there are very good reasons for giving them to children. The harm is in giving them in such quantities that they spoil the meals. In summer-



time, fruit freshly picked and eaten at once is much enjoyed; it helps to quench thirst, and tends to prevent constipation. Fruit bought in shops should be avoided as far as possible; it may have been kept several days, and may have been only half ripe when gathered. It is the ill effects of such fruit as this which has caused fruit to be too prematurely forbidden for children. Apples and similar hard fruits should only be given after being baked or stewed; whilst, of course, the idiosyncrasy of some children who cannot digest fruit must not be overlooked. Raw vegetables, such as celery, radishes, and lettuces, are not good. Sponge-cake is very light and wholesome; currants, however, in all forms are very indigestible, and all children are better without them. Wines or spirits must on no account be given to healthy children, but it is marvellous what a good effect alcohol has in some disorders of childhood. Infants in the first few months of life are dreadfully troubled with flatulence. The best and most easily obtainable remedy is a few drops of brandy slightly diluted with water; it is far more serviceable than any other remedy. No other cases need be here quoted; the diet of sick children is more fully considered in another chapter.

**TIMES OF MEALS.**—As these have been referred to in great detail, it is needless to recapitulate them; but if there is one thing to be emphasised more than another it is regularity. Irregularity of meals, and feeding the child whenever it cries, are at the bottom of almost all the ills of childhood. It would matter much less what should be the diet of the child if the meals were given at such regular times that they could be digested with ease. How can a meal be digested if



poured into a stomach already overladen with food, a condition which is already causing the child to scream from the pain of indigestion? Yet such irregularities largely prevail, and it is not surprising that children suffer as frequently and as seriously as they do from stomach ailments. The child very soon becomes a regular machine if brought up properly, taking its food at regular times, and thriving thereon. If brought up irregularly, it becomes very soon a nuisance to itself and all about it. The rule should be to give food only at stated times during the day, and to so largely increase the intervals at night, after the first month, that the mother may be able to take that rest which is so essential to her. These times have been already specified, and, from great experience in the adoption of them, we are thoroughly convinced that no one need treat them as being absurd or quixotic. Those who try them honestly will find that they conduce to health and good spirits in the mother, as well as health, growth, and good temper in the child.

CLEANLINESS IN FEEDING, ETC.—The liability of milk, the natural nourishment of the child at first, to decompose, especially in hot weather, forms a great drawback to its use. It should be received in vessels that have been well scalded, and should be kept in as cool a place as possible. The addition of lime-water obviates to a certain extent this tendency to decomposition, by neutralising the acid products of fermentation. It is useless now to write against the universal feeding-bottle, although the old-fashioned straight one was much the best. The present one, with its complicated tubing, is very difficult to thoroughly cleanse, and, if cleanliness is not secured, permanent mischief is



very soon caused to the child. The bottle should be scalded after every occasion of using, and the tubing thoroughly cleansed with hot water and a little soda. Both bottle and tubing should then be placed in an open window to dry and thoroughly sweeten.

OTHER GENERAL RULES.—If the mother nurse her child let her be careful to live regularly, and to pay strict attention to all the ordinary rules of hygiene that conduce to good health. Let her live on good plain nourishing diet, take regular exercise, and avoid over-excitement of all kinds; but above all, let her arrange to take the child at its accustomed times. Let her beware of acid fruits, strong purgatives, and other things likely to upset the child's digestion. If she suffer from debility, faintness, neuralgia, or other symptoms, let her consult the doctor as to weaning the child. If the child comes downstairs irregularly, let her not feed it with whatever may be at hand. If the child suffer from diarrhœa, at once call in the doctor, but do not give the child medicine and continue the diet which is probably at fault. There is sometimes too much belief in medicine, and too little submission to common-sense. A good doctor is more useful in indicating what should be the diet of a child in a complex case, than in prescribing medicine which is frequently unnecessary.

To give diet tables throughout the different ages would take up much space, and for the first few months of infancy would be a simple repetition of what has already been said. It is from the age of six months to about three years that most harm is done by a bad system of feeding. This subject may be advantageously concluded by a list of a few serviceable diet tables during the period.



*Six Months.* (If nursed.)

1. About 6.30 A.M. Nursed.
2. „ 10 „ Nursed.
3. „ 1.30 P.M. One of the malted foods, beginning with one-third of a teaspoonful, and gradually increasing to a teaspoonful, in a bottle full of milk.
4. „ 5 P.M. Nursed.
5. „ 10.30 P.M. Nursed.

At this age the child ought to do without anything during the night.

(If brought up by hand.)

1. About 6.30 A.M. Malted food and milk as above.
2. „ 10 „ Milk (nearly a bottle full).
3. „ 1.30 P.M. German rusk scalded in teacupful of milk.
4. „ 5 P.M. Milk, as No. 2.
5. „ 10.30 P.M. Malted food.

*Nine Months.* (If nursed.)

1. About 6.30 A.M. Nursed.
2. „ 10 „ Malted food (one teaspoonful) in a bottle full of milk.
3. „ 1.30 P.M. Nursed.
4. „ 5 „ Malted food, scalded rusk, or teaspoonful of baked flour in milk.
5. „ 10.30 P.M. Nursed.

(If brought up by hand.)

1. About 6.30 A.M. Malted food or baked flour and milk.
2. „ 10 „ Bottle of milk.

3. About 1'30 P.M. German rusk in teacupful of beef-tea.

4. „ 5 „ Bottle of milk.

5. „ 10'30 „ Malted food and milk.

(As a change with the preceding.)

1. About 6'30 A.M. Oatmeal or German rusk and milk.

2. „ 10 „ Bottle of milk.

3. „ 1'30 P.M. The yolk of an egg in bottle full of milk.

4. „ 5 „ Bottle of milk.

5. „ 10'30 „ Malted food or baked flour and milk.

#### *One Year Old.*

The number of meals should have been gradually increased, so that the child is at this age quite weaned. If the child wakes early, give it at 6'30 or 7 A.M. a bottle of milk and malted food or baked flour.

8'30 A.M. Bread and milk or oatmeal.

11 „ Drink of milk and biscuit if necessary.

1'30 P.M. Beef-tea and rusk, sago pudding if desired.

5'30 „ Bread and butter, milk.

10'30 „ Drink of milk if necessary.

(As a change.)

8'30 A.M. An egg, bread and butter, milk.

11 „ As before.

1'30 P.M. Well-mashed potatoes and gravy, and light pudding.

5'30 „ German rusk, or bread and milk.

10'30 „ As before.

Children vary very much at this age. Some will take



quite this amount of nourishment, others will take only three meals a day and yet thrive well on them, nor will they take what they dislike. One child will be very fond of its beef-tea or gravy, and refuse light pudding, and *vice versâ*. Allowance must, of course, be made for these tastes.

*About Two Years.*

Breakfast 8 A.M. Bread and butter, an egg, milk ;  
or Bread and milk ;  
or Oatmeal with perhaps treacle.

A drink of milk with a biscuit on going or returning from a walk, according to the time.

Dinner 1'30 P.M. Minced meat, potatoes, bread crumbs,  
gravy, with light pudding ;  
or Rusk and beef-tea with pudding ;  
or Egg, bread and butter, milk.

Tea 6 P.M. Bread and butter, milk ;  
or Bread and milk.

These diets should be made to alternate as much as possible.

Mr. John Ruskin, in a characteristic deliverance on the subject of nurseries, thus sums up the points which need to be borne in mind with respect to them. In a letter to a correspondent, dated the 23rd November, 1881, he says :—

I have never written a pamphlet on nurseries : first, because I never write about anything except what I know more of than most other people ; secondly, because nothing much matters in a nursery—except the mother, the nurse, and the air. So far as I have notions or guess in the matter myself, beyond the perfection of those three necessary elements, I should say the rougher and

plainer everything the better—no lace to cradle cap, hardest possible bed, and simplest possible food according to age, and floor and walls of the cleanablest. All education to beauty is, first, in the beauty of gentle humble faces round a child; secondly, in the fields, fields meaning grass, water, beasts, flowers, and sky. Without these no man can be educated humanly. He may be made a calculating machine, a walking dictionary, a painter of dead bodies, a twangler or scratcher on keys or catgut, a discoverer of new forms of worms in mud; but a properly so-called human being—never. Pictures are, I believe, of no use whatever by themselves. If the child has other things right, round it and given to it—its garden, its cat, and its window to the sky and stars—in time, pictures of flowers and beasts, and things in heaven and heavenly earth may be useful to it. But see first that its realities are heavenly.



## CHAPTER II.

### THE SCHOOL.

*Principles of Education—School Hours—Dress—Food—  
Play—Sleep—Eyesight—School Desks and Seats—  
Schoolroom—Medical Hints—Evils of Cramming.*

THE subject of education generally, including that much-vexed question of over-pressure, is far too large a one to be discussed in these pages; but the proper principles of education may nevertheless be profitably set forth in them. A child brought up at home should have its education so gradually commenced and blended with amusement that it will be difficult to say exactly when education does commence. Thus, from pictures it will learn the different kinds of animals, birds, and fishes, with their nature and uses, from alphabetical blocks it will get an idea of its letters, and so on till, at about four years of age, it may enter a Kindergarten school, where the same principles are still further developed. As to whether this system should be continued at home, or carried on at one of the special schools, must depend on circumstances.

After the child has attained the age of eight years, the question of home lessons or a day school will come up for consideration. Home lessons, if they can be managed, are preferable. The child will be under the more watchful care of its parents. If fatigued or out of



sorts, as will often happen at this age, the lessons can be more easily intermitted than is possible in the stricter classes of a school. The child will be more out of reach of children who are badly brought up, and who may set it a bad example, against which it is almost impossible to put a child on its guard at this early age.

When the child attains the age of twelve to fourteen years, according as it is quick or slow in learning, a boarding school may, with more prospect of success, be allowed. A boy must, sooner or later, be cut off from his mother's apron-strings, and be launched into the world. It is better that this should be done when he can be under the superintendence and watchful care of a good master, than that he should begin his life away from home without discipline, after, perhaps, a long course of home spoiling. A wise parent will not send his children to school without warning them that they must meet bad companions, and putting them on their guard and on their honour against evil associations. The choice of a school to which a boy of this age should be sent must be determined, to a great extent, by the bent of the boy's mind, and the profession which he is destined to enter. As to the relative merits of a large or a small school, the latter is certainly to be preferred, unless there are separate boarding-homes in the large school, where the boy can be under the immediate eye of a tutor, who will admonish him at once if he is observed to choose bad companions or to be getting into bad habits.

Girls up to the age of twelve years are shorter and weigh less than boys of twelve years, but they then suddenly shoot beyond boys, till the age of seventeen



or eighteen is reached, after which the old position is restored. During these six years girls make almost all their development, which is spread over a much wider period in the case of boys. This fact alone should teach the lesson, that growing girls must not be forced in their education to the same extent as boys. It is needless to enter further into this subject, except to add that everything tends to show that girls during this period, if they are to remain healthy and strong, must have great care taken of them, and must be given rest and kind attention at times when they seem to flag.

SCHOOL HOURS.—A very young child cannot keep its attention fixed on one subject for more than fifteen minutes. Hence the necessity that exists for varying the lessons, and for passing quickly in the case of young children from one subject to another. If, in the case of elder children, a three hours' course of lessons is necessary, there must be a considerable interlude, or the children's attention cannot be secured, and little of the lesson will remain permanently fixed in their minds. For very young children an hour at a time is quite sufficient, and even then the lessons must be varied. Not more than the number of hours given in the following table must be devoted to school daily at the different ages :—

4 years and upwards, .	2 hours.
Below 10 years, . . .	3 to 3½ hours.
Below 12 years, . . .	4 to 4½ hours.
From 12 to 17 years, .	Not more than 6 hours.

No lessons should be conducted when the child is tired or out of health. The studies then require more concentration of thought, and are more harmful to the



child. Thus, morning studies are the best, and evening studies should never be required of young children. So, again, studies after a good meal, as an early dinner, when the child is apt to feel sleepy and is unable to fix its attention, are fatiguing. If they must be carried on, those of a manual character, such as writing or drawing, should be selected.

DRESS.—Much the same rules will apply as in the case of ordinary dress. For boys, when playing games that entail much running and exertion, it is essential that flannel should be worn, and these garments should be changed at the close of the game. It is not wise for boys to sit in clothes damp with perspiration, or in wet boots. Boys, also, should not wear a strap round their waists, as so many are in the habit of doing. The dress of girls falls into much the same category as that of women, described in another chapter. We need only say here that the harmfulness of most of the dress fashions of the present day is much intensified in the case of young and growing girls.

FOOD.—This at schools varies very much. As a rule it is plentiful, but there is too much sameness about it, and the cooking is too frequently of the worst description. It is always a difficult task to supply a large number with hot dishes, but frequently sufficient trouble is not taken in the matter, with the result that the pupils grumble and leave their food. There are generally three meals given in a day, with, at some schools, a piece of bread and cheese for supper. Two of the meals, however, breakfast and tea, consist almost always of identical ingredients—bread and butter, and milk or tea; so that, with the exception of dinner, the meals are the same day after day. This might be



obviated by good management. Every school ought to have a dairy, either attached to it or within supplying distance. Eggs for breakfast, or bacon, or a little fish to a class at a time successively, would help to vary the monotony of the diet. Jam and marmalade might occasionally be given at tea-time. The question of beer or alcoholic drinks in schools should not be entertained, save for a delicate child or on a doctor's certificate. Plenty of time should be allowed for each meal, and the practice of allowing the food to be eaten very quickly should be discountenanced. So also reading at meals should not be permitted. It encourages the practice of "bolting" the food so that the pupil may get on with his reading in peace. A child that eats well may generally be considered in good health, and therefore any loss of appetite should be noticed and made an object of inquiry. Studies before breakfast on an empty stomach are not advisable. There is plenty of time in the day for all the study that is likely to be permanently useful, but if before breakfast study is thought necessary, a cup of warm milk should be taken immediately after rising from bed.

PLAY.—A certain amount of play and exercise is absolutely necessary to keep a child in health, and boys should not be allowed to shirk their play by remaining indoors during play-hours. It is also a very bad rule to allow punishment to trench on the play-hours, yet in many schools this mistake is made. Half an hour's drill of some kind may with advantage be made to intervene between the two parts of the morning's lessons. This leads us to speak of gymnastics, which on the continent are taught as a separate branch, and are made to play an important part in education. As a



rule, no lesson is hated so much by English schoolboys as the drill lesson. This is because it is handed over to some regimental sergeant who does nothing to make it interesting, and who treats the lads as if they were raw recruits who must go through the dull, monotonous routine without a trace of shirking. If, however, this lesson were entrusted to a competent teacher, who would explain the objects of the different movements and make the boys take an interest in their lesson, and who would gradually advance them by a fresh lesson each day, explaining it as he went on, drill would lose its dulness, and become a source of interest and pleasure. Parallel bars, swings, and horizontal bars, ought to be erected in every play-ground, and the boys should be encouraged in their use during play-hours. In the matter of boys' games our English sports are so good in developing, not only the muscular vigour of the boys, but also their habits of pluck and self-reliance, that they must all be encouraged. At football and hockey the boy must be taught to take his knocks with good temper, and an occasional accident need not make us cry out against such games; they have done and are doing much to make English boys become reliant men. Swimming should be a part of the education of all boys, and to make it popular as well as a means of safety no boy should be allowed to boat until he can swim. Swimming in clothes should also be practised. Cricket is so popular that it needs no praise from us. Fives, racquets, quoits, where means permit, are all good. Paper-chases in the winter months may be encouraged, but a watch must be kept on the weaker boys lest they overdo it. Much more liberty is now allowed to boys than was the case in former days, and



with very good results. They are now allowed on half-holidays to go about almost where they like, so long as they behave themselves, the privilege being stopped as a punishment. This liberty is seldom abused, and the plan on every ground is to be commended.

But how different is the case with girls! What exercise do these poor creatures get? Generally little more than a walk once or twice a day, in couples, and, as a great relaxation, a mild course of drill instruction—a remedy which is often worse than the disease. Space will not permit us to enlarge on the wickedness, from every point of view, of this course of treatment. It stunts and enfeebles the body, enervates the mind, and renders the moral nature of girls listless and morose, if nothing worse. Swimming, skating, lawn-tennis, badminton, and other games of a like nature, and even cricket, ought to be encouraged and insisted upon in girls' schools.

SLEEP should be allowed for according to the following table:—

Up to 12 years old,	.	.	10 hours.
14 to 15 years old,	.	.	9½ „
17 to 20 „	.	.	9 „
Over 20 „	.	.	8 „

The first hour's sleep is the most intense; after that the intensity gradually diminishes. The dormitories should be large, and the cubic space in them should be greater than in the day rooms. They must be used only at night, and should always have an open chimney. The windows must be open throughout the day at the top and bottom. Large dormitories are in every way better and more healthy than small single



ones. Each individual should have a separate bed, if only on the score of health and decency.

EYESIGHT.—There is no doubt that the eyesight of every child should be tested before the child is sent to school. Many children are scolded and punished for stupidity and perverseness, when in reality the eyesight is at fault. But even this safeguard would be insufficient without periodical examinations, since it is at school that many affections of the eye are developed. This arises from too close and prolonged attention to minute objects, especially in delicate children or in children out of health. It may also be caused from insufficient light or through the light falling on the book or slate in an improper direction, or from the use of improperly made desks and benches. Thus, in Germany, where much more school-work is done than in England, it is found that one in ten of all children are short-sighted, and also that the youngest classes have the fewest and the oldest the greatest number of short-sighted individuals amongst them. This proves that the tissues of the eye will not bear the strain of too much close work. A short-sighted eye is one in which the diameter of the eye from the front to the rear is too great. This fault may be remedied by wearing suitable concave glasses. In all cases, however, before taking to glasses, the eye should be properly tested by an oculist, and the child should not have glasses given to it at haphazard. Otherwise more harm than good may be done. The remedies for short sight are—(1) suitable glasses; (2) attention to the health of the child; (3) shorter hours of work—that is to say, the child's attention to one subject must not be too prolonged, but there must be rest from books at frequent intervals. There should be



no work when the child feels sleepy or tired, as greater effort is at such times required.

The opposite condition to short sight is far sight, in which case the diameter of the eye from front to rear is too small. Children so constituted can see distant objects clearly, but to discern near objects requires an effort on their part. This effort after a time becomes to a certain extent difficult to maintain, and then the letters in printed or written matter seem to run into each other, the child cannot see clearly, and, if the attention must still be continued, headache and other nervous symptoms will arise. It is this form of sight disorder that almost always causes a child to squint, and in England there is no doubt that it is far more common than near sight. The remedy will be found in the use of appropriate glasses, which must be convex, or the reverse of those used for near sight. A more rare form of disorder is known as astigmatism, in which all the lines in a certain direction appear blurred or indistinct, the child being able only very slowly to make out letters and characters. This is a very complex form of disorder to distinguish, and requires glasses of peculiar make; skilled assistance must be sought.

It is right to warn teachers that many forms of inflammation of the eye and eyelids are of a contagious nature, and that for this reason great care must be taken in providing separate towels, and in wiping away all discharges with pieces of rag which should be immediately burnt.

SCHOOL DESKS AND SEATS.—A great deal depends upon these fittings being of the right description. If unsuitable they tend to develop numerous complaints—myopia or short sight, of which we have already



spoken; spinal curvature, from sitting in an improper and cramped position; congestion of the head and headache, when the desk is too low, and the head consequently is constantly hanging down; dyspepsia and flat chest, from the compression of the chest or abdomen against the desk. Thus, the desks should be of different sizes, each child should keep to his own proper desk and there should be no changing of places. A foot-rest is necessary in the case of small children. Liebreich gives the following rules as to the make of these articles: "No boy should read with the book nearer than from 10 to 12 inches. The desk should be raised as an inclined plane,  $20^{\circ}$  for writing,  $40^{\circ}$  for reading. The edge of the desk or table should be perpendicular to that of the seat, and in the case of boys the top of the back of the seat should be one inch lower than the edge of the table, and in the case of girls one inch higher than the edge of the table." A child should not be allowed to write in an awkward posture, but should on first entering school be taught the proper way in which to sit for writing and reading.

SCHOOLROOM.—The form of the schoolroom should be oblong. The windows should be on the left, and high up. Its length should be such that the writing on a blackboard can be easily seen—*i.e.*, not more than 30 to 35 feet. The width must be proportioned to the height of the windows: thus, if the windows reach to a height of 14 feet, it must not be wider than 24 feet. The height should be limited to 13 or 14 feet. The windows should be on the left of the desks, which should be arranged parallel with the short sides. If windows are on both the right and the left, a double set of shadows are thrown, which is very trying. The worst light of all



is light from the front. The walls should be of such a material that they may be easily cleaned or washed. Wainscotting is very good for the lower part of the walls. The cubic space cannot well be too great. At least 400 or 500 cubic feet per head should be allowed. The allowance of the London School Board is far too small, and is dangerous to health. Particular attention must be paid to the ventilation of the room,—a question which is discussed at greater length in another part of this work. As the windows will all be on one side of the room, provision must be made for adequate cross-ventilation on the other side, by means of Sheringham valves and Tobin's tubes. Provision should be made for supplying in winter warm air to the schoolroom, so that the temperature can be maintained at from 65° to 68°.

MEDICAL HINTS.—Children in weak health should never be sent to school till they have passed a medical examination. The state of the heart and eyes should receive particular attention. Some schools now require every pupil to bring, after each term, a medical certificate stating that he or she is free from infectious disease, and has not been exposed to infection. This is a very salutary rule. A periodical inspection by a medical man at intervals during the term is also strongly advisable. By this means the first sign of failing is often detected, and future injury to the health avoided. The means of prevention to be used in cases of infectious disease are fully considered in another chapter.

EVILS OF CRAMMING.—This is the epoch of competitive examinations, when appointments are usually made by them, and every school tries to pass the largest possible number of its scholars in the highest grades.



Examinations of this kind involve an immense amount of cramming, which is nothing but another term for over-study, and they are really the worst possible mode of furthering education. The ill effects of the system are not far to seek or to imagine. Of some, on the eyesight, mention has already been made. In like manner to the eye, the brain gets congested from too close application, and headache, more or less constant, is the result. This is usually the first warning, and should receive attention at the hands of a capable master. From neglect of proper play and out-door exercise, the general health begins to suffer. The boy gets pale and thin, is often said to grow beyond his strength; he loses his appetite, neglects his meals, gets fretful and anxious as to the place he shall take at the examination. His mind then, or first perhaps his moral nature, becomes involved; he is irritable, cross, and sullen, constantly brooding over his books; his sleep becomes short and unrefreshing, he wanders in it and talks about his books and lessons till at last a feverish state may be set up in which he entirely breaks down, and has perforce to give up work, — though often not before some serious injury has been caused. In the case of girls, cramming should never be allowed, neither should competitive examinations. Reasons have already been given for discountenancing these in their case, and it is only necessary to add that from the high development of their emotional nature, mischief is prone to occur far sooner than in the case of boys, and also to prove of a more intractable character.



## CHAPTER III.

### CARE OF THE PERSON.

*Necessity for Cleanliness—Soap—Cosmetics—Cold Bath—Warm and Tepid Baths—Hot Bath—Douche Bath—Shower Bath—Needle Bath—Vapour Bath—Hot Air Bath—Turkish Bath—Russian Bath—Sea Bathing—Bath-room—Public Baths—The Hair—Essentials of Clothing—Materials for Clothing—Colour and Shape of Clothing—The Corset—Boots—Garters—Petticoats—Comforters—Poisonous Colours in Clothing—Infection—General Rules in Clothing—The Ear—The Eye—Respiration—The Voice—The Teeth.*

NECESSITY FOR CLEANLINESS.—During life the surface of the superficial skin is continually being thrown off in the shape of minute scales. By washing and rubbing, these are regularly removed, but if these processes are not efficiently carried out the greasy matter also poured out by the skin-glands glues them into an oily kind of material, which again attracts dust and dirt and forms an unhealthy layer on the surface of the skin. This acts injuriously in several ways. It closes up the pores of the skin, limiting the escape of perspiration, and preventing the proper action of the skin as an excretory organ. As there is no doubt that the skin gives out carbonic acid largely, this important function will obviously be interfered with. The skin then becomes irritated from the decomposition of this unhealthy material. Being unable to carry out its



work of purification, more labour is thrown on the lungs and kidneys, and this may lay the foundation of disease in those parts. It is possible also that the germs of disease find a resting-place on this dirty surface, and may then be absorbed into the system.

SOAP.—This is a compound, made from soda and fats or oils, which is readily soluble in water. Its use is to dissolve the greasy matter poured out by the skin-glands, and with it the layer of dirt, to which allusion has just been made. It will not mix well with all waters. Soft and distilled waters are best, as well as being the least irritating to the skin. With very hard water, soap will not mix at all well, as it combines with the lime to form an insoluble salt till all the lime is deposited. Waters of this class should first be well boiled; a good deal of the lime they contain will thus be thrown down, and they will be made softer. A good soap should not contain too much alkali, or it will be very irritating to the skin; it should only have enough to saponify the fat.

The fat from which it is made should be pure and good, and it should not contain colouring or perfuming material that is likely to be of an irritating character. Many of the common soaps contain too much alkali, and are too irritating to be of any use for washing the skin, but the toilet soaps of good makers are reliable. As regards the medicated soaps so much in vogue at the present day, it is doubtful whether any of them contain sufficient of the disinfectant agent to be certainly of use in that capacity. They are, however, very useful and serviceable kinds for ordinary use. Soft soap is made with potash instead of soda, and is too alkaline to be used, except for scrubbing and domestic purposes.



COSMETICS are used generally to conceal some skin eruption or supposed excess of colour, but in some cases to impart colour where, according to the vagrant fancy of the female mind, it is supposed to be lacking. It need hardly be said that their use can never be advised. Some of them, but only a few, are composed of lead, mercury, bismuth or other materials that act more or less injuriously on the skin. Even if they are in themselves harmless, they block up the orifices of the skin-glands, and prevent the healthy action of the skin, leading sooner or later to permanent disfigurement. The practice of using belladonna for the eyes is likely to lead ultimately to serious impairment of vision.

BATHS.—*Varieties* :—

Cold Bath, . . .	Below 80° F.
Tepid Bath, . . .	About 90° F.
Warm Bath, . . .	95° to 100° F.
Hot Bath, . . .	100° to 105° F.

COLD BATH.—On first entering a cold bath a sensation of chilliness is felt, which is the most uncomfortable part of the bath. This sensation is caused by the action of the cold water, which causes the skin and its blood-vessels to contract, so that the blood is forced back, as it were, into the internal and deeper parts of the body, and the internal organs become temporarily overfilled with blood. This action stimulates the nervous system, the breathing becomes quicker and deeper, the heart beats more vigorously, and, as a consequence, the warm blood is sent back to the skin with increased force. This is known as the stage of reaction, and the bath should not be prolonged so that the next stage of what may be called depression is reached, in which the blood,



becoming chilled again and again at the surface, is unable to keep up its temperature, and permanent chilliness, with other depressing effects, which last for some time, will ensue. The stage of reaction is best increased by friction with a rough towel, when a most pleasurable glow of warmth will spread over the whole body. This glow may be taken as the test of whether the cold bath is doing good or harm to the individual. If it does not ensue sufficiently, the water should be slightly warmed. Sometimes there is no glow, the powers of reaction seem quite unequal to the task imposed on them, and the cold bath produces only its depressing effects—as sense of chilliness, blue face, numbed or “dead” fingers, and the like. This is a proof that the person cannot bear a cold bath, but that it does him harm rather than good. For such an one, standing with the feet in warm water and sponging the body quickly with cold water may be tried, followed by friction with a rough towel. In summer, when very cold water would prove most delightful, it is often difficult to get the water cold enough, whilst in winter the water is in reality always too cold. A good many people, young and with strong powers of reaction, boast that they break the ice to have their morning tub, but it is doubtful whether this does not do them harm ultimately, and as they get older they certainly should not indulge in such hard usage. The proper temperature of a cold bath may be laid down as that at which water in summer usually stands. For winter the temperature of the bath should be made up to, or even slightly higher than this by the addition of hot water. It should be remembered also that water is a much better conductor of heat than air, so that though the water may be



slightly warmer than the air, yet on this account it will feel colder. A bathe in running water will make the body very much colder than one in still water, as fresh cold water is constantly being brought in contact with the skin.

TIME FOR USING THE COLD BATH.—Learned but impractical writers lay it down that about 11 A.M. is the proper time for indulging in the cold bath. They say that it must not be taken when the body is fatigued by a long fast, as before breakfast, neither must it be taken directly after a meal. This is all very well, but to a business or professional man it means no bath at all. The most convenient time in every respect is when getting up in the morning, and, whatever may be said to the contrary, that will be the time chosen, so we will simply say that to a healthy robust man, with proper precautions taken, a cold bath at that time will be a most agreeable and healthy luxury.

RULES AND PRECAUTIONS IN USING THE COLD BATH.—The duration of the bath must not exceed the period of reaction. This is variable with each individual according to his state of health and idiosyncrasy, and each one should fix the time he may remain in the bath according as his feelings when he leaves it are pleasurable or the reverse.

If in any person there is no well-defined stage of reaction, such person must not continue the use of a cold bath, but try one of the substitutes already recommended.

A cold bath should not be taken when the body is in a state of profuse perspiration, as serious results have happened from the sudden check to this process. Nor, on the other hand, must it be taken after much exercise,



and the body has passed the perspiratory stage, when a cold stage of depression often ensues. If taken then there will, as may be readily understood, be very little or no reaction. The bath should be taken when the body is comfortably warm.

If the bath is taken directly after a full meal, it is apt to interfere with the process of digestion. To carry out this process the stomach is for a time in a state of congestion, but if a cold bath is taken the blood will be attracted to the skin during the reaction stage, and symptoms of indigestion will ensue.

A good sudden plunge into the bath is best for those who can stand it, otherwise the whole body should be quickly immersed.

A cold bath should not be indulged in by persons suffering from heart disease, or from chronic disease of any of the internal organs of the body, except by medical advice. In the first case, as the result of the shock, the rush inwards of the blood, as it were, to the internal organs, may lead to immediately fatal consequences. The weakened heart may prove unequal to the strain, or the temporary congestion of any affected internal organ may produce permanent injurious results.

There can be little doubt that the daily use of the cold bath renders persons who are susceptible to colds much less liable to their influence, and less likely to be injuriously affected by sudden changes of temperature.

WARM AND TEPID BATHS are taken chiefly for the purpose of cleanliness, or after a hard day's work, when the muscles are fatigued from over-exertion. They cause a feeling of warmth to the body, and make the heart beat more quickly. They at the same time increase the flow of blood towards the surface of the



body, and cause the glands of the skin to act more powerfully, whilst they remove any impediments at the outlets of the pores, and so enable the perspiration to escape freely. Whilst these glands are in such a state of activity, it is very essential that their action should not be retarded in any way; therefore care must be taken to prevent chilliness. Hence these baths are best taken at night, when the individual can at once retire to rest; and, as they are very conducive to sleep, everything tends to point out that this is the most natural time to take them. It is necessary to remember, that from the relaxing nature of these baths persons with weak hearts, or suffering from debility, may faint in them. Care and caution should therefore be exercised in their use by such persons.

HOT BATHS.—These are powerful stimulants, and should be seldom used except under medical advice. They are very serviceable, however, in cutting short a cold, or preventing a threatened cold, if immediately after them the patient retires to a warm bed and envelops himself in blankets, thus promoting free perspiration.

DOUCHE BATH,—SHOWER BATH,—NEEDLE BATH.—All modifications of each other. They consist essentially of a stream of hot or cold water directed to a part or the whole of the body. They are chiefly used as curative agents. The cold shower bath is the only one in at all general use, and it is gradually dying out. The shock it causes to the system is greater than the cold bath, and it should only be used by the strongest and most robust. Many persons use it directly after the warm bath, to close the pores of the skin and to prevent any ill effect from exposure to cold if they are



obliged to face it immediately after a warm bath. Its use in this case is rational and beneficial.

VAPOUR BATH,—HOT AIR BATH,—TURKISH BATH,—RUSSIAN BATH.—Of these the Turkish bath may be taken as the type. The bather first enters the tepidarium—a room at the temperature of  $115^{\circ}$  F.—and remains till perspiration breaks out, when he proceeds to the calidarium, or hottest room (temp.  $130^{\circ}$  to  $140^{\circ}$  F.), and remains till the perspiration pours down him. He is then shampooed by an attendant, and afterwards soaped and sponged in another less heated room. This is followed by a cool shower bath or plunge in cold water, after which he is rubbed dry, and rests on a couch some little time before leaving. The process lasts from one to three hours, and is modified to suit different cases. In the Russian bath a steam room instead of a dry hot air room is used. The Turkish bath is quite unequalled in removing all dirt and impurity from the skin, and it is good as an occasional stimulant of the vital processes; but care must be used in taking it, and the bather must be guided by his sensations and the advice of the skilled attendants. Weakly persons, or those with a weak heart or liable to apoplexy, should not take it, neither should it be taken soon after or before eating. Moreover, the various processes must not be undergone too rapidly, from the danger of too rapid heating or insufficient cooling.

OTHER BATHS.—It is needless to enter into any description of these. They are used only in certain diseases of the system or of the skin, and their name is legion,—as the mineral water, the alkaline, the acid, the sand, the fine baths, and so forth.

SEA BATHING.—Almost all that has been said on



the subject of the cold bath will apply to sea bathing ; a few differences, however, require notice. Thus, when in the sea, the first chill will follow as in a cold bath, but in this case the bather usually undergoes a considerable amount of exercise,—jumping, swimming, and otherwise moving about. This promotes a period of reaction or comparative warmth, but after a time it is succeeded by a feeling of chilliness, with blueness of the lips and finger-nails. Directly this is perceived, the bathing must be discontinued, or other more severe symptoms of depression of the circulation will ensue, as chattering of the teeth, shrivelling of the skin of the fingers, and the like. Salt water acts more as a stimulant to the skin than fresh water ; consequently sea bathing may be indulged in as a rule for a longer period of time than the cold bath. No definite rule can be laid down, but the practice of bathing several times a day must be declared unhealthy and dangerous. It is a great tax on the powers of endurance of the individual, and only the strongest can sustain it. For the same reason, the season of bathing must for most persons be limited to the months of June to September.

It is well to immerse the whole body as quickly as possible. The plunge of a good swimmer is a desirable object of attainment. The time for sea bathing must very often depend on the tides. The best time is about 11 A.M., but there is no particular charm about this hour, as some try to imagine. The rules laid down for the use of cold baths should be strictly followed out. Swimming in salt water, from the greater density of the water, is much more easy than in fresh water, but there are many precautions that must be taken, or sea bathing for a novice becomes a very dangerous amuse-



ment. Thus, if the tide is running out, the swimmer on trying to return may not be able to make headway against it. If there is a heavy surf, he may, unless a very good swimmer, lose his presence of mind or become exhausted. He must try to ascertain the existence of any strong currents running along the shore which might prevent his reaching land before the exhaustion of his strength. At all watering-places, however, there should be men appointed, in boats close at hand, to afford help in cases of emergency.

For children, sea bathing is very beneficial in many cases : their skins react well after a bath. They should never, however, be plunged into the surf by the robust old hags peculiar to the sea-side, as the noise and tumult of the surf terrifies them. They should be allowed first to paddle about, then to run in a little farther and farther, until they get used to the sea and delight in it. If a child does not like a sea bath, but is terrified by it, on no account press him ; and if the stage of reaction is not well marked, the bathing must be discontinued. If a child bathe, the body and head ought always to be immersed, and a good rubbing down with a rough towel must be given when the bathing is finished. Elderly people, and people suffering from any disease, should only bathe under medical advice.

Fresh water bathing differs so slightly from sea bathing as to require no separate notice.

BATH-ROOM.—A bath-room with a sufficient supply of hot and cold water is now considered a much more essential adjunct of a house than it was in our forefathers' time. Yet even to-day amongst the middle classes bath-rooms are not common. When one has to



be adapted to a house the best must be made of circumstances. But in building a new house, the addition of a well-ventilated bath-room should be insisted on. It is a common plan to put the bath-room and closet together, but this is not at all safe. At any rate extra precautions must in that case be taken with the system of drainage, or the heat from the hot bath-room will tend to draw the sewer air towards that room and to force any imperfect trap.

PUBLIC BATHS.—These ought to be far more common in England than they now are. Any one who walks along the banks of an English river in summer will note the numbers of men and boys who delight in their bath, which, if a source of enjoyment to themselves, is often one of embarrassment to the pedestrian. Every large town should have its swimming bath provided by the public authorities, with facilities for raising the temperature of its water in winter, so that cleanliness may not be limited to the summer months. The encouragement of the art of swimming will alone save many a life. But what of the public facilities enjoyed by women and girls for bathing? The lower classes have no means of bathing at home, and their opportunities for effectual ablution of their persons are of the slightest. This is a subject which from every point of view demands consideration, and if a small part of the money now wasted in other ways were devoted to the cleanliness of the lower classes, their health and the tone of their morality would be improved.

THE HAIR.—This probably suffers very often from too much brushing. Most people have an idea that the head cannot be brushed too hard or too often. This is a mistake. Hard brushing may remove the scurf



from the hair, but it at the same time greatly stimulates the skin of the head, and causes increased production of scurf. Again, the skin of the head, as of other parts of the body, is kept moist by an oily secretion, and it is the deficiency of this secretion that causes the head to become dry and "scurfy." If the head is washed too often with soap this secretion is removed, and the scalp becomes dry and scaly; so that a little vaseline, pomade, or wash containing glycerine should be afterwards rubbed into the roots of the hair. White of egg instead of soap is a very good thing to use for washing the head. Pomades consist of an oily or fatty matter scented with various sweet-smelling oils. They should only be used very moderately. Much of the baldness of the present day is due to the style of hat, which presses tightly on the head and interferes with the circulation of blood through the vessels. The hair dyes in common use are of two kinds—(1) to darken, and (2) to lighten the colour of the hair. Those of the first class almost always contain some salt of lead, and their use is very dangerous; cases of lead poisoning have been known to occur from their use. A few consist of some silver salt, and these are not so dangerous. The second class usually consist of a solution of peroxide of hydrogen; this also is not dangerous, but the use of all dyes should be discouraged. It is probably useless to write against any mode of dressing ladies' hair, as fashion rather than healthiness will prevail in most female minds.

ESSENTIALS OF CLOTHING.—The temperature of a healthy body is  $98.4^{\circ}$  F., and this temperature varies very slightly so long as a person keeps in good health. Any rise of temperature beyond one degree from this point is a sure sign of ill health. Nor does this temperature



vary even with the season; it is the same in summer and in winter. In summer it is kept down by the perspiration excited, which, evaporating from the surface of the body, abstracts heat from the body for the purpose of carrying on the evaporation. In winter it is raised by extra clothes and fires, and, in default of these, by the heat given off in the various chemical changes which are carried on within the body, and are always more active during the winter. This explains why more food can be taken in winter than in summer, the extra supply being required for combustion within the body to keep up the temperature. This is not a physiological work, and, therefore, it is not practicable to enter into fuller details on these matters; it is necessary, however, to explain in a few words the principles of proper clothing.

The body loses heat in several ways: (1) By radiation, as it is called; that is to say, every heated body gives off a certain amount of heat to a colder body near it, as a fire or red-hot piece of iron gives off a feeling of heat to the hand brought near to it. (2) By the process of evaporation of which we have just spoken, and which is chiefly in activity during hot weather. (3) By conduction or convection—the direct conveyance of heat to particles of air in immediate contact with it. Clothing, then, is to protect us from outside influences: in winter to protect us from the cold—to prevent the loss of heat in the three ways named; in summer to prevent the direct action of the sun on our bodies, and to save us from chill which is liable to occur from the often abrupt transitions of temperature during a summer's day.

One word as to "hardening." How far is this



advisable? Certainly many individuals carry it too far, whilst others go to the other extreme. The process of hardening consists in getting the nerves of the skin so accustomed to cold air, that—as in the cold bath—there is a less violent influx of the blood from the skin to the internal organs, and these organs become accustomed to tolerating such influx without congestion following. On the other hand, by “coddling” the surface becomes so unused to sudden change that it acts most violently, there is a large influx to the internal organs, and the effect may be serious, congestion or inflammation being apt to arise. While a certain amount of hardening may do good, it must be remembered that to keep up the heat of the body in winter without a due supply of clothes involves a great expenditure of nerve force, from the increased combustion processes required in the body to keep up the temperature, and it is injurious for a man engaged in brain work or the like to exhaust his powers unnecessarily.

CLOTHING, MATERIALS USED.—*Wool, Merino, Flannel* are all modifications of the same class. Wool is the best non-conducting material, and should be used for all underclothing. It prevents better than any other the loss of heat from the body, and it allows free ventilation and evaporation. The great objection to its use is its irritating action on the skin, which many people cannot bear. This may be avoided by wearing it over a light muslin under-vest, or by having it lined with silk. There are so many kinds of merino vests made now, however, that almost every one can wear at least the lighter sorts next the skin, with other flannel material over if necessary. In summer, as in winter, probably a light merino vest is best, helping in this case to



keep out the heat of the sun, and also allowing free evaporation, whilst if the temperature suddenly change, as it frequently does at night, it forms at once a good protector against the sudden chill so often felt from such change. In rowing, cricket, and other violent exercises, clothing of this description is the only kind permissible, as it protects the body from the chill occasioned when the exercise is discontinued and the skin is freely perspiring.

*Silk* ranks next to wool as regards warmth and porosity. The great objection to its use is the expense. For comfort in winter nothing can equal, in the writer's opinion, an under-vest of silk next the skin, with a light merino one over it if necessary. Silk is much softer and less irritating than flannel or merino, and is very useful for summer wear.

*Cotton and Linen.*—Calico is made of cotton. Cotton is not suitable for warmth, and linen is a still better conductor of heat. Neither of these is to be recommended for underclothing, except over wool or silk. Their use is rather on the side of the ornamental, and they are worn more for the sake of appearance than of comfort.

FUR CLOTHING ranks with wool as regards its bad conducting powers, but it is not suitable for underclothing. It may be worn as an external covering, and its use for this purpose, in the shape of overcoats and mantles, is universal in cold countries. It does not, however, allow of free evaporation like wool, but if its use is limited as indicated, little harm will result. Fur is also a good protection against wet, its properties being such that it keeps the rain-drops on its surface.

IMPERMEABLE CLOTHING.—Mackintosh and leather



protect the body from wet, and also from very cold, cutting winds. Their use, however, is not conducive to health, for whilst they keep out the wet they also shut it in, and do not allow the free evaporation of perspiration from the surface of the body. They cause, if worn for some time, a feeling of great heat and oppression, but the ventilated Mackintosh minimises these evils.

COLOUR OF CLOTHES.—This is to a certain extent a matter of some importance. Thus, white absorbs comparatively little heat, yellow and pink come next, whilst black absorbs most. In summer it is not so much the texture of a garment that is of importance as the colour. This is the reason why white and the more brightly-coloured materials are chosen in summer and the darker ones in winter.

SHAPE, ETC., OF CLOTHING.—Under this head must be noticed some of the abuses of the modern style of dress. This is an oft-told tale, but fashion leads the way and every one follows. The essentials of proper clothing are—(1) that it should be light; (2) that it should cover equally all parts of the body except the hands and face; (3) that it should fit comfortably so as not to interfere with the functions of any part of the body. Let us comment on a few articles which sin greatly against those essentials.

THE CORSET.—This, with its tight lacing, is a known evil. It is useless to say that it is necessary, for it is quite certain that women are as well able to do without it as men are. The evils caused by this article of dress arise from the compression and displacement of various organs by the pressure exerted on them. Thus, the lungs and heart are compressed, causing breathless-



ness on exertion, palpitation, and other symptoms. The stomach and liver are dislocated, giving rise to dyspepsia and all its attendant evils, resulting sooner or later in actual disease.

BOOTS.—These, if too tight, cause corns, bunions, and in-growths of the toe-nails; on the other hand, if too loosely fitting they cause corns from friction. Boots with pointed toes squeeze the toes together, and act particularly on the first toe, causing it to bend across the others, and often leading to a species of dislocation at the ball of that toe. If improperly made with no arch to support the sole of the foot, that part gives way and the foot becomes flattened, leading to great pain in walking, distortion, and knock-knee. The high-heeled boots of the 'present day raise the heel and relax the muscles of the calf, so that from non-use they waste away and give rise to a species of lameness.

GARTERS are a fruitful source of varicose veins of the leg. Their use is quite unnecessary, and now, it is hoped, uncommon; suspenders have rightly taken their place.

PETTICOATS.—These exert too great a pressure on the hips and the surrounding organs of the body. It is probable that the tight stays of the present day are useful to a great extent in forming a more marked hip on which to hang this great weight of material. Be this as it may, the weight should as much as possible be borne on the shoulders, or attached by buttons to a "bodice."

COMFORTERS are useless and harmful to a healthy person. The face and throat do not require protection if other parts of the body are warmly clothed. Sailors, for example, wear their clothing so that the throat and also the upper part of the chest are quite exposed to the weather.



POISONOUS COLOURS IN CLOTHING.—Many coloured articles have been known to produce severe symptoms, which are chiefly due to the presence of arsenic. It is a mistake to suppose that only green articles contain arsenic; many of the various aniline dyes of the present day contain a large amount of that substance. Poisonous colours produce on the skin a rash composed of a number of small blisters, which afterwards become sores. Their effect on the general health is to produce headache, loss of appetite, feverishness, smarting and running of the eyes, all which symptoms cease when the obnoxious garment is left off.

INFECTION.—The liability of clothes to convey infection must be remembered, and care must accordingly be taken. The clothes of any one who has suffered from an infectious disease, unless they have been removed from all contact with the sufferer, are better burnt. At any rate, they must not be again used till they have been thoroughly disinfected. It is to be feared that tailors and others are not sufficiently careful as to the supervision they exercise over their workpeople, especially when the work is done at the homes of the latter. This is often one of the ways in which infectious diseases are spread.

GENERAL RULES IN CLOTHING.—Underclothing must be understood to include warm clothing for the chest, arms, and legs. Too often these parts are left entirely unprotected.

Tightly stretched garments allow more heat to pass through them than loose ones; there should always be a space between garments.

Flannel requires long soaking to make it wet; linen and cotton soon become air-tight by wetting. Thus a



wet linen shirt feels colder, and is liable to give cold sooner than a flannel one.

A person who has become heated in a hot room should not go into the cold air without some extra protection, or until he has become cooler.

Our clothing must vary according to the activity of our work. A business man seated at his desk, and taking little exercise, requires more clothing than one who is constantly engaged in active work.

The "full dress" of ladies, without much precaution, is very dangerous, and leads often to serious results. To expose the chest and arms of a delicate girl who, as a rule, is very warmly clothed, to the chilling air of winter, is most foolish and reprehensible. After dancing in this costume the cloak should be immediately put on, and it is very dangerous to expose the body thus heated by exercise to sudden change in a conservatory or much colder room. Yet this is a practice which is a great deal too much in vogue.

Do not be in too great hurry to assume extra wraps for winter, but having once taken to them be very careful not to leave them off till mild weather is quite established.

Do not continue in wet garments an instant longer than is necessary, and be especially careful not to sit in wet boots when it can be avoided.

A change from heavy to lighter garments should take place first in the upper garments, the underclothing being still of the warmest description.

The very old and very young feel changes of temperature more than adults. Special care should be taken to provide them with woollen underclothing, and to keep them in warm, well-ventilated rooms.



The night-dress in this country is generally insufficient for children and old people; it should at any rate be made of flannel.

It is, let us hope, hardly necessary to remark that cleanliness and dryness are the two essentials as regards clothing. To put on clothing that has been charged continuously day by day with perspiration and other excretions from the skin is a most unhealthy practice. Clothing should be frequently changed, and more especially the woollen underclothing. This unfortunately is less frequently changed, as a rule, than the linen garments, for it is one of the drawbacks to woollen clothing that it does not show the dirt to the same extent as linen and calico.

THE EAR.—The canal of the ear secretes what is known as ear-wax, which serves many useful purposes; and great harm is often done to the ear by cleanly people in their anxiety to remove this wax. If left alone, as this epidermis is thrown off outwards, it will gradually drop out of itself, and only that part just inside the orifice should be carefully wiped away. Nor is it easy to get the part of the wax more inside the ear out of it. What is usually done is to force the wax farther back into the ear, where it forms a hard plug, which leads, in a time, to deafness, if it does not set up inflammation and other evils. Hence the employment of all instruments and so-called “aurilaves” is very harmful.

The use of warm sweet oil or glycerine to the ear as ear drops is not always harmless. The oil, unless syringed away after a short time, will become rancid and irritating; whilst the glycerine must be diluted with water, or it also will have an irritating effect.



Itching of the ear is often caused by the incessant removal of ear-wax, which keeps the canal moist. Syringing with warm water will relieve it, and a little warm oil may be used to replace the wax till it can be reformed, but it must be syringed away daily and fresh used. On no account should pins, knitting needles, and other things be used to scratch the interior of the canal when there is itching: they set up manifold evils.

If some foreign body get into the ear canal, try to remove it by gentle syringing, but do no more or you will drive it farther into the ear, and probably render its removal, even by a medical man, impossible.

The common practice of wearing cotton wool in the ear is to be avoided; it should, at any rate, be never worn indoors, and only out of doors when the ear seems very sensitive to cold. In prolonged bathing, however, it is often useful by preventing entrance of cold water into the ear, whilst in sea bathing it will also prevent the shocks of strong waves on the tympanum, which have been followed occasionally by troublesome effects.

Sudden noises or blows on the ear are dangerous, and have caused permanent deafness by rupturing the drum of the ear. Continuous loud noises also, like the constant roar of machinery, seem often to have, after a time, a bad effect on the nerves, and to cause partial deafness. It is well for a person exposed to such noises to wear a little cotton wool in the ears whilst so exposed.

Care should be taken to prevent catching cold in the ears. It is impossible to point out every way in which this may be caused. Sitting in the draught of a railway carriage, and too much swabbing with cold water, are fertile causes of cold in the ears.



In children, eczema behind the ears is often caused by too tightly binding them against the head with the strings of the cap. This part of the skin is very tender and delicate. It should be carefully washed, then well dried and powdered.

THE EYE.—The care of the eyesight is chiefly involved in the knowledge of how and when to use spectacles. For a proper explanation of these details, a little insight must be obtained into some points of the physiology of the eye. These may, however, be treated very simply without going into those minutiae and technicalities that tend only to obscure the unprofessional person. Two of the essential parts of every eye are the retina on which the object of external bodies is thrown, and which, by means of its peculiar properties, is enabled to analyse those bodies, and a lens which brings these external bodies to a focus on the retina. It follows as a matter of course that the rays thrown on the retina by the lens must be brought to an exact focus on the retina or their image will be indistinct; just as when a magnifying glass is used, unless the lens is at such a distance from the object observed as corresponds to the strength of the glass, the object appears quite indistinct. Therefore, since objects which are at varying distances from the eye throw their rays (as they are called) at different angles on the eye, there must be some provision in the eye by which these rays shall all come to an exact focus on the retina.

Accordingly, we find in the eye a muscle known as the ciliary muscle, which by its contraction can alter the convexity of the lens, so that the rays, according to their angle, are instinctively by this muscle brought to an exact focus. These three components—



retina, lens, and ciliary muscle,—are, then, the essentials of healthy vision, and by understanding their different properties we may be enabled to comprehend those matters that require to be rectified when the eye is in such an abnormal state as to require glasses. The healthy eye is one in which rays from distant objects (parallel rays) are brought by the lens to an exact focus on the retina, and the ciliary muscle is in such a state that it is able to alter the shape of the lens, so that rays from nearer objects may also come to an exact focus on the retina.

*Presbyopia*, or old sight.—The first change from a healthy state occurs as a consequence of old age. The parts of the eye may be healthy, but, from the increased density of the lens substance which occurs in old age, the ciliary muscle is unable to sufficiently change the form of the lens. Hence, small objects cannot be seen distinctly, and things near at hand become confused. Old people, therefore, when reading complain that the type is not so clear and easily read as formerly. This condition is remedied by the use of convex glasses, which help the failing power of the ciliary muscle to increase the convexity of the lens. Care must, however, be taken not to use too strong glasses; they should be able just to correct the want of power of the ciliary muscle. As age increases, stronger glasses may from time to time be required. Many people find that magnifying glasses still further aid them, but these will, if their use be long continued, permanently injure the sight.

*Hypermetropia*, or long sight.—Here the diameter of the eye from the front backwards is too short, so that parallel rays when the eye is at rest are not brought to



a focus on the retina, but behind it. Hence the ciliary muscle has always to act even for distant objects, whilst for near objects it has to act very powerfully, almost in a state of spasm, to bring the divergent rays to a focus. To remedy this condition the convexity of the lens must be increased by wearing a suitable convex glass, which brings the rays more forward on to the retina. The symptoms of this condition are, first, a sense of fatigue and pressure in the eye from any close work, on account of the strong prolonged contraction of the ciliary muscle; then the objects become misty, and may fade away altogether. If continued, headache, dizziness, and mental confusion will follow, and in time become permanent.

*Myopia*, or short sight.—In this affection the diameter of the eye from the front backwards is too great. Hence parallel rays are brought to a focus in front of the retina, and only very divergent rays—as from bodies held very near to the eye—are brought to a focus on the retina. This state is remedied by using an appropriate concave glass, which renders parallel rays divergent, so that they come to a focus farther off and on the retina. Short sight is recognised by the distance at which the book is held. This should never be less than 10 to 12 inches; if it be less, glasses should at once be used. In the chapter relating to the “School,” mention has already been made of the bad effects of too much education in producing this affection: it is very dangerous, and tends to greatly and permanently impair the eyesight unless recognised and remedied in time.

Other more rare affections of the eye, as astigmatism, hardly call for remark here, as their recognition is difficult, except by a skilled oculist.



*Squint.*—This, in ninety-nine cases out of a hundred, is due to hypermetropia, and is a sure sign that the child requires glasses. The tales as to the origin of a squint from copying another person, and the like, are almost invariably apocryphal. A squint should always receive attention, as, if long developed, the child learns to see with one eye only, and the sight of the squinting eye becomes much impaired, if not eventually lost.

*Spectacles.*—These should be chosen under the advice of a skilled oculist, not haphazard. They are usually made of crown or flint glass. Some are made of rock crystal, when they are known as pebbles, but these are not superior to those of glass. When spectacles are used only to protect the eyes from glare, they are probably best when their colour is neutral grey. Blue glasses and indeed glasses of any colour, if long used, render the retina unduly sensitive to those colours that have been excluded. The spectacle frame should be made to fit correctly, so that the centres of the glasses may be opposite the pupil.

*General Rules.*—It should be remembered that in distant vision only is the eye at rest, and if prolonged close work must be continuously performed, the eyes should occasionally be rested by withdrawing them from the work for a few seconds.

Reading in a train or carriage is bad, as the constant jarring alters every few seconds the relative position of the book and eye, causing continued action of the ciliary muscle and consequent fatigue.

Reading when lying down is also inadvisable, as it is almost impossible to get the book in a favourable position, and the external muscles of the eye are strained.

Attention should be paid to the type of a book.



The size of the letters, the good and distinct quality of the type and shade of the paper, are each of them important.

Gas-light is not a good light for the eyes, as it contains so many yellow rays. Some of the oil lamps are best for close work at night. They, however, require shades, as most of them are of such a height that otherwise their full flare falls just on the eye.

The arrangement of the light in schoolrooms has been already considered in the chapter on the "School."

This is scarcely the place to descant on diseases of the eye; but attention may be drawn to one or two small practical points. (1) Never neglect the inflammation of the eye which so often occurs in newborn infants, and is attended with a great deal of discharge. It is the most fertile cause of blindness. (2) Recollect that a foreign body in the eye causes almost exactly the same symptoms as a "cold," but the evil will not be cured till the foreign body is removed. (3) A cold in the eye simulates to an unprofessional gaze numerous more serious diseases. If it does not soon yield to treatment, skilled advice should be sought.

RESPIRATORS.—The object of the use of these unfortunately repulsive-looking appliances is to warm the air before it enters the air-passages. It is generally used in front of the mouth, and if people learnt to breathe more through the natural channel of the nose the use of a respirator would be less necessary. In many lung affections, however, they are now made to cover both the nose and the mouth; and hideous-looking things they are, to which nothing but stern necessity will make a person submit. Respirators are chiefly of



use to persons predisposed to bronchitis and other lung affections, and are essential to those recovering from such diseases who have for a long time been confined in a room kept at one temperature. To convalescents of this kind any sudden change is of course highly detrimental, but a person simply predisposed to such complaints would probably be wiser to gradually accustom himself to change of temperature by cold or tepid bathing and other means, rather than to coddle himself unnecessarily. Another object attained by respirators is that of filtering out of the air breathed any minute particles that would otherwise be drawn into the lungs, and there set up mischief. Thus in mining, stone-cutting, wool-sorting, and many other trades, the air inspired is loaded with fine particles of a most irritating nature. If respirators were universally used by those engaged in these pursuits whilst at their work, there is no doubt that it would conduce to much longer life amongst such persons than they at present enjoy. A miner's lungs are absolutely black instead of the natural colour, from the minute particles of coal that have been continually drawn into them.

THE VOICE.—The voices of children of both sexes are alike till about the age of thirteen to fifteen, when the larynx enlarges rapidly, and a great change takes place, especially in boys. A boy's voice often falls an octave, but the larynx of a girl does not enlarge to the same extent, and it falls only one or two notes.

A strained method of using the voice, and especially trying for too much effect, causes congestion of the mucous membrane of the throat and enlargement of its glands. This condition is known as "clergyman's sore throat," from its frequent occurrence amongst the clergy.



That it is only a faulty use of the voice is shown by its infrequent occurrence amongst actors, who manage their voices much better. The mistake arises from the conviction held by many people that it is important to fill the lungs as much as possible at the beginning of each phrase; hence, the sermon is carried on by a multitude of energetic pumpings and upheavals of the whole chest, which are not only perfectly unnecessary, but throw immense strain on the vocal organs. The ordinary abdominal mode of breathing is quite sufficient, and the voice should be practised so that breath is not taken too often. Pitching the voice in too high a key is very injurious and detrimental to it. Care should also be taken not to speak too loudly, not to speak too rapidly, and to open the mouth sufficiently whilst speaking.

THE TEETH.—The chief causes of decay in the teeth are an accumulation of tartar about their necks, and the retention of food in the interstices between the teeth, which, by decomposition, sets up an acid fermentation that reacts on the elements of which the teeth are composed, disintegrating them and setting up decay. The principal matter, therefore, to be attended to is by perfect cleanliness and other means to remove these deposits before they have time to work mischief. It is astonishing how few people have any idea as to the proper way of cleaning their teeth. First, as to the proper wash or powder to be used. All the advertised nostrums, the composition of which is unknown, are to be avoided. Many of them contain acid materials which, though they thoroughly clean the teeth, do so at the expense of the enamel, which they tend to dissolve. Astringent washes habitually used, and



strong alkaline washes, are injurious, as also are tooth powders containing gritty materials, such as powdered charcoal and ground barks which roughen rather than polish the enamel.

A good tooth wash should be slightly alkaline, soapy, and pleasant, and the powder should not be sufficiently gritty to imperil the polish of the enamel. Good soap is not pleasant, unfortunately, but it is very efficient. Precipitated chalk, with or without other ingredients, as a little camphor, or with soap and a little perfume, forms about the best tooth powder. Once daily is sufficient to use a powder, and best just before retiring for the night, so as to thoroughly cleanse the mouth of all impurities after its day's work. At other times a little alkaline wash will be sufficient—water with a small quantity of bicarbonate of soda or of sal volatile added to it.

Next, as to the tooth-brush. It is almost impossible to get a good one. They are made too wide and much too hard to be of any practical use. The teeth should not be vigorously scrubbed; such a process only scratches the enamel and rubs particles of food and mucus between the teeth. The great object is to remove the particles of food from the depressions between the teeth, where they naturally lodge. For this purpose the brush should be moderately soft and narrow, and the bristles long and elastic. All surfaces of the teeth should be gently brushed, the front, back, and upper part of the back teeth, and the movement of the brush should be upward and downward, so as to insinuate the bristles between the teeth. It is better to use carefully a quill tooth-pick than to allow pieces of food to remain between unruly teeth. Sweets taken



in excess, especially if they lodge between the teeth, do injury, as they soon undergo acid fermentation, and then act on the enamel. The use of tobacco greatly discolours the teeth. The extraction of a tooth is seldom required if the aid of a dentist is sought in time. It is terrible to think of the reckless manner in which teeth are sacrificed for want of a little patience and care, and their painless extraction by nitrous oxide gas probably often leads to this result.



## CHAPTER IV.

### FOOD AND DRINK.

*Object of Food—Quantity Necessary—Digestion—Animal Foods—Vegetable Foods—Cooking—Preserved Meats—Times of Meals—General Hints on Food—Action of Alcohol—Is the Habitual Use of Alcohol Desirable?—Quantity of Alcohol Permissible—Beer and Stout—Wines—Spirits—Liqueurs—Tea—Coffee—Cocoa—Tobacco.*

FOOD—ITS OBJECT.—To go fully into the subject of food would require a considerable dip into the region of physiology, with many technical details which could hardly be made intelligible to a general reader. Yet some little attention must be devoted to this subject, or the use and object of food—the primary points of our subject, in fact—could not be clearly understood. The body of man has been likened to a steam engine, and this simile will perhaps most easily serve to make our subject clearly understood, though it will not explain all points in physiology. Thus, in a steam engine we have the iron framework and the different motive parts of the machine, requiring to be kept in perfect order, and liable to wear and tear, with need of patchings and renewals occasionally as parts get worn. So in the human body we get the bony framework with its joints lubricated constantly with oil so that they may work easily, the whole covered by the skin, which



needs cleansing and polishing like the engine. The muscles with their nerves will correspond to the different motive parts of the machine. They are liable to constant wear and tear like the works of the steam engine, but, while the engine is patched up occasionally, the muscles are being renewed continuously, so that we are hardly sensible of any such process at work in our bodies. The simile must not be carried too far, but to a certain extent the chimney may remind us of the lungs, where much of the air used up in the body is thrown off; the steam escaping from the safety valve may remind us of the action of the skin, which by its perspiratory secretion keeps down any dangerous excess of temperature in the body; whilst the fuel will represent the food we take. There is, however, this essential difference between our food and the fuel of the engine, that whilst the latter is required only to keep up the fire and to supply the motive force of the engine, our food must also be such that it can be applied to supply the wants caused by the wear and tear of the muscles, and to carry on that constant renewal of which mention has just been made.

This at once divides our food into at least two principal classes—(1) that required to compensate for the wear and tear of the muscles, etc.; (2) that necessary to be used as fuel in keeping up the temperature of the body and in supplying motive force. The ordinary fuel of the steam engine is composed of the two chemical elements known as carbon and hydrogen, with other matters of no moment or merely accidental. To provide fuel for the body the food must contain the same two elements. When, however, we come to examine the composition of the muscles,



another element—*viz.*, nitrogen—is added to our list, so that we at once get the two divisions of (1) nitrogenous and (2) non-nitrogenous. The non-nitrogenous are again divided into *fats* and *starch* or *sugar* subdivisions, from the different proportions of carbon and hydrogen respectively in these two subdivisions. There are one or two other articles of diet not yet mentioned, which are absolutely necessary to the body, but do not fall under the above headings. These are water and the various salts. We have now our classification of the essential kinds of foods complete as follows :—

Nitrogenous.

Non-nitrogenous { Fats.  
Starch or sugar.

Water.

Various salts.

QUANTITY OF FOOD NECESSARY.—The standard daily diet for a man at ordinary work is given by Dr. Parkes as :—

Nitrogenous food (albuminates),	4 $\frac{1}{2}$ oz.
Fats, . . . . .	3 „
Starch or sugar (carbo-hydrates),	14 „
Salts, . . . . .	1 „
Water, . . . . .	50 to 80 „

The weight of the first four are calculated in the dry state, but all food contains a certain amount of water—on an average, half its weight. Hence, roughly, two pounds of bread and three-quarters of a pound of meat will represent the quantity of food necessary for a healthy man in the twenty-four hours.



The following table is taken from Dr. Parkes, and gives the amount of the different food constituents in 100 parts of each of the following articles of diet :—

Articles.	Water.	Nitro- genous.	Fats.	Starch or Sugar.	Salts.
Ordinary uncooked meat,	74·4	20·5	3·5	...	1·6
Dried Bacon, . . . . .	15	8·8	73·3	...	2·9
White Fish, . . . . .	78	18·1	2·9	...	1
Poultry, . . . . .	74	21	3·8	...	1·2
Bread, white wheaten, .	40	8	1·5	49·2	1·3
Rice, . . . . .	10	5	·8	83·2	·5
Oatmeal, . . . . .	15	12·6	5·6	63	3
Peas (dried), . . . . .	15	22	2	53	2·4
Potatoes, . . . . .	74	2	·16	21	1
Butter, . . . . .	6	·3	91	...	Variable
Egg, . . . . .	73·5	13·5	11·6	...	1
Cheese, . . . . .	36·8	33·5	24·3	...	5·4
Milk, . . . . .	86·8	4	3·7	4·8	·7
Cream, . . . . .	66	2·7	26·7	2·8	1·8

Experiments have at various times been made to test how far one form of diet alone will suffice for the wants of the system. It has been found that the fats and starches alone will not long support life, as might be supposed, since they do not contain sufficient nitrogen to make good the loss by wear and tear of the body. So, again, the nitrogenous articles alone are not permissible, for they contain so little carbon and hydrogen comparatively that a very large excess must be taken to obtain the necessary quantity of these elements, and consequently a much larger proportion of nitrogen than is requisite. This excess leads to numerous other evils. Again, the quantity of food taken must vary. A man on extraordinarily hard work will require more than the average, a sedentary man



less. So again it varies with the climate. Inhabitants of a very cold country require more food, especially of a fatty nature, to keep up their temperature, whilst those who live in a very hot country take much less food of both the fatty and nitrogenous classes. Thus the Esquimaux eat large quantities of blubber; the Hindoos live principally on rice. Women require less than men, and children of ten years about half the amount of adults.

DIGESTION.—Another and perhaps more important practical point remains to be considered, and that is the digestion of the food. All foods are not alike: the digestive fluids secreted by the different organs act one on one kind of food, another on another, and some people can best digest one kind of food, others just the opposite. Each person must study for himself his own idiosyncrasy. Speaking generally, it may be said that starchy food is digested in the mouth, and then again by the secretion from the liver (known as the bile) and other fluids beyond the stomach, but not in the stomach itself. The function of the stomach is to digest the nitrogenous articles of diet, whilst the fats are digested by the bile and pancreatic secretions. The object of digestion is to transform insoluble articles of diet into soluble ones, so that they can be taken up into the blood-vessels, etc., and applied to the purposes of the body. Sugar is already in a soluble state; it can therefore at once gain entrance into the vessels, and requires no digestive process. Starch, on the other hand, is a very insoluble substance, and could not be absorbed without some change. Consequently it undergoes what is known as a process of fermentation, under the influence of substances contained in the



digestive fluids which act upon it, and becomes transformed into soluble sugar. Nitrogenous substances, again, are insoluble, but in the stomach, under the influence of an acid and of the principle called pepsin, they become transformed into a soluble kind of meat (peptone). Fats undergo a process of saponification, of which mention has been elsewhere made, and are taken into the system by a separate set of vessels known as lacteals (part of the lymphatic system), not into the blood-vessels. Thus the system of digestion is seen to be a very complex one, and it is easy to understand how one person may be able to take one kind of food, whilst another person cannot touch it, but enjoys something that would be almost poison to the first. It depends in each individual on the state of the glands, which act on the different kinds of foods. So also in a person who suffers from bad digestion; we can understand how almost all things for a time must be presented to his system in a state of solution, or ready for immediate absorption. Hence the use of the many artificial foods now prepared for these cases.

#### ANIMAL FOODS.

It will now be necessary, dividing food into (1) that derived from the animal kingdom and (2) that derived from the vegetable, to go a little more into detail concerning some of the principal foods.

MEAT.—This necessarily belongs to the nitrogenous class of food; it is pleasant to the taste, satisfying and more digestible than nitrogenous food of the vegetable class. Mutton is rather more easy of digestion than beef, especially to a person suffering from indigestion. Veal and lamb, though more tender, are not so easily



digested as beef and mutton. Pork contains a great quantity of fat, and its fibre is hard, so that it is not suitable for all persons. The reason that fat in its many forms is known as a rich food, and one difficult of digestion, is that it does not allow the digestive juices to mix well with the food, forming an oily coating over them, through which the fluids cannot act, especially as fat is only digested after passing through the stomach. Bacon contains a large amount of fat also. There is a tendency in these days to consume too large a quantity of meat. A meat meal twice a day is quite sufficient for a person doing an ordinary amount of work. Liver makes a very rich dish. Kidneys are hard, and not very easily digested. Tripe is the paunch or first stomach of the ox; its fibres are easily broken up, and it is very digestible, though it contains a considerable amount of fat.

POULTRY.—The fowl, turkey, and guinea-fowl are delicate, tender, and easy of digestion. The duck and goose have harder, richer flesh, and are less easily digested.

GAME.—The flesh of game contains little fat; it is tender, easily digested, and has a delicate flavour, increased by keeping. Venison is one of the most digestible dishes we possess.

FISH.—The flesh of fish contains but little fat; it is very nutritious, but not so satisfying as meat, so that more of it is required. The flesh of white fish is more digestible than that of red fish. Salmon is richer, and more nearly approaches meat. Whiting and sole are the two fish probably most easily digested. Drying and curing fish lessens their digestibility. Shell-fish, with the exception of oysters, are not very digestible,



and in many people they give rise to symptoms of irritation in the system, such as nettle-rash and the like.

EGGS.—The white of the egg consists of nitrogenous matter only; the yolk is composed of nitrogenous matter with a considerable amount of fat. It is a great mistake to suppose that there is no nourishment in the white. Lightly boiled eggs are much more easily digested than those that are hard boiled.

MILK.—As will be seen by the table, milk contains a certain proportion of each class of food, as might be expected, since it alone has to support the life of the young for some time. The nitrogenous matter is the casein or curdy part, whilst the fat or cream is made into butter by churning, whereby the milk globules are caused to run together and form a solid mass. Other points concerning milk have already been dealt with in the chapter on the "Nursery."

CHEESE.—This is the nitrogenous part of the milk coagulated by the use of rennet, with a certain amount of fat carried down also. By keeping, it undergoes decomposition, and numerous volatile fatty acids are formed which give it its varying degrees of taste. From its solid form most kinds of cheese are very indigestible, as they are with difficulty acted on by the digestive fluids.

DRIPPING AND LARD are simply fats derived from meat.

#### VEGETABLE FOODS.

These, speaking generally, contain much more of the starchy principle and less of the nitrogenous than foods belonging to the animal kingdom. They are



principally of service in supplying carbon and hydrogen for combustion, to carry on the work of the body and to maintain its heat.

WHEAT.—This by grinding is made into flour. The outer part or bran is separated, and the finer portions are afterwards again separated from the coarser. This produces a much finer and whiter flour, though a large part of the nutritive matter, in some of the outer coats especially, some nitrogenous matter and important salts (phosphates) are thereby lost. There is much outcry in these days against this waste: hence the attempt to bring into fashion the decorticated or whole meal bread, in which the bran is excluded, but all the other constituents of the grain remain. For children especially it is desirable that these phosphates should not be lost. Bread is made from flour, and from its porous character is very easy of mastication and digestion. It becomes porous by the development of carbonic acid gas, which is held in it by the tenacity of the nitrogenous matter. To obtain this gas several processes are utilised. The ordinary one is to add yeast, which sets up a fermenting action on the sugar in the flour, and converts it into alcohol and carbonic acid gas. The numerous baking powders also act by liberating this gas, whilst aerated bread has this gas pumped into it, as it were. New bread is soft and difficult of mastication. Brown bread, which contains the bran of the flour, acts somewhat as an irritant of the bowel.

OATS.—Oatmeal contains much more nitrogenous matter, fat and salts, than wheat flour. From the want of tenacity, however, of its nitrogenous principle it cannot be made into bread. It forms the porridge of the Scotch when well boiled and eaten with milk, and it is



a pity that this is not a more common article of diet in England. It has also a slight aperient effect. Besides porridge it is formed into thin cakes, and baked.

BARLEY, except as pearl barley, and RYE, as rye bread, are not much eaten in England.

MAIZE.—This contains nearly as much nitrogenous matter as oatmeal, and still more fat. It is sold as hominy, and should be in more general use. It can be made into porridge or various kinds of puddings. It is very cheap, but has at first a somewhat disagreeable flavour to those unaccustomed to it.

RICE consists almost entirely of starch, being very poor in nitrogenous matter and fat. It is easily digested, but not of much use alone as a food.

SAGO—TAPIOCA—ARROWROOT are obtained from the vegetable kingdom, and consist almost entirely of starch.

PEAS—BEANS—LENTILS.—These are very nourishing, for they contain a much larger proportion of nitrogenous matter than any of the other members of the vegetable kingdom. They take the place of meat with vegetarians. They are, however, very difficult of digestion, and require prolonged boiling to make them tender. With some people they never agree.

POTATOES.—These consist chiefly of starch, so that they are not very nourishing. When properly cooked, however, they are very digestible, and make a wholesome and agreeable vegetable.

OTHER VEGETABLES are chiefly useful for the salts which they supply to the blood. Some of them, as carrots and beetroot, contain a good proportion of sugar.

FRUITS are not of much value as nutriment, containing much water and little nitrogenous matter.



They are of use principally for the sugar, vegetable acids, and salt that they contain. They are useful for what are known as their antiscorbutic properties, that is, for their power of counteracting the unhealthy state produced by living too long on salted and dried provisions. If eaten to excess, especially in an unripe or over-ripe state, they are apt to excite disorders of the stomach, from the free acids and principles they contain, which are very prone to undergo speedy changes.

COOKING OF FOOD.—The effect of cooking on food is to make the meat more agreeable and more digestible. It also kills many low forms of life apt to be present in some kinds of meat, which would develop in the body and give rise to dangerous or fatal symptoms. Thus, in Germany much raw pork is eaten in the shape of sausages and otherwise, and occasionally very dangerous epidemics of poisoning arise, as the parasites of the pork have not been destroyed by cooking. It is probable also that salads, watercress and other uncooked vegetables, are the means of introducing tape worms and other parasites into the human body.

BOILING OF MEAT.—The object to be attained is to keep in the juices and soluble salts, and yet to cook the meat sufficiently to make it palatable. To effect this, the meat should be at once plunged into boiling water, and boiled briskly for five minutes. By this means the outer rind of the meat becomes coagulated and forms a more or less impermeable layer, which prevents the escape of the more soluble internal juices. After this it must be kept from boiling, and allowed to cook only very gradually at a temperature below boiling point. In this way the central parts of the meat remain juicy and tender, whilst if exposed to a much higher temperature,



they shrink and become hard and indigestible. Boiled food is more insipid than roast, from the lower temperature employed, but it is more easily digested by a weak stomach.

STEWING is a process somewhat like boiling. The food is just covered with water, and exposed to a heat sufficient to allow of gentle simmering in a closed vessel for some hours. Much of the nutritive matter passes into the water, which is eaten with the food.

HASHING is the same process applied to previously cooked meat.

ROASTING.—Here, as in boiling, and for the same reason, the meat should first be exposed to a strong heat, and then the process should be continued at a greater distance from the fire, the meat being well basted all the time. From the higher temperature employed, meat thus cooked is more savoury, and a good deal of the fat melts and comes away as dripping.

BAKING is much like roasting, but being carried on in a confined space the volatile products cannot escape, but permeate the cooked articles and render them stronger and richer than in roasting. Baked meat is therefore not so digestible as roast meat.

FRYING.—The heat is applied through the medium of boiling fat, which soaks into the meat and renders it very rich, less accessible to the digestive fluids, and more indigestible than by other modes of cooking.

BROILING.—Chiefly applied to chops and steaks cooked on the gridiron. The principle is the same as in the other processes, to well cook the outside and retain the juices. The meat must be frequently turned to prevent scorching, but not by a fork which would let out the juices.



SOUPS AND BROTHS.—Here we wish to extract all the nutritive material of the meat, so that the process must be the reverse of the above. The meat should be cut into small pieces, allowed to macerate for some time, and then in the case of broths should be kept at a gentle heat for about an hour. In the case of soups the liquid must be boiled gently for some time, in order that the gelatine may be extracted. Bones and tendons which contain much gelatine are therefore of use to make soup.

VEGETABLES.—These are very indigestible unless their fibres are softened by thorough cooking. Many of them also contain a large proportion of starch, and unless this is well cooked it is exceedingly indigestible, because the starch is contained in a cell, the outer covering of which is very tough. Unless, therefore, the starch is heated sufficiently to burst this outer layer, the digestive fluids cannot act on the digestible matter in the interior of the cell. Potatoes should be cooked in their skins, as by this means many of the salts they contain are prevented from being lost; some salt put into the water will also aid in preventing the escape of these salts. What is said above applies also to all kinds of food containing starch—wheat, rice, arrow-root, etc. The process of bread-making has been already noted.

PASTRY.—This is a rich indigestible compound, from the close impregnation with fatty matter which it undergoes in its manufacture. As before mentioned, such impregnation prevents the admixture of digestive fluids in such a manner that they can act on the food.

PRESERVED MEATS.—These now come from abroad in tins in great variety and number. There is, unfor-



tunately, a strong prejudice against them. They contain a good deal of nourishment, but from the extreme process of cooking they have undergone to make them keep well, they are not so palatable as ordinary meat. They are very serviceable, however, for rissoles, soups, and minces, and it is a great pity they are not more extensively used in the preparation of such dishes.

TIMES OF MEALS.—It is known that a meal is digested and has passed on from the stomach in about four hours' time, and the stomach should then have a short period of rest before any more food is taken. Applying this rule, about three good meals a day will be sufficient. Breakfast should be a fairly substantial meal, taken before the work of the day begins. No hard work should be done before this meal, but a short walk is permissible. The next meal should be at 1 to 1.30 P.M., and is called either lunch or dinner. To the man who can afford to give up a clear hour at this time, dinner or the substantial meal of the day may be then taken. Many, however, cannot spare so much time, and not only so, but after such a meal they feel indisposed or unfit for further exertion. The lighter lunch is then more judicious, but it is very detrimental to health to go from breakfast to a late dinner without any mid-day meal; such a mode of life will inevitably lead in time to indigestion and all its troubles. Dinner at 6.30 to 7 P.M. will, in this case, be the substantial meal. It is advisable that it should not be later, or the stomach will be overladen at bed-time—a thing to be avoided as much as trying to sleep on an empty stomach. Moreover, if this meal be made later, the ladies of the family will indulge in a good tea at 5 o'clock, and thus impair



their appetite for dinner, though a refreshing cup of tea at this hour is permissible. To those who dine in the middle of the day a supper is necessary, or is taken at a late hour after, perhaps, a fairly substantial tea. It is better, however, to take a meat tea at about 7 P.M., after which hour no meal of a substantial kind is good.

PROPER QUANTITY OF FOOD.—If food is eaten slowly the appetite is the guide as to the quantity of food necessary, and it must necessarily vary according to the work and mode of life of the individual. With a variety of food, however, the appetite is tempted, and more is often taken than is advisable or healthy. Taking an ordinary person, Dr. Pavy estimates the quantity of food necessary at 23 oz. of dry food, or about 40 oz. if the quantity of water contained in all food is taken into account. For sedentary people, however, less is required. This quantity, as already pointed out, is contained almost exactly in 2 lbs. of bread and  $\frac{3}{4}$  lb. of meat, a fact which may form a rough guide for most people.

GENERAL HINTS ON FOOD.—Be careful to chew the food properly, and therefore take plenty of time over meals. Insufficient chewing is a great source of indigestion, as much extra work is then thrown on the stomach, the juices of which have to act on large lumps instead of on properly masticated food.

Food taken in too large quantities is also productive of dyspepsia. Most people who suffer from "attacks of liver" suffer really from too much eating and its attendant dyspepsia, almost all the organs as well as the stomach being thrown out of gear.

Do not drink too much at meals, as by that means



the gastric juices are much diluted and digestion is delayed.

Strong emotions have a great effect on the digestion; thus, anxiety and depression will often bring on dyspepsia.

Starch and sugar are specially fattening. Bantingism consists of a diet of meat (with no fat), fish, green vegetables, tea, coffee, toast, biscuits, and light wine, and in the avoidance of bread, potatoes, butter, fats, milk, sugar, soups, beans, and starchy foods in general.

A gouty disposition is usually caused by living well and taking too little exercise. Port wine, malt liquors, and meat diet are most prone to cause it, whilst a mild, starchy diet, without stimulants, but with plenty of exercise, will counteract it.

Hot pickles and curries, if taken too frequently, irritate the stomach, and are apt to lead to permanent congestion of that organ, and secondarily of the liver.

Violent exercise must neither be taken immediately before nor immediately after a good meal.

An exclusively vegetable diet predisposes to fat. Nitrogenous vegetable matters are somewhat difficult of digestion. There is also a difficulty in getting proper vegetables all the year round. It is probable that a vegetable diet alone is not conducive to the highest state of mental vigour.

Eat proper materials—at regular intervals—not too much—not too little.

ALCOHOL—ITS ACTION.—A small part escapes from the body, but the greater part is lost sight of. It has been burned up in the system. It is not, however, a food in the sense that it can be used up to form tissue, but it is of use in keeping up the temperature of the



body by its combustion. In small quantities it increases the activity of the heart and of the brain, and acts generally as a stimulant. It has been stated that it has the power of checking tissue change, but experiments which were made by the late Dr. Parkes prove that the change—at any rate in the nitrogenous tissues—is in no way interfered with by small doses. In moderate doses its effect on temperature in the case of healthy men is extremely slight; there is no increase, and in many instances no decrease. In small doses it aids digestion; in large doses and taken habitually it lessens appetite and produces a congested state of the stomach. In large doses it acts most injuriously on the liver, producing serious disease of that organ. Combined muscular movements are much less perfect after its use. If taken by soldiers on the march, it never should be given during the march. It then produces for a short time a feeling of exhilaration and loss of fatigue, but this very soon wears off, leaving the individual much more prone and sensitive to fatigue than before. The evidence goes to prove, however, that if it is given when the march and fatigue of the day are over, and the men are at rest, it is beneficial. It is also a very well-known fact that alcohol tends to enlarge the small vessels of the skin, and such enlargement in time becomes permanent in those who drink to excess.

PRACTICAL POINTS CONCERNING ALCOHOL.—The above is a short summary of Dr. Parkes's evidence on this subject. It requires, however, some translation into practical form to render it intelligible. It is needless to go into the question of the abuse of alcohol and the diseases arising from such abuse. That would be going over well-worn ground, and would be valueless



since every one knows the dreadful evils to which intemperance leads. It is only necessary to remark that it is chiefly the daily continuous abuse of alcohol that does most harm as a rule, even if the person gets so accustomed to the use of stimulants as to show outwardly very slight evidence of intoxication.

IS THE HABITUAL USE OF ALCOHOL DESIRABLE? —It cannot perhaps be denied that every one in good health would be as well—perhaps better—without alcohol as with it. There is also strong evidence that under conditions of exposure to great heat and great cold, to extreme hardships and exposure, those who have not taken alcohol have come off much better than those who have. The use of alcohol, then, is not usually necessary to a healthy person. Does its use do harm to such persons? It probably does in many cases. Thus alcohol, by its greed for oxygen, is burnt off before many effete products which ought to undergo combustion. Consequently these latter accumulate in the blood, and give rise to such diseases as gout, especially if too much food is taken at the same time, and too little exercise to aid in getting rid of it. But, on the other hand, a person who leads a very active life may, for a long time, take even a slight excess of alcohol all his life without any appreciable ill effect. The general acceptance of these views has led to a great decrease in the consumption of alcohol by all classes in this country during recent years. If, however, the use of alcohol is given up altogether, it is coming to be asserted by thinking men that the sin of gluttony is gradually taking its place, and it is questionable which evil is the worse. There is no doubt that most people in these days consume far more than they ought, and among all



classes we shall find, as a rule, that those who do not drink eat enormously. Is it not true that the middle course in all these things is the safest course? Each one has his own special failing, and too great a check in one direction may lead to an outbreak in another. He leads the most healthy life who lives soberly and temperately in all things, avoiding all excess. But all men are not healthy, and many live in these days at too rapid a rate, they work too hard, they lead lives of great excitement, and somehow or other they find they must take a certain amount of alcohol to keep them in good health. Furthermore, it is alcohol, and this alone, that seems to supply them with the necessary power to carry on their work, and if from conscientious motives they give up its use their health suffers. It is impossible to explain how alcohol acts in these cases, but the fact remains. Two instances from real life will explain what is wished to be conveyed, and any medical man could supply similar cases. A man who belonged to the Blue Ribbon Army consulted the writer: he had been gradually losing flesh at a rapid rate, was at hard work for many hours daily, and found he could no longer do it; his appetite was very good, and no reasons could be found for his failure in health. Tonics of all kinds were tried, but he went from bad to worse, till he had lost over two stones in weight, and seemed most dangerously ill. He was then advised to take a pint and a half of stout daily, and the change immediately was most marked; he soon regained his flesh, and returned to work, looking as well as ever. The other case was that of a lady with feeble digestion and nervous disposition; she wanted, from conscientious motives, to leave off all alcoholic liquors, but directly



she did so she had most violent attacks of neuralgia, which only came on after leaving off her daily small allowance of stout. As to mental work, many people assert that they do such work better without stimulants, whilst other men, equally conscientious, and in as high positions, assert that their daily small allowance of alcohol enables them to get through their work more easily. Much must in all these cases be allowed for the idiosyncrasies of the individual. To old people, however, wine is usually a great comfort. The wearinesses and annoyances of age call for a slight stimulant and narcotic, and the digestion needs strengthening. The failure in force is well met by a substance whose destruction in the system yields much power without effort. To sum up—

- (1) Alcohol is unnecessary for healthy people, and occasionally harmful.
- (2) Its moderate use does to most people no harm, and its discontinuance may lead to gluttony.
- (3) To many people on the confines of health, leading exciting, wearying lives, and to those sometimes doing hard mental work, its use is beneficial.
- (4) It is frequently beneficial to the aged.

It is wise to have no hobbies on the subject, but to trust to and be guided by one's medical attendant.

QUANTITY OF ALCOHOL PERMISSIBLE.—Dr. Parkes found from experiments and calculation that  $1\frac{1}{2}$  oz. of absolute alcohol daily is *the maximum amount that should be taken by a healthy man*. This is equivalent to, on the average—



3 oz. of Brandy, or  $1\frac{1}{2}$  glasses ; or  
7-8 oz. of Sherry or Port, or 3-4 glasses ; or  
12 oz. of Hock or Claret, or 5-6 glasses ; or  
1 pint of ordinary Beer, or Stout.

A wine-glass is usually reckoned as holding 2 oz., but many of the thin glasses now in use hold considerably more ; this must not be made an excuse for excess.

The different alcoholic beverages differ so much in their various constituents that a short notice of the principal of them is desirable.

BEER AND STOUT contain principally extractive matters and sugar, bitter matters, free acids, and a proportion of alcohol varying from one or two per cent. in small beer, to nine or ten per cent. in the strongest ales. The extractives belong to the class of starchy foods, hence the tendency of beer and stout drinkers to get fat. The bitter matters act as tonics. With some people of a dyspeptic nature they disagree, producing headache, heaviness, and other symptoms commonly described as "biliousness." Taken in excess they tend to produce gouty disorders.

WINES.—These are divisible, according to the amount of alcohol they contain, into natural and fortified. The natural contain from 18 to 22 per cent., whilst the fortified have 34 to 36 per cent. The former include claret, hock, and sauterne ; the latter port, sherry, and madeira. They also contain a varying amount of sugar and other extractives, many salts, and ethers, which give the varying flavours. The light wines are scarcely likely to disagree with any one. They are suitable for gouty, rheumatic, and dyspeptic persons, and do not produce bilious disorders. Port contains a large amount of sugar and extractives. It is very



serviceable in low states of the system, and in convalescence from fevers. Persons who suffer from dyspepsia and gout should avoid it. Sherry generally agrees well in dyspepsia and gout, but some people complain of its producing acidity. It is a lighter wine altogether than port, whilst madeira forms a kind of link between them.

**SPIRITS.**—These are mostly flavoured alcohol, and do not contain the dietetic ingredients of wine and beer. From their strength they are dangerous, as it is easy to take them undiluted, and their customary use should be discontinued, save in cases of illness. Their action is identical, except that gin, from the juniper in it, possesses also diuretic properties.

**LIQUEURS** are spirits sweetened and flavoured with various aromatics. They are taken at the end of dinner to stimulate the digestion, but their use can do no good, and is best avoided.

There are other beverages not containing alcohol which must receive some notice, as also the use of tobacco.

**TEA** consists, as every one knows, of the leaves of a plant grown in China, and, in recent years, in India and Ceylon, and is divided into two chief kinds, black and green tea, from the different manner of their preparation. Its chief constituents are tannin or tannic acid—a substance with a very astringent taste,—a volatile oil to which it owes its aroma, and a special substance known as theine. It is prepared by pouring boiling water on it, and allowing it to stand a short time. If it stands too long, as many poor people let it, simmering on the hob all through the day, it loses of necessity its volatile oil which gives it its



agreeable flavour, and takes up more of the tannin and bitter disagreeable matter. The same occurs if it is boiled. In England it is customary to add milk and sugar to it: in other countries other things are added. The best tea contains a good proportion of small young leaves. It produces two distinct sets of effects—(1) it stimulates the brain, dispelling drowsiness, and is not followed by torpor, as after the use of alcohol; (2) it lessens tissue waste, and consequently the desire for food and the sense of fatigue from over-work. It is thus of use in those especially who wish to do hard mental work at night, also in those who are exposed to much fatigue, especially under extremes of temperature. The excessive use of tea in women of the lower class is a fertile source of indigestion, probably from the bad manner of its preparation, as it is allowed to stand for an indefinite time, and then contains a large amount of tannin and substances that act injuriously on the coats of the stomach. Women also allow it to take the place of more solid and essential nutriment, and the only meal—morning, noon, and night—of many of them is tea with bread and butter.

COFFEE—the seeds of a small fruit from a tree now cultivated in most hot countries. Coffee requires roasting to develop its flavour and other qualities, and, as these depend on volatile products, it is desirable that roasting should be done as short a space of time as practicable before the coffee is required for use, though it will keep good in a tightly closed tin for some time. The same remark applies to the grinding of coffee. Its constituents are a volatile oil developed by roasting, which gives it its flavour, some tannin, but less than in tea, and a special principle called caffeine,



which, however, is identical with theine. It is in England generally made by allowing boiling water to percolate gradually through it, and this is attended with less loss of its flavouring agent than in boiling, a process adopted in some countries. Its action on the body is almost exactly like that of tea, but it is more stimulating and oppressive to the stomach, often producing bilious symptoms. Like tea it disposes to wakefulness, and relieves the sensations of hunger and fatigue. It should not, however, be used at the expense of food. It must be noted that some persons can take neither tea nor coffee without their producing unpleasant symptoms. Coffee has often mixed with it some chicory; not in all cases, however, as an adulterant, for some people prefer the mixture as it gives increased colour and flavour to the decoction. Chicory is the root of the wild succory or endive, cut into pieces and afterwards dried and roasted.

COCOA is a manufactured product of the seeds of the cocoa tree. The seeds simply roasted, crushed, and winnowed from the husks form cocoa nibs. These require boiling for some time, and then only a portion of the kernel is extracted, so that this product more resembles tea and coffee. Soluble cocoa is made by squeezing a part of the fat out of the nibs and grinding the cake to powder, or by grinding the nibs with the fat and adding some form of starch and sugar. Those made with sugar alone require only boiling water to be poured on them, whilst those made with starch require boiling. Chocolate is cocoa more carefully prepared and mixed with sugar and some flavouring agent, as vanilla. Cocoa consists of: (1) a volatile oil to which it owes its flavour; (2) a special principle called theobromine,



which much resembles theine and caffeine, and can be converted into caffeine; (3) fatty matter amounting to half its weight; (4) nitrogenous matter, a fifth part; (5) starch. It possesses in a milder degree the properties of tea and coffee, but containing so much fat, nitrogenous matter, and starch, it must be looked on also as a most valuable food, especially when made with milk. For this reason it is apt to be heavy on the stomach and to disagree with invalids and dyspeptics. Such persons may, however, use the cocoa nibs, which form a much lighter beverage, whilst those who use it as food should try the soluble varieties. There are so many varieties of cocoa now made that each one should try for himself which is the most suitable. It is a pity that cocoa is not more frequently used in children's meals, for which it is eminently fitted.

TOBACCO.—The effect of this depends on two principles—nicotine and a volatile oil. The oil produces a sensation of burning in the mouth, and tends to paralyse the nervous system, whilst nicotine affects chiefly the heart through the brain. The symptoms it produces are nausea and vomiting, with giddiness and a feeling of intense weakness, going on to produce a rapid, feeble, and at last imperceptible pulse, with cramps, an absolute loss of muscular strength, and finally collapse. In spite of all this it certainly acts, in those accustomed to its use, as a restorative, soothing and restoring exhausted nervous power. It should, however, only be taken when the active work of the day is over, and never fasting, except when food is not obtainable, as it stays the sense of hunger. In the Franco-German war the German soldiers, by the free use of tobacco, managed at times to do without food for many hours,



although executing long marches and undergoing much fatigue. The second battle of Orleans was, it is stated, fought and won on tobacco, as the transport department broke down, and the German army was without proper rations for some thirty-six hours. The troops had plenty of tobacco, and this enabled them to stay their hunger and to endure immense fatigue.

There is no doubt, also, that tobacco is very pernicious to the young. It should not be accompanied by spitting, which wastes a large quantity of saliva so necessary for the digestion of food. When used in excess, it produces chronic sore throat and dyspepsia, but its more serious symptoms are connected with the heart, as palpitations, irregular and intermittent pulse, and faintings.



## CHAPTER V.

### WORK, REST, EXERCISE, AND RECREATION.

*Effects of Overwork—Excitement and Worry—Recreation—  
Effects of Exercise—Necessity for Exercise—Amount  
of Exercise Required—Rules on Exercise—Sleep—  
Amount Required—Effects of Deficiency of Sleep—  
Rules on Sleep—Relative Healthiness of Professions  
and Occupations—Sea-side Holidays.*

EFFECTS OF OVERWORK.—No rule can be laid down as to the amount of work that can be performed safely by each man, for each has a definite power of doing work, and what one man bears well may prove very injurious to another. The age also of a man will make a great difference. An amount of work that a young man of twenty-five can do with ease may prove very detrimental to the same man at forty-five. To a great extent each man must be guided by his own feelings as to whether he is doing too much work. If a man, after his work, feels fatigued, and his temper irritable, if he experience a gradual loss of power and difficulty in applying his mind to his work, and is subject to headache and sleeplessness, he may know that he is taxing his strength unduly, and that these are the first danger signals thrown out by nature, whose warnings are not to be neglected. If, as too often happens, he still perseveres in his hard work, the strain is sure to tell sooner or later on his weakest organ, generally



either the heart or brain or kidneys ; the former when the work is of an active kind, the latter when the work involves great mental strain and worry.

Too often, in the present day, the London business man is exposed to both these trials. Working hard in an office all day, he lives probably in a continual state of hurry and excitement. He hurries to different appointments, he hurries to catch the train to and from his office, he hurries home to a dinner party, and so the day is spent. No wonder if the heart and other organs give way under the strain. There is now too much of a race for wealth at the expense of health, and the haste to make money works far more harm to the individual than a much larger amount of quiet, steady work. The work least taxing to the brain is that which can be made to vary somewhat. Thus the clerk who all day long is employed in adding up rows of figures really wears himself out much more than one who interrupts his tasks by work of a different character. The change of task would, according to Dr. Wilks, be a recreation to the mind, and render it, after a time, more fit for its former work. There is too much monotony in the work of many clerks of the present day, and their employers would find them break down much less frequently, and would get more useful work from them, if they took to heart these observations. Excitement and worry react more than steady work on the system, and steady monotonous work tells more on it than work of an agreeably varied kind. Excitement and worry are the great evils to be avoided, and as it is impossible to altogether prevent them, since severe mental work usually involves great strain and worry, it is essential that prolonged rest should follow great excite-



ment. A man whose work is of this description must take short hours of labour and long holidays, and, when away from his work, he must find amusements of sufficient interest to entirely divert his thoughts from business.

RECREATION.—Dr. Wilks's observations on this subject are so much to the point that they ought to have a place in every work on hygiene. He says: "Change of work is true recreation, for both brain and body get relaxation and relief through exercise in another arena of activity." He advises young people to encourage a hobby. "If you cannot find pleasure in the study of the very many wonders that surround you, if you care not for geology, natural history, or astronomy, collect walking sticks, buy and cherish old and cracked china, fill up albums and scrap-books, or even gather together autographs and postage stamps, anything sooner than be idle." There is no doubt that this is the truth. True recreation requires a thorough change of work, and let us add of thought. A man, for example, whose life-work requires long continued hard thinking is likely to derive more harm than good from the thinking involved in a game of chess. Pastimes which involve much muscular exertion are preferable for a person engaged in sedentary pursuits. The recreation must be of a kind that will give pleasure, and that does not involve mental labour of a kind similar to that of the working hours. Concerning the choice of a recreation everything will depend on the taste of the individual. Fishing, yachting, mountain climbing, hunting, have each their votaries, whilst others enjoy milder recreation, such as billiards, tennis, whist and the like. In turn all are good, but whatever recreations



are taken up, two hours a day at least must be given to some out-door exercise. The man who spends almost all his day in an office and then seeks his amusement in a hot, close billiard or card room, is not likely to attain robust health, whilst in many cases the excitement of the office is only exchanged for the excitement of gambling, a change for the worse rather than the reverse. Another essential in all recreation is that part of it, at any rate, must be made conducive to bodily improvement, that is to say, the subject of recreation is closely interwoven with that of exercise, which must now be considered.

EFFECTS OF EXERCISE.—It increases greatly the number of the heart-beats and the amount of blood passing through all parts of the body. There is a greater influx of blood to the lungs to be aerated, so that the quantity of air inspired and the amount of carbonic acid gas exhaled are much increased. It increases the flow of blood through the small vessels of the skin, and causes a profuse discharge of perspiration. It causes the muscles to increase in size and become harder and firmer. It improves the appetite and digestive powers.

NECESSITY FOR EXERCISE.—It is necessary for burning off many of the used-up materials that enter the blood from all parts of the body, which if not burned off would accumulate and set up various diseases. Every one probably takes more food than is absolutely essential to the repair of the body, and if the refuse, as it were, of such food is not burned up by a proper amount of exercise, it will be necessary to draw a very hard and fast line as to the amount of food required, which is impossible. But exercise probably does good also by maintaining the balance of the circulation. Thus, a



brain worked largely gets flushed with blood. If exercise follows, the blood is attracted to the muscles and the brain is relieved. In the same way exercise will relieve a congested stomach and liver, and it is also necessary to maintain the muscles in a firm and healthy state.

AMOUNT OF EXERCISE REQUIRED.—Dr. Parkes has calculated that the amount of exercise a man in health should take regularly is equal to walking nine miles a day upon level ground. The amount of walking done in walking about the house and other domestic duties may probably be put down as three miles, which will leave only a walk of six miles per diem on level ground. If the ground is hilly this will be still more reduced, so that it certainly does not seem an excessive amount to advise. The proper quantity must, however, vary greatly with circumstances. Females, for example, will not take as much as men. In winter more may be taken than in summer. In youth, when the body is undergoing its most active development, care must be taken that every muscle is exercised in its turn. Hence the free use of gymnastics, games, and sports at this age is most beneficial. In advanced life the power and inclination for exercise both fail, but even then every effort should be made to prevail upon the individual to take some amount of exercise, and to postpone the evil day when he will become completely bed-ridden. Such an amount of exercise is in all cases necessary as will keep the muscles in good health, and enable them to meet the physical requirements of the rest of the body.

GENERAL RULES ON EXERCISE.—Excessive exercise, especially climbing steep hills or much running up



stairs, acts chiefly in a prejudicial manner on the heart. Any palpitation and great breathlessness are therefore signs that the heart is being over-taxed, and less exertion must be taken.

Regular exercise is the necessity for a healthy life, not sudden occasional prolonged exertion. The youth who spends all the week in an office, and on Saturday indulges in a violent game at football, probably does himself more harm than good.

Is there an antagonism between brain and muscle? Many people maintain that very athletic persons are proverbially stupid. When carried to an extreme point there is probably a certain amount of truth in this statement. It must not be forgotten, however, that some of the most intellectual men have been keen athletes, and to this fact may be attributed the immense amount of mental labour some are able to undergo throughout their lives. On the other hand, no one after following the hounds all day can come home and do a large amount of brain work. He is fit only for rest: he has exhausted his stock of nervous energy in violent exercise, and is unfitted for any close brain work.

From thirty-five to forty is about the age at which the middle of life is past, and the decline begins. Dyspeptic troubles, gout, etc., commence with perhaps a disinclination for exercise. This disinclination must be driven away and exercise imperatively enforced, or these troubles will develop with alarming rapidity. A person who has long led a sedentary life must only gradually change to an active one.

Strong exercise must never be taken on an empty stomach, especially in winter time. Too violent com-



petitive sports should not be engaged in until the period of growth is complete.

SLEEP is a temporary suspension of most of the bodily faculties. All the body does not sleep: such a sleep is equivalent to death. Whilst we are asleep all the bodily functions essential to life are still carried on. Thus we continue to breathe, our heart beats regularly and most of the organs of the body carry on their functions more or less. It is very doubtful even whether in the most profound sleep the brain is entirely at rest. Thus, if we study our own sensations in regard to sleep, what shall we find? As a rule there will be a prelude to sound sleep—a time when the least external action, as the rustle of the bed-clothes, or a draught of cold air, will produce dreams hardly affected by consciousness, as if the outer world is only half forgotten. Then again, there are the times of nightmare, probably occasioned by some internal unpleasant impression, as indigestion, when the whole sleep seems full of life, yet the fancies evoked have been so extremely improbable that the sleep must have been profound to have caused them. Thus some have maintained that sleep is never free from dreams, but that that time is the period of most profound sleep when the sleeper is quite unable to remember his dreams. Many things tend to support this theory. Every one can remember waking after having experienced a delightful dream, yet only the dim shadowy feeling of having dreamt remains, and he is utterly unable to recall any of the incidents of his dream. So again some people habitually talk and laugh in their sleep, and others will even rationally answer any question addressed to them, yet will not on waking remember anything whatever of it. The



theory as to sleep which is generally accepted is that it is caused by a diminished supply of blood to the brain, and experiments tend to confirm this. But it is objected that, instead of the cause, this may only be the effect, and that it is the sleep that causes the diminished supply, whilst the habit of sleeping at definite times, together with fatigue, has much to do with its causation. It is essential before sleep can be obtained that the mind shall break itself away from the work on which it has been intent during the day, and those people who can sleep at any time are able by a strong effort of the will to divert their attention from such subjects.

AMOUNT OF SLEEP NECESSARY.—For a healthy person seven hours is the minimum that should be allowed. In the present age of unrest, even these cannot always be obtained at night. The hardworked statesman who is up through most of the night, and others whose work runs into the small hours, must therefore take the necessary amount at other times. What cannot be obtained at night must be taken in the day-time, though the night sleep is more healthy and less liable to interruption than the day sleep. On a solitary occasion less sleep may be harmless, but if too little is attempted to be taken as a rule it will lead to dangerous consequences. The child at school requires not less than nine hours, whilst the infant should spend the greater part of its time in sleep. A man at sixty requires less sleep than he did at thirty-five, whilst in old age again more sleep is required, and the aged may pass much of their time slumbering.

EFFECTS OF DEFICIENCY OF SLEEP.—The first sensations are those of restlessness and prostration, with headache, fulness, and throbbing of the head. Then



sleep is difficult or impossible to obtain, and a state of feverish excitement commences. If, at this stage, perfect rest for a time is not taken, brain fever, insanity, and loss of mental power will result, often attended with such a feeling of wretchedness and despondency as occasionally to end in suicide.

GENERAL RULES ON SLEEP.—Duly regulated exercise of body and mind is the best remedy for sleeplessness.

A *very* hearty meal should be avoided just before retiring for the night. A moderate meal is conducive to sleep, and the nap after a meal so commonly longed for by the aged, may certainly in their case be indulged in without harm.

It is better to sleep on one or other side than on the back. The head should be somewhat raised, and an elastic mattress is better than a hot feather bed.

The bed-clothes should be sufficient but light. Eider-down quilts are very valuable adjuncts to sleep.

Have the bedroom well ventilated, and never close the chimney.

Light tends to prevent sleep, as do loud, abrupt, or musical sounds, but monotonous sounds aid it. This is, however, mostly a matter of custom. Not only may we get accustomed to any sound, but on removing to a different place sleep may be difficult to obtain at first from missing the accustomed sound.

Robust people and dull, heavy, passionless people sleep much, whilst thin, wiry people take less sleep, but probably sleep more profoundly.

Sleep depends much upon habit. Some of the greatest men, as Napoleon I., have been very sparing sleepers.

PROFESSIONS AND OCCUPATIONS.—The healthiest



profession, in England at any rate, is the clerical. This is probably due to the fact that a large percentage of the clergy live healthy country lives, without too much severe work. In this profession, too, there is a certain secured income, and until the recent agricultural depression, the clergyman who was willing to cut his coat according to his cloth had little need for anxiety on this score.

Next to clergymen, in point of longevity, come, in the order here given, gardeners and nurserymen, farmers and agricultural labourers; and following these come schoolmasters, wheelwrights, grocers, fishermen, carpenters, booksellers, barristers, silk-workers, drapers, watchmakers, coal-miners, shoemakers, artists, bakers, cornmillers, and commercial clerks.

Railway men, chemists, workers in wool and cotton, tailors, hatters, and printers have a somewhat high rate of mortality, which, however, is exceeded by that of medical men, stone-cutters, butchers, glass-workers, plumbers, needle and saw-makers, barbers, and cabmen.

The highest rates of mortality of all are found amongst publicans and inn servants, file cutters, earthenware makers, costers, and the tin-miners of Cornwall.

From this list is readily seen the great advantage possessed by those, such as agriculturists and fishermen, who live in fresh air, over those, such as tailors, hatters, printers, and clerks, who live in-door lives in vitiated atmospheres in towns. The mortality from phthisis and affections of the respiratory system is naturally the best gauge of the value of fresh air, and it is interesting to find that the Registrar General's statistics clearly show that if we arrange the several industries in the order of purity of air, that order will



also be that of the mortality from diseases of the respiratory organs. Fishermen, who live in the purest air, suffer least from these affections, whilst tailors and printers furnish high rates of mortality.

The inhaling of large quantities of dust has a most deleterious effect in many trades, the quality as well as the quantity of the dust being important, hard and sharp-pointed particles doing more mischief to the air-passages than those which are soft or rounded.

Judging from the mortality amongst coal-miners, the least injurious of the various dusts seems to be that of coal, and in Dr. Hirt's opinion "it is in the highest degree probable that coal dust possesses the property of hindering the development of tuberculosis, and of arresting its progress."

The dust of ordinary wood does not appear to be very baneful, judging from the low mortality from phthisis amongst carpenters and joiners. Bakers and confectioners, who inhale the dust of flour, have a considerably higher mortality from these causes; but more injurious than any of these dusts appear to be the filaments and fluff given off in textile factories, as shown by the mortality amongst workers in cotton and wool.

Most injurious of all, however, are the dust of stone and that of metal, the mortality amongst cutlers, for example, from the diseases referred to being about four times as high as that amongst fishermen. The "grinders' asthma" of the file cutters and needle polishers, and the "potters' asthma" or chronic bronchitis of the earthenware makers, etc., are all due to dust. The mortality has been reduced by grinding the articles as far as possible whilst they are wet, and by the extended use of machinery, but further precautions are still needed.



The effects of intemperance are exhibited by the mortality from alcoholism, liver disease, and gout, amongst innkeepers, publicans, and brewers. Probably if miners, quarrymen, blacksmiths, masons, bricklayers, carpenters, and agricultural labourers indulge to excess in drink, its ill effects are counterbalanced by their having stronger muscular exercise than innkeepers.

Hatters and persons employed in silvering mirrors often suffer from poisoning by mercury, which they use for different purposes, whilst painters, type-founders, printers, and workers in lead are subject to colic, dropped wrist, and other symptoms of poisoning by lead. Lead poisoning is chiefly prevented by scrupulous cleanliness, by the observance of the rule not to eat without first washing the hands, and by similar precautions. In some places a drink containing very small quantities of sulphuric acid is used, which converts any soluble salt of lead into the very insoluble sulphate.

At one time, match-makers used to suffer frightfully from the inhalation of the fumes of phosphorus, which produces death of portions of the jaw, besides other general symptoms. The great remedy for this is the substitution of amorphous phosphorus, which will not produce these effects. The use of all other should be forbidden by law.

At the time of writing, a Commission appointed by the Home Office is investigating the circumstances of the various unhealthy trades, and it is to be hoped that the result will be the framing of such reasonable rules and precautionary measures as, when imposed by an Act of Parliament, will lead to improved health amongst the workers.

Bronchitis and rheumatism are especially prevalent



amongst those who are exposed to rapid transitions from heat to cold, as stokers, puddlers, forgers and washer-women.

A soldier's life now, except for the accidents of war, is essentially a healthy one. At one time the deaths from consumption in the army used to be very high; but since more attention has been paid to hygiene, and the barracks have been better built and ventilated, the mortality from this cause has been very greatly reduced.

Clerks and persons who write much are subject to a form of palsy from over-use of the muscles of the thumb employed in writing. From their sedentary mode of life, often in close, badly ventilated rooms, they are not a healthy class. They ought to pay more attention to their health by taking plenty of out-door exercise daily, regardless of the weather. Shoemakers, tailors, and shop-people suffer from the same sedentary mode of life. Shop-people also are very liable to pain in the soles of their feet and varicose veins, from their long hours of standing. Fortunately some stir has been made on this subject lately, but it is not easily remedied.

Formerly it was considered an unpardonable offence on the part of a shop assistant in a large establishment to rest even for a few minutes, except during the brief meal-times, and the health of many a young girl has been permanently shattered by such inhumanity; but happily the last few years have seen a marked improvement in this respect, and it is now the rule rather than the exception to find seats for the employees. The movement, too, in favour of shorter hours for shop-assistants has made great headway, and with the assistance of a short Act of Parliament which was



passed in 1892 much improvement in this matter is being secured.

Bad health amongst barristers is caused by their spending many hours daily in close, foul courts of law, and the necessity for their working afterwards till late into the night if they are in large practice. Probably their high average duration of life is due to the fact that many rich men enter the bar as a mere form with no intention of practising, and, having good health themselves, they raise the average of the whole profession.

Medical men find their length of days diminished by their contact with contagion, by the anxious life they lead from the constant worry of serious cases, and by their never being able to call their time their own.

THE SEA-SIDE TRIP.—It has become of late years so much the custom to consider a trip to the sea-side a necessity that a few remarks on this subject are appropriate. There is no doubt that to dwellers in towns a change of air does an immense amount of good, and the children especially benefit from such change, returning from the visit sunburnt, rosy, and healthy, when perhaps before they were pale, weak, and cachectic. The choice of a sea-side resort, however, is not altogether a simple matter, and if a very mild, relaxing climate is chosen instead of a bracing, invigorating one, more harm than good often results. It is impossible to go fully into this subject in this place, but a subsequent chapter gives very full particulars about the various health resorts at home and abroad, and the special diseases for which they are most beneficial.

Speaking generally, the sea-side places on the south coast are the warmest, and are therefore most used by



patients suffering from consumption and other lung diseases, who require a mild equable climate during the winter months. All these towns, however, are not alike. Some, from their position or from the fact of their being sheltered from the coldest winds by hills and woods, stand out as pre-eminently fitted for winter resorts for patients suffering from lung affections. The chief of them are Torquay, Bournemouth, Penzance, the Under-cliff of the Isle of Wight, and Hastings.

The season at other sea-side resorts is generally limited to the summer months, and parents take their children for a change at this time not only because more settled weather may be expected, but also that they may escape from the heat and dust of the towns to the more bracing and invigorating air of the sea-side. The most bracing places are those situated on the east and north-east coasts, as Scarborough, Filey, Cromer, Yarmouth, Margate, and Ramsgate. Occupying intermediate positions as regards climate are some places on the south and west coasts.

Other circumstances besides climate, however, must have a voice in the decision. Thus, convenience of access will weigh considerably with the father of a family who cannot afford to pay a considerable sum for mere railway travelling. The state of the coast at the different watering-places must also be taken into consideration. For children, good sands in which they can dig, and a good beach for bathing, are requisite. So also the length of the purse must weigh in the balance. Some fashionable watering-places are exceedingly dear, both lodgings and food being during the season at fancy prices. It is unfortunately the case that sea-side places are now so much sought after, and the accommodation



is practically so limited, that tradesmen and lodging-house keepers reap during the season a rich harvest at the expense of poor paterfamilias.

Again, the amusements at a sea-side place will form an attraction to different people. Those fond of fishing or shooting will choose one place, those whose inclination leads them to geological and other pursuits will choose another, whilst the fashionable person will probably think there are only two sea-side places in England of any note—Scarborough and Brighton—and when the London season is over he will hurry to continue his dissipation at one of these. Such an one is not wise. The person who visits the sea-side should go for health, which cannot be obtained by a continuance of late hours at dances and indolent strolls to the strains of a band whilst dressed in the height of fashion. To our mind the cream of watering-places is Eastbourne. Its climate is mild and equable, the amusements are of a most healthy description, lawn-tennis being carried on to almost an excess; whilst on the hottest day in summer a most delightful breeze may be enjoyed by climbing or driving up to the neighbouring promontory of Beachy Head. The question of change of air for convalescents from acute diseases must be left to their medical adviser. As a rule, those who have suffered from lung diseases or rheumatism will need the mild air of the south coast, whilst convalescents from acute fevers will require the medium bracing air of the west or south-east coast.

Much attention has lately been directed, and none too soon, to the sanitary condition of sea-side watering-places; but the inhabitants now know so well how intensely the subject is watched that most of them have



put their houses in order, and the hygienic arrangements of watering-places as a rule are more perfect than in other English towns. It is worth while, however, to be acquainted with the state of the drainage and water supply of a place before making a final decision, as well as to inquire into the death-rate, and whether there has lately prevailed any serious epidemic disease. It is so much the custom for convalescents from the acute fevers to go to the sea-side, and, unfortunately, also to hide their maladies, that, without great care, when it is too late a father may find that in taking his children in search of health he has unfortunately only rushed into the midst of danger, and that the lodgings he has taken have just been vacated by a convalescent from an infectious fever. More stringent precautions are requisite on this head, and it should be an offence punishable by a heavy penalty for any person who has been suffering from an infectious disease to take lodgings without declaring such fact. No landlady ought to be permitted to take in other lodgers without a medical man's certificate that all proper measures have been taken to disinfect rooms that have been so occupied. In this connection the proposed provision by the Home Hospitals Association for Paying Patients, Fitzroy House, 16 and 17 Fitzroy Square, London, for the removal and care of infectious convalescents, may be mentioned with advantage. A contribution of fifty or twenty guineas to this association confers substantial privileges upon heads of families, bachelors, schoolmasters, and all who reside in lodgings. The Convalescent Home Hospital or Hotel will be found a delightful residence, where the cost of everything is reduced to a minimum, although the cuisine, the skilled



nursing, the management, and the accommodation are of the very best. The scheme has been so devised as to be brought within the means of every middle-class family, and all thoughtful people will do well to make themselves acquainted with it. All that is needed is capital to the extent of £10,000 to £20,000, and this sum ought to be speedily provided by the classes who would chiefly benefit by the establishment of the Convalescent Home Hospital or Hotel.

Many persons on first arriving at a sea-side place are troubled with diarrhœa, whilst others on the contrary suffer from constipation. These ailments are probably due to the change of life suddenly adopted, and would be prevented by due regard to the choice and amount of food for the first few days, with proper precautions as to exercise and living.



## CHAPTER VI.

### THE CHOICE OF A HOUSE.

*Importance of Care in Selection—Locality—Situation—  
Neighbours to be Avoided—Aspect—Soil—Water  
Supply in Town and in Country—Wells—Rain Water  
—Warnings to intending Household.*

IMPORTANCE OF CARE IN SELECTION OF A HOUSE.—  
Much more depends upon the choice of a dwelling than most people imagine. A house stoutly built of sound materials, on wholesome soil, and with a proper aspect, may make all the difference between permanent good health and systematic discomfort. The sanitary defects of houses are so numerous, so varied, and so intermingled the one with the other, that it would be impossible within the limits of these pages to set out in detail the remedies for every set of circumstances which may arise in a dwelling. But certain general principles will be laid down, the application of which to the particular dwelling ought not, as a rule, to be difficult.

In seeking for a fit abode for one's household gods, abundant troubles and vexations have to be undergone. We shall not here descant at length on the iniquities of the house-broker and the house-agent,—of which some people entertain a very vivid and painful recollection.



It is well, in commencing the adventure of house selection, to make up one's mind to a healthy and impartial disbelief of much that those who want to let a house desire to impress upon you in reference to it, and to satisfy oneself personally with regard to every point.

LOCALITY.—It is rare for an intending householder to be absolutely unbiassed as to the locality of his abode. When he is, he will of course betake himself to one or another of the health resorts treated of in another part of this book. If he proposes to "build him a house," he will naturally have abundant scope for the satisfaction of his peculiar wants and inclinations. The average house-hunter is less fortunately circumstanced. He has to be content with a house ready-made; and happy is he who finds a place to his taste without abundant leg-tire and vexation of spirit. Assuming, however, that he has limitless choice of locality, aspect, and construction, he will do well to bear in mind the following suggestions.

SITUATION.—The great desiderata are to have as much air and light as possible. The slope of a hill is perhaps the best situation; but with the view of securing shelter from the wind the house had better not be quite at the top. Very steep hills are objectionable, not only on account of the difficulty of climbing up them, but because the close proximity of the hillside at the back of the house prevents the free circulation of air, making the chimneys smoke and keeping the house damp. Trees are a great adornment and often a protection; but they should not be allowed close up to the house walls. The vicinity of ponds, lakes, canals, or other stagnant water should be avoided,



on account of the moisture which they impart to the air. If the house be low-lying, this precaution must be especially observed. The supply of drinking water must of course be good and abundant. An open space at the back of all houses is a *sine quâ non*.

NEIGHBOURS TO BE AVOIDED.—So much for natural conditions. But the proximity of undesirable industries and other matters must also be reckoned with. Thus, in the country, offensive trades or factories should be given as wide a berth as possible. Infectious hospitals, cemeteries, sewage works, dust-yards, and bank holiday neighbourhoods are all things to be avoided. In towns there will be equally obnoxious neighbours to keep at a distance—such as places of public refreshment and amusement, mews, cab-yards, noisy church-bells, elementary schools, underground railways, and the like. It is as well to avoid unfinished suburbs, *i.e.*, those which, in the language of the house-agent, are “in process of development,” for the lighting, paving, drainage, scavenging and other similar matters, are sure to be incomplete and unsatisfactory.

ASPECT.—Probably the best situation for a house is the slope of a hill facing nearly due south. The cold winds from the east or north will be thus cut off, and the greatest available amount of sunshine—the great brightener and beautifier of all things—will be secured. A northerly aspect is cold and bleak, and often damp. An easterly aspect is also cold, but is as a rule fairly dry; whilst a westerly aspect is warm, but damp and exposed to boisterous and rainy winds. For some parts of the dwelling, however, sunshine is not so much required; and it will therefore be well to consider the



disposition of the several rooms when planning the erection of a new house. Information on this point will be found in the chapter on the "Interior Arrangements of the House."

If one's choice be limited to the side of a street or square, avoid the west side, which faces the east wind, gets scarcely any sun on its living rooms during the winter, and in summer has the heat pouring into its bedrooms during the hottest part of the day. Choose, if possible, the north side, which is sunny in front and cool at the back.

SOIL.—It is necessary to remember that the ground is both an air-carrier and a water-carrier. Gases of all kinds filter through the soil, and are drawn up into houses by the warmth of the air inside. Thus, sewer gas, coal gas, foul air from cesspools, and the like, may find their way into our rooms, and thence into our lungs. The amount of surface-water in the soil affects largely the dampness of the ground. Hence, in choosing a site for a house it is necessary to avoid a water-logged or filth-sodden soil. All clay soils, which are invariably damp and unwholesome, come under this ban; and so also do alluvial soils, which, though porous, are mostly wet. Gravel, the looser limestone formations, and chalk, are, from a drainage point of view, the best soils. Where, as in the neighbourhood of London, clay cannot be avoided, the house should be well trenched all round with damp areas, the sub-soil drainage laid with sharp gradients, and the foundations built up with cement or concrete. "Made ground," *i.e.*, ground from which the proper sub-soil has been removed, and where house and street sweepings, cinders, and other refuse have



been deposited, is the very worst kind of soil on which to build a house, and should be shunned by the careful citizen.

WATER SUPPLY IN TOWNS.—The necessity of a good supply of wholesome water is all-important. In towns water is usually supplied by pipes laid on to each house, under the control of the local authority or a public company. This supply ought to be constant, but is mostly intermittent, *i.e.*, the water is turned on from the main for two or three hours only each day. During this period the house cistern is supposed to fill itself; and in any event no more water than it contains can be had until the next day. Intermittent supplies of this kind make possible the ingress of sewer gas into the water pipes through the water-closet fittings, and the entrance of polluted sub-soil water if there happen to be any flaws in the joints of the water pipes, and they are in every way disadvantageous. A constant supply should be insisted upon wherever practicable. It is as well to bear in mind in this connection that stronger fittings are required for a constant supply, and that much damage and inconvenience may arise from the forcing of a weak fitting by the weight of water behind it.

WATER SUPPLY IN THE COUNTRY.—But in the country the case is altogether different. Here a separate supply for each house or each group of houses has to be found independently. The householder will have to satisfy himself that the source from which he proposes to draw his supply of water for domestic purposes is pure and of sufficient quantity for his requirements. The Rivers Pollution Commissioners in 1869 gave the following table of the relative value of the different classes of water:—



Wholesome	{	1. Spring water	}	Very palatable.
		2. Deep well water		
		3. Upland surface water		
Suspicious	{	4. Stored rain water	}	Moderately palatable.
		5. Surface water from cultivated land		
		6. River water to which sewage gains access		
Dangerous	{	7. Shallow well water	}	Palatable.

It is therefore with the first three classes that we have to deal, dismissing the other four as entirely useless for our purpose.

WELLS.—If a house be placed in such a position as to be able to utilise a good spring, such a course should be adopted. Failing this, inquiry should be made into the geological structure of the district, and the propriety of sinking a well considered. Wells may be divided into two classes—shallow and deep. The shallow wells depend for their supply on the local rainfall. They are often exhausted in a dry summer, and as the water in them is more liable to be impure than that from deep wells, they should always be regarded with suspicion, and, whenever practicable, be entirely avoided. The deep wells receive the general ground water which is slowly moving through an extended region to the nearest river or lake, the centre of drainage of the country. It is a necessary precaution not only to have the water carefully analysed before commencing to use it, but also to examine very closely all the local surroundings of the well and its liability to pollution. The well should be at least fifty or sixty feet distant from the closet, for fear of possible leakage and pollution, and if on a slope the



closet should be below the well. The water from a well should also be pumped up, as that system presents many advantages over the draw well. The top should be carefully covered and raised above the level of the surrounding ground to prevent the entrance of storm water or other surface impurities.

Dr. George Wilson, in his book on *Sanitary Depôts in Villages*, says on the subject of water supply: "Specially suited for use in rural districts are Norton's Abyssinian tube wells. They consist of narrow iron tubes driven or screwed into the ground in lengths, and with the lowest length pointed and perforated at the end. The dangers arising from the entry of surface impurities are entirely obviated, and they further possess the advantages of being driven into any good water-bearing seam which may be selected, of securing a sufficient yield in dry seasons, and of entailing comparatively little outlay either for their first cost or in sinking them. Wherever pump wells are in use, these tube wells can be sunk. In two days a well sixty feet deep can be sunk, which in most cases will yield an abundant supply of pure clear water within a few hours after completion."

A difficulty that occurs with these wells is that the water which enters the perforated end at a high velocity frequently comes to the surface so charged with sand or particles of other material that it is unfit for use. To obviate this the following method has been devised: the tube is withdrawn and the pointed end unscrewed, and the tube driven down without it. The sand is then pumped up until a sufficient amount has been removed to form a cavity below and about the end of the tube. The cavity thus formed is filled in with



clean gravel, and the tube is withdrawn, the point refixed and driven down into the gravel, when the water can be pumped up in a clear state.

The utmost care and forethought are necessary in the arrangement and construction of a well. Whether it be deep or shallow, it is necessary to guard against (1) the entrance of surface water, (2) the percolation of impure underground water, and (3) the percolation of the contents of cesspools or drains. In order therefore to fortify himself against all possible dangers of contamination to his water supply, the householder will do well to have careful examination made of the wells in the immediate neighbourhood, and to ascertain the direction of the flow of the underground water.

In some kinds of soil the water which is yielded is of so hard a nature that it is bad for cooking and washing, besides being often positively unwholesome for drinking. In such circumstances it is well to provide as large an amount of storage as possible for rain water, which in many respects is the best of all waters for cooking and washing purposes.

RAIN WATER.—Rain water tanks may be either constructed underground, or they may be ordinary cisterns fixed anywhere that is most convenient. In the case of underground tanks, care must be taken to exclude the entrance of slops or surface filth. A pump should always be provided for raising the water to the different points of supply, and it is advisable to construct some sort of filter to remove from the water any impurities it may have absorbed. Rain water is not so pure as might be expected, since it washes down various impurities from the atmosphere, the roof, etc. Still it is a very soft water, and as such highly useful for most



washing and domestic purposes. It should not be stored in cisterns of lead or zinc, for fear it should be contaminated by such metals; slate, concrete, or brick lined with cement, are the best materials for such cisterns. If used for drinking or cooking purposes, it must be filtered or, better still, boiled before use.

The quantity of water available for domestic purposes should not be less than thirty gallons per head per day. If less than this has to be endured, a sacrifice of some of the water used for the bath will have to be made.

WARNINGS TO INTENDING HOUSEHOLDERS.—Before you decide to take any particular house, be careful to have it thoroughly inspected by your own surveyor or sanitary engineer. A number of Sanitary Assurance Societies now exist, whose function it is to examine houses, and to report what work is necessary to put them into a proper sanitary condition. If the householder has no one else upon whom he can rely, let him pay a guinea or two to one of such societies, providing that he has clear evidence of its public character, and that it is not merely a high-sounding title used for trade purposes by enterprising individuals whose knowledge of sanitation bears an inverse ratio to their business astuteness. Such an inspection, properly carried out, will be money well spent, and very likely be the means of avoiding much trouble and expense later on.

Never take for granted the report of the house-agent as to the state of repair of the house, especially if you propose to take it upon a "repairing lease." Either look into these matters yourself with an attentive eye to details, or get some trustworthy surveyor to do so for you. Never trust to the effusive promises of the land-



lord or his representative that such and such things will be done as a matter of course, but that as some one else is "after the house" it would be wise for you to settle upon it at once. The reply should be that you will send him a written answer by the post. Then go home, make out a list of everything you wish the landlord to do, and write him a letter, of which a copy should be kept, enclosing your list of requirements, and stating you will take the house on hearing from him that he agrees to do what is required. Let the agreement be once signed without this preliminary precaution, and the repairs will never be done. It has been held that the whole duty of the landlord is to keep the roof on and the rain out; and certainly most landlords grumble at the necessity of any repairs whatever. It is well, therefore, to have a distinct understanding in writing as to what the landlord will do and what he will not do, before taking a house.

Before entering upon possession, see that the gas and water bills and the local rates and taxes have been paid by your predecessor. Otherwise you may have to pay them for him, with a strong probability of never being able to get your money back. The landlord is bound to return to you the sum you pay under Schedule A of the Income Tax (*i.e.*, property tax), and some other charges.



## CHAPTER VII.

### THE STRUCTURE OF THE HOUSE.

*Dangers of Unwholesome Houses—Law as to Stability and Sanitary Condition of Houses—Sub-soil—Prevention of “Dry Rot” and of Damp—Walls—Roof—Drainage—Disposal of Sewage—Cesspools—Ventilation of Drains—Disconnection of House Drains from Sewers and Cesspools—Ventilation of Soil-pipes and Waste-pipes—Evils of “Jerry Building.”*

DANGERS OF UNWHOLESOME HOUSES.—Although the average householder may not be able to control all the matters which are essential for a perfectly healthy house, it is right that he should be made fully acquainted with the various dangers to which neglect of the rules which govern good house building gives rise. A very large proportion of the houses now being built are from a sanitary point of view imperfect and unwholesome. They are intended to last only, at the utmost, for the length of the lease of the plot of ground on which they stand; and they are accordingly built of improper materials, and are run up by the score with little or no regard to their healthful occupation. “Jerry building” has become a by-word amongst sanitary reformers; and it cannot be doubted that abundant discomfort and impaired health, if not in all cases actual disease, are the lot of a large proportion of the dwellers in “suburban villas.”



There are, of course, good and bad builders, though, perhaps, in the class we are alluding to, the bad predominate; but, good or bad, the houses are every one of them got up to sell, and it is only dire experience that makes manifest their defects. It is important, therefore, before buying or renting a house, to obtain, if possible, a written guarantee, from the seller or landlord, of its sanitary condition. In addition to this, it is eminently necessary to carefully examine all those adjuncts of the house upon whose stability and good construction much of the well-being of the inmates depends.

LAW AS TO STABILITY AND SANITARY CONDITION OF HOUSES.—To a certain extent the law comes to the aid of the householder, and, if properly applied, supplies him with the means of bringing pressure to bear upon a defaulting builder. Under the Public Health Act, 1875, England (omitting London) is divided into sanitary districts, urban and rural, for the purpose of putting in force the provisions of that Act. Urban Sanitary Authorities are either Town Councils, Improvement Commissioners, or Local Boards, and, when the new bodies to be set up by the Local Government Act, 1894, have been elected in November, 1894, are to be called Urban District Councils. Their functions are twofold—(1) legislative, and (2) administrative.

The legislative functions consist of the power to make bye-laws for carrying out the provisions of the Public Health Acts, and these bye-laws may relate to the following among other subjects—the level, width and construction, and sewerage of new streets; the structure<sup>1</sup> of walls, foundations, roofs, and chimneys

<sup>1</sup> It is to be noted that the power of making bye-laws in respect to the structure of new buildings is limited by the Act to three objects: for securing stability, for the prevention of fires, and for purposes of health.



of new buildings; the sufficiency of the space about buildings; the ventilation and the drainage of buildings; the construction of water-closets, earth-closets, privies, ashpits, and cesspools; the closing of buildings or parts of buildings that are unfit for human habitation; the cleansing of footways and pavements; the removal of house refuse, and the cleansing of earth-closets, privies, ashpits, and cesspools; the prevention of nuisances arising from snow, filth, dust, ashes and rubbish; and the prevention of the keeping of animals so as to be injurious to health. By adopting the Public Health Acts Amendment Act, 1890, Local Authorities, outside London, may acquire additional powers of making bye-laws as to paving of yards and open spaces in connection with dwelling-houses, the carriage of filth, etc.

The administrative functions of a Local Authority with which we are more particularly concerned consist mainly in enforcing the observance of their own bye-laws, when they have them, and in making proper provision for the removal of refuse and filth. But it is necessary to observe that, outside London, the Act says that a Local Authority *may* make bye-laws, not that they *shall* make them; and it is just this optional or permissive character of the law that opens the door to so much wilful neglect by Local Authorities of their obvious duties.

When a Local Authority essay the adoption of a code of bye-laws for their district they prepare a draft code, and forward it for confirmation to the Local Government Board, who either confirm it or send it back to the Local Authority for revision. The Local Government Board have prepared for the guidance of Local Authorities a complete model series of clauses, embracing all the subjects upon which a Sanitary Authority can make bye-laws. But it is easy to see that if a



Local Authority wish to defer the confirmation of their bye-laws, they have only to put in clauses which are certain to be rejected by the Central Authority, or omit others of vital importance, and to repeat the process until the desired object is gained : the object being that the "jerry builders" of the district shall be unfettered by building regulations until all the available land has been covered.

The Sanitary Authorities for rural districts are at present the Boards of Poor Law Guardians, and their districts are such parts of unions as are not included in any urban district. After November, 1894, when the new bodies are to be elected under the Local Government Act, 1894, Rural District Councils are to take the place of the present Rural Sanitary Authorities. Their powers are more limited than those of Urban Sanitary Authorities. While practically identical in respect of sewerage and drainage, water supply, and the removal of nuisances, Rural Authorities have no powers (except in cases where such powers are specially granted by the Local Government Board, or where part iii. of the Public Health Acts Amendment Act, 1890, has been adopted) of making bye-laws for the regulation of the construction of buildings, streets, etc.

It will be seen from the above that ample powers of regulating the construction of buildings are conferred on provincial Local Authorities, and it only remains for them to exercise those powers in a proper manner.

For the Metropolis there is a Building Act which regulates the construction of buildings as regards their stability and the prevention of the spread of fire, but only in a minor degree as regards purposes of health. The Vestries and District Boards have powers for the removal of nuisances and for the regulation of drainage ; but, as compared with a provincial Urban Sanitary



Authority armed with a code of bye-laws, the health powers of Metropolitan Authorities were until quite recently very imperfect. But the passing of the Public Health (London) Act, 1891, has greatly improved matters in this respect, and has definitely imposed on the Local Authorities many very important and stringent duties which were formerly shirked through being permissive.

SUB-SOIL.—It has already been stated that serious and fatal diseases have resulted from the leakage into the sub-soil of a house of gas from faulty pipes, or of organic filth from neighbouring premises. Frequently, too, houses are built on ground impregnated with fæcal matter, or the original soil of which has been removed and replaced by the contents of local dust-bins or other filth. In all these cases, unless a solid impervious bed of concrete or a layer of asphalt be spread over the whole surface of the ground under the house, the air continually drawn up into the house from the ground will be laden with possibilities of disease. In all districts where the model bye-laws of the Local Government Board are in force it is compulsory, whatever be the nature of the soil, to cover it with either asphalt or a layer of cement concrete six inches thick; but in the bye-laws issued by the late Metropolitan Board of Works and still in force in London, an extraordinary exception is made in favour of "virgin soil," as if "virgin soil" were any less porous than "made ground"! A square yard of cement concrete six inches thick can be laid down at a cost of from 2s. to 2s. 6d.; but good lime concrete costs about half that amount, and if covered on the upper surface with a good thick coat of cement will answer the purpose equally well.

PREVENTION OF "DRY ROT."—The internal structure of a house is, in many respects, at least as important



to the health and comfort of the inmates as its external fabric. We have already described the precautions necessary to be taken to prevent the air and moisture contained in the ground from rising up into the interior of the house. The concrete bed which is laid down for this purpose serves to support the framework of the floor; but in order to prevent the occurrence of "dry rot" in the timbers (or joists, as they are called) it is necessary that the space between the concrete and the floor should be properly ventilated. The bye-law which regulates this provides that there shall be a space of at least three inches between the under side of the joist and the upper surface of the concrete. This provision is, however, not infrequently made a dead letter by the "jerry builder," who, to save a few bricks, puts the lower floor of his house on a level, even sometimes below, the ground surrounding it. There ought never to be less than two steps into a house, and a householder will be well advised to shun any house the ground floor of which is on a level with or only slightly above the surrounding earth. "Dry rot" is a species of fungus which spreads very rapidly. Inferior timber frequently comes over to this country with the disease in it; but it is possible by stacking it in the open air, with plenty of space around each plank, to eradicate it. This, however, takes time, and time to the "jerry builder" means money; so in goes the green diseased wood fresh from the merchant, and in due course the rot makes its appearance. This use of unseasoned wood is one of the most trying things the long-suffering householder has to contend with. The joints of the floor boards yawn, and become so many receptacles for dust and refuse of all descriptions. Doors split, windows rattle, and



skirtings part company with the walls; and all from the one cause—the use of green unseasoned wood.

PREVENTION OF DAMP.—Having thus taken care that the air and moisture shall have no chance of rising into the house from the ground beneath the floor, we must now turn our attention to the walls, which it is equally necessary to protect from rising damp. If you plant a brick or stone wall on ground which is capable of retaining moisture, it will inevitably happen that, unless you take means to stop its progress, the moisture will climb up the walls in obedience to the law of capillary attraction. The way to prevent this is to insert above the ground-level, but below the floor-level, either a course of vitrified stoneware made on purpose, or two layers of slates laid in cement, or some other equally effectual impervious material, the intervention of which between two courses of brickwork bars will prevent the further upward progress of the damp (see fig. 1).

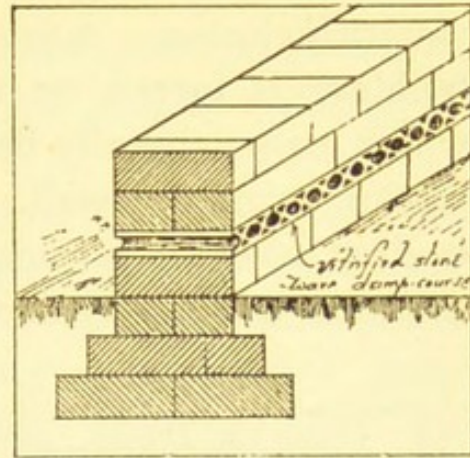


FIG. 1. Damp-proof course.

The existence of a concrete bed over the surface of the house-site cannot as a rule be discovered without removing one of the floor-boards, unless, indeed, the intending occupier sees the house in course of construction and ascertains the fact for himself. As to the damp-proof course, however, it is possible, by knowing what to look for and where to look, to find out for a certainty whether there is or is not such a thing. Examine carefully the joints of brickwork between the ground and the level of the lower floor. A vitrified stoneware



damp-course will be conspicuous from its perforations, and the difference in colour between it and the bricks. Asphalt or slates or cement alone will all appear, the two latter like mortar joints about three or four times the usual thickness. A favourite material with speculating builders is tarred or asphalted felt, the presence of which can generally be detected by portions of it projecting from the wall. For all practical purposes it is useless, and on no account should a Local Authority sanction its employment.

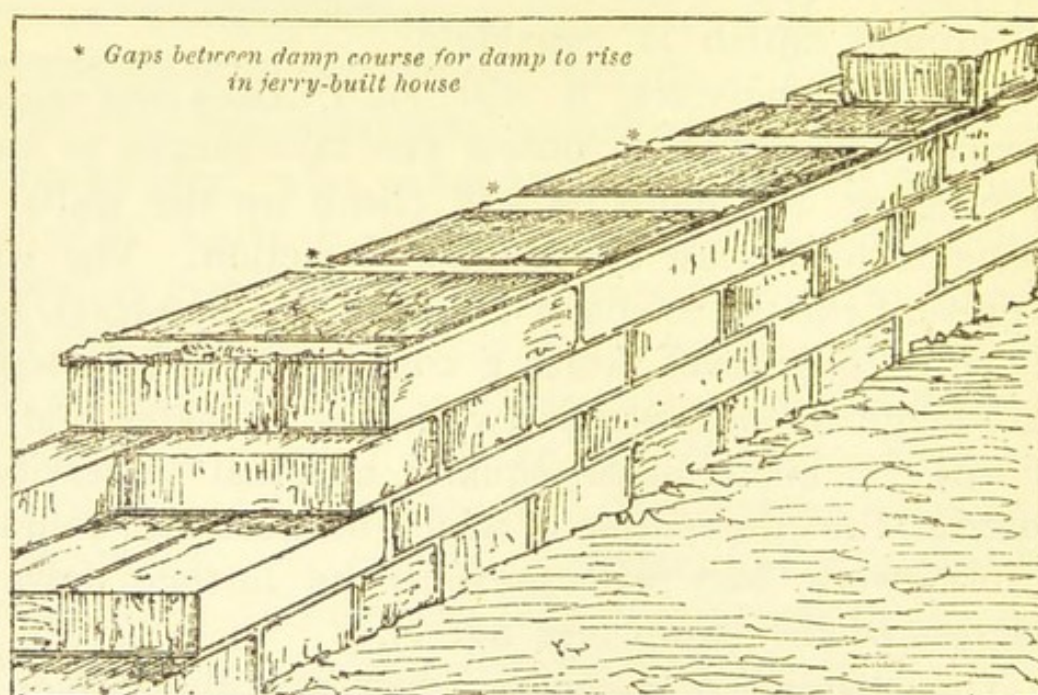


FIG. 2. Diagram showing imperfect damp-proof course.

The damp-course shown in fig. 2, sketched from a house in course of construction at Willesden, is a remarkable illustration of how not to keep the damp from rising. It is composed of one course only of ordinary roofing slates laid in mortar, with a space of at least an inch between each slate and the next one.

WALLS.—There are other ways than those above



described by which damp penetrates the outer walls of a house. Walls of only one brick in thickness are, in most positions, but especially in exposed angles, absolutely powerless to resist the ingress of driving rain. Wet soaks down walls if parapets are defective, or is drawn in under window sills if they do not project sufficiently to throw off the rain.

A wall that does not keep out the wet because it is too thin can generally only be mended by having a coat of stucco put all over it; but stopping up the joints with good cement, and applying a waterproof composition to the bricks, may often effect a cure. In many country places, and especially by the sea, it is impossible to keep out driving rain except by the use of hollow walls; that is, walls formed of two thicknesses of brick with an intervening space of about two inches. This is a costly form of building, and one, moreover, which loses on the score of strength. The common substitute of battening the walls inside and then stretching canvas to take the paper, is a process that cannot be too strongly condemned. Instead of curing the evil it only hides the effects.

There are, however, other sins of the "jerry builder" in the matter of walls which are of scarcely less moment. Badly burnt, soft, friable bricks, put together with a composition of road drift and garden mould, and pointed, after the wall is built, with a species of putty, is a sort of construction that is advantageous to no one but the builder. The first frost removes the pointing, and the first succeeding shower of rain washes the "mortar" half out of the joints: settlements and cracks follow, and damp penetrates in all directions.

Where it is necessary to have any rooms or cellars



underground, the walls which abut on the earth should be built hollow. Without some such protection as this a basement is worse than useless, as its damp condition would affect the whole house to a certain extent.

ROOF.—We now come to the roof covering. Of the various materials available for roofing purposes, two—slates and tiles—are chiefly used for dwelling-houses. Of the two, slates are, as a rule, the more economical, from the fact that they are lighter, and therefore require slighter timbers to support them, and that they can be laid at a much less inclination than tiles. They are, however, not so good a roof covering as the latter, being thinner, and therefore more readily affected by alternations of heat and cold. Good stout slates, properly laid with a sufficient lap, make as durable a roof covering as can be had. The “lap” is the part of the slate covered, not by the slate immediately above it, but by the one above that; thus, at the part where the lap occurs, there are three thicknesses of slates. If this precaution be neglected, as it frequently is in order to save slates, the wet will undoubtedly beat up and make its way in between the slates. Then again, where an angle is formed, either at the apex of the roof (the ridge) or where two slopes meet each other at an angle (a hip), a covering is necessary in order to keep the joint watertight. This is done in several ways—by lead or zinc, or by tiles or slates made specially; and inasmuch as both hip and ridge are the points on the roof most liable to be injured by wind, it is especially necessary to have a sound and durable covering. Zinc is not to be recommended for the purpose on account of its lightness, and also the difficulty of making a satisfactory joint in



such a position ; whilst lead may be dismissed as being too costly for our purpose.

There remain tiles and slate ridges and hips. Tiles, if well made and if strongly fastened and well pointed, are as good as anything, and the slate hips and ridges, if properly secured to the woodwork and if the screw holes be protected with red lead, are equally efficient. The effect of "scamping" this part of the work may too frequently be seen. In one suburb of London, in a row of twelve semi-detached houses having in all twenty-four hips, four only were observed not long ago to have escaped being entirely stripped of their coverings during a gale.

Besides keeping out rain and snow, an important function of the roof is to preserve as far as possible an even temperature inside the house. This duty is, as has been remarked, more efficiently performed by tiles than by slates ; but if slates are used it is quite possible by interposing a layer of felt between the rafters and the slates to materially lessen the conductive power of the latter. The felt should be laid on boarding, and the battens nailed on over the felt.

Before leaving the subject of roofs and roof coverings,

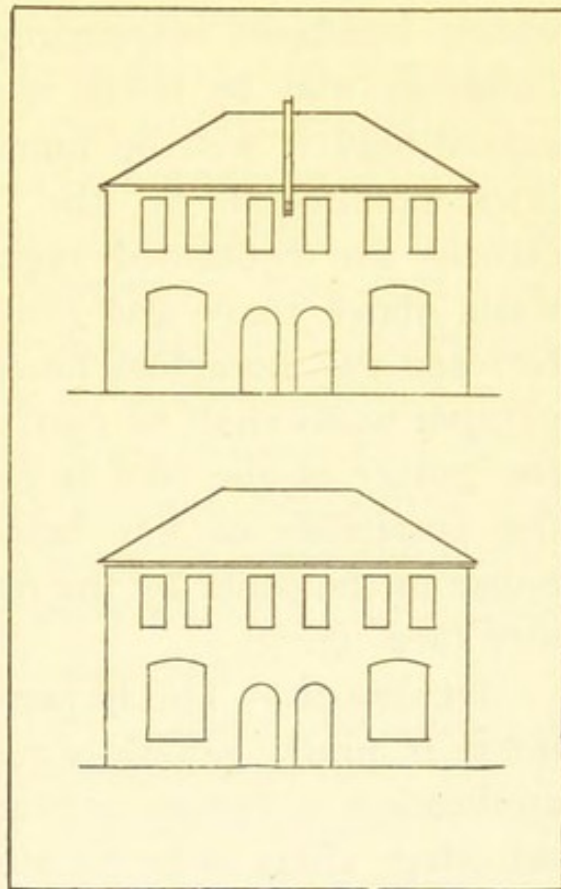


FIG. 3. Diagram showing houses with and without party walls above the roof.



it will be well to warn the house-hunter against zinc flats. As generally laid by the speculating builder, they are utterly worthless. Made with thin zinc with soldered joints and seams, they expand and contract with every alternation of cold and heat until water pours in at every seam and joint, and after a few years' wear the whole thing has to be taken up and replaced with lead.

We have pointed out that one of the purposes for which bye-laws respecting the construction of new buildings may be made is the prevention of fire; and accordingly it will be found that in any code of bye-laws sanctioned by the Local Government Board, clauses are contained regulating the height of party walls above roofs, and providing that where the space between two detached houses is less than fifteen feet, parapet walls shall be carried up at least one foot above the gutter of the roof in each case, in order to prevent the possibility of fire being communicated from one house to the other by the overhanging woodwork of the roof (see fig. 3).

DRAINAGE.—The importance of good drainage to a house is pretty generally recognised to-day; but in the application of theory to practice, the average builder of suburban villas is by no means up to date. Nor is the builder the only sinner in this respect. Had architects been alive to their duties in this matter, it is certain that several grave blunders, with results of a most serious kind, would have been avoided. Were local surveyors and engineers, to say nothing of sanitary inspectors, properly vigilant in the supervision of builders in their districts, many scandalous and fraudulent cases of neglect would be detected and remedied.



The following is a typical instance of the combination of scamping by a builder and neglect by the Local Authorities, which had a result that was well-nigh fatal. In a house built about twenty years ago in a large London parish, one of a row let at a rental of £50 per house, the drain was carried down to within two feet of the sewer, and there ended, leaving a gap between drain and sewer. So far the blame was chargeable to the builder. But the parish authorities put in the "eye," that is the connecting orifice to the sewer, charged their fees for so doing and were paid, though—in the face of their own printed regulations—they neglected to see that the house connection for which they were paid was actually carried out. The consequence of this double dishonesty was, that after the sewage from the house had soaked into the ground around the end of the pipe until the earth's powers of absorption were exhausted, it gradually accumulated in the pipe, eventually burst through the joints, and flooded the ground under the lowest floor of the house. In the result a child a few months old was nearly killed by a violent attack of infantile diarrhœa.

DISPOSAL OF SEWAGE.—The ultimate destination of the water-borne sewage from a house may be in one of three ways: (*a*) into a sewer, (*β*) into a cesspool, or (*γ*) to a sewage farm. In each case, however, the function of the drain is the same; namely, to carry off as swiftly and as completely as possible every particle of fæcal or other matter discharged into it.

Where a public sewer exists, the drain should be taken to it by the most direct route available from the house, and its direction should be an absolutely straight line from point to point. Its inclination or fall



should be regular and even, and ought not to be of a less gradient than 1 in 30—that is, four inches fall to every ten feet of linear measurement. In order to obviate the possibility of the pipes being affected by subsidence of the ground, they should be laid in a solid bed of concrete, and in order to prevent leakage, the joint of each pipe should be carefully made either with Portland cement or with the bituminous substance known as “Stanford’s joint.” Drains which pass under houses, as of necessity they must in most cases in London, should either be completely enclosed in concrete or be laid with heavy cast-iron pipes having socket joints caulked with lead. In any case, all drains, however laid, should be thoroughly tested before being used, by plugging the lower end and filling the pipes with water, which should be allowed to stand for some hours.

CESSPOOLS.—These general principles apply equally to drains which lead to a cesspool instead of to a sewer. While, however, the householder has no control whatever over the public sewer, he has most complete control over his own cesspool. The situation of the cesspool is naturally the first consideration. Where there is plenty of space and no difficulty about fall, there will be little difficulty in fixing on the situation of the cesspool. It will of course be placed as far as possible from the house, and in the lowest part of the grounds, and be remote from any possible sources of water supply. But it will at times occur that a space some twenty feet or even less from the house is the greatest available distance at which the cesspool can be placed. Under these circumstances the only thing to be done is to take every possible



precaution to render the cesspool water-tight, and to provide the most ample means of ventilation. Cesspools, wherever they are placed, should be provided with ready means of access for cleansing purposes, and ought never to be so situated that their contents cannot be removed without being carried through some portion of the house. A very useful clause in the Model Bye-laws (No. 85) provides that no cesspool shall have any outlet either to a drain or sewer. The object of this partly is to prevent, or at least discourage, the construction of cesspools in any place where a public sewer exists.

The Public Health Act, 1875 [sec. 47 (3)], expressly prohibits the overflow or soakage from cesspools in urban districts, so that in districts where no bye-laws exist the aggrieved householder can put the Local Authorities in action to compel the builder to construct his cesspools in a proper manner. The results of scamping work of this kind may be exemplified by an instance of what was actually observed not long ago in a London suburb, where, from a row of houses, the cesspools of which were about twenty feet from the front doors, sewage was to be seen leaking through the front garden walls and under the public footpath into the gutter in the road. In all cases where sufficient space exists, means should be adopted to intercept the solid matter on its way to the cesspool, which would then receive only the liquids. This is done by means of a chamber formed with a rounded concrete floor, across which a wire strainer is fixed. The solid matter is retained, and is available for use in the garden, while the liquids flow on to the cesspool.

It cannot, however, be too strongly insisted upon,



that cesspools are in themselves objectionable, and should on no account be adopted unless it is impossible to dispose of the sewage in a better fashion. Unquestionably the best of all methods of sewage disposal, where the proper facilities exist, is by utilising it on the land, either by surface treatment or by one of the recognised methods of irrigation. These systems are applicable only to large establishments, and where land of a suitable nature is available in a sufficient quantity, and it is therefore beyond the scope of this work to enter into the details of them.

VENTILATION OF DRAINS.—Having taken due care to see that the drain is properly laid, it is necessary to ensure that, so far as is possible, the air in it shall be pure, and shall neither be liable to stagnation nor to contamination by foul air from the sewer. In order to keep the air from stagnating, it is necessary to provide at least two openings,—one as near the lowest point of the drain as possible, the other at the highest point; and the larger these openings are the better. The usual practice is to form the lower opening at the ground level close to the main trap, and to carry up the soil-pipe above the roof to form the higher opening. This arrangement is very clearly and explicitly laid down in the Model Bye-laws, and an essential element in the success of such a scheme is that the ventilating pipe in continuation of the soil-pipe shall be of the same diameter as the latter. It is also important that the pipe shall be carried up in a straight line without angles or bends, it being a well-ascertained fact that the flow of air up a shaft of this nature is readily impeded by abrupt changes of direction. The annexed examples were all sketched in one district, where the



Local Board have a code of bye-laws which forbid the use of such abominations.

In fig. 4 the pipe is made to open exactly over a chimney-pot, so that if there be any down draught in the flue the air in the pipe will be sucked down into the

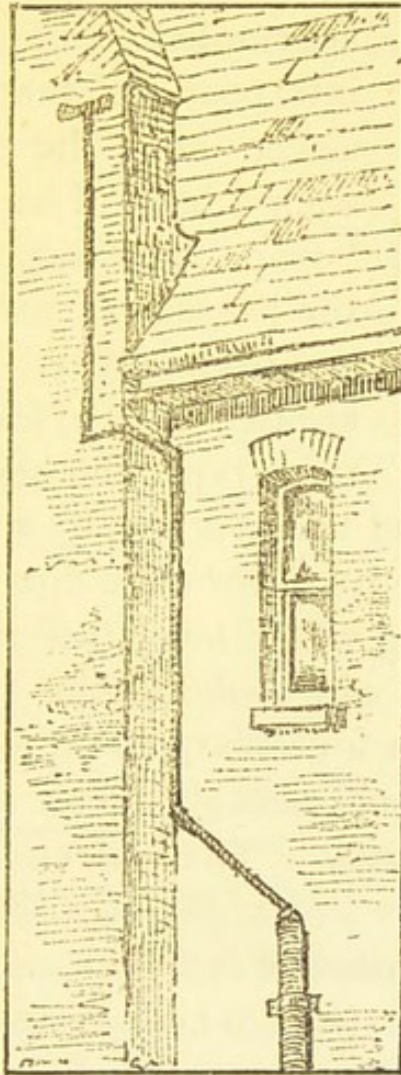


FIG. 5.

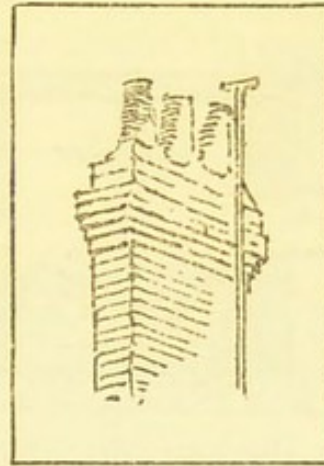


FIG. 4.

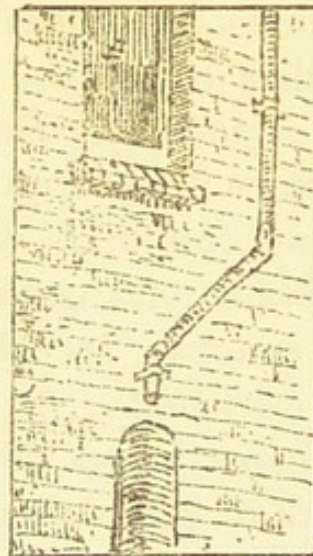


FIG. 6.

Faulty ventilation of soil-pipes.

house. In fig. 5 we have a four-inch pipe ventilated by a one-inch pipe, in which the air would have to pass six angles before it could reach the outlet. Fig. 6 is, it may be hoped, an entirely unique example; the soil-



pipe is there, and the ventilating pipe is there also, but the necessary connection between the two is absent.

It is equally necessary, if the air of a house drain is to be kept pure, to shut out the sewer air, which is, as a rule, the very reverse of pure. The only way to

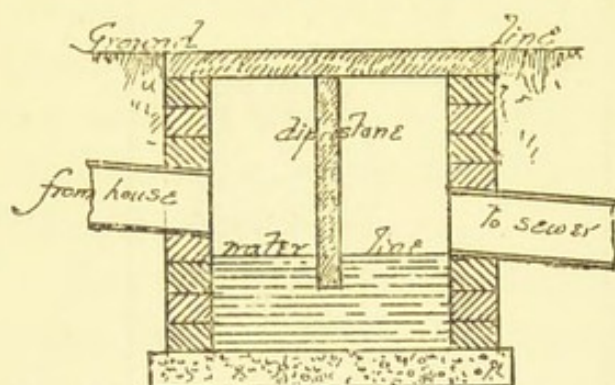


FIG. 7. Dip-trap—the “wrong way” to intercept sewer air.

accomplish this is to interpose between the sewer and the drain such a body of water or “trap” as will prevent the passage of air from one to the other. There are two ways of forming this trap: one being to build a square brick pit divided transversely by a stone slab called a dip-stone, because its lower edge dips some two inches below the standing water level (see fig. 7). *This is emphatically the wrong way to do it*; the square pit becomes in course of time a foul cesspool on a small scale, and cannot be kept even tolerably clean except by constant cleansing by hand. The objections to such a practice are obvious.

*The other and right way to intercept the sewer air* is by a trap constructed as follows (fig. 8): It is made of one piece of glazed stoneware, and is practically a bent pipe, so formed that the passage is absolutely barred by the water which is kept at a certain fixed level by the formation of the trap. Such a trap as this is self-cleansing. Next, an opening at or near the ground level should be made as near to the house side of this trap as may be. There are two ways of forming this opening. One is to carry up a pipe to the surface of



the ground and put a grating on the top. This is the simplest and least expensive method. The other and more costly way is to form a rectangular chamber or manhole, some 2 ft. by 3 ft., with a hinged lid or cover (fig. 8), and to take the drain through the floor of it in an open channel. The advantage of this arrangement is that access is readily obtainable without the necessity

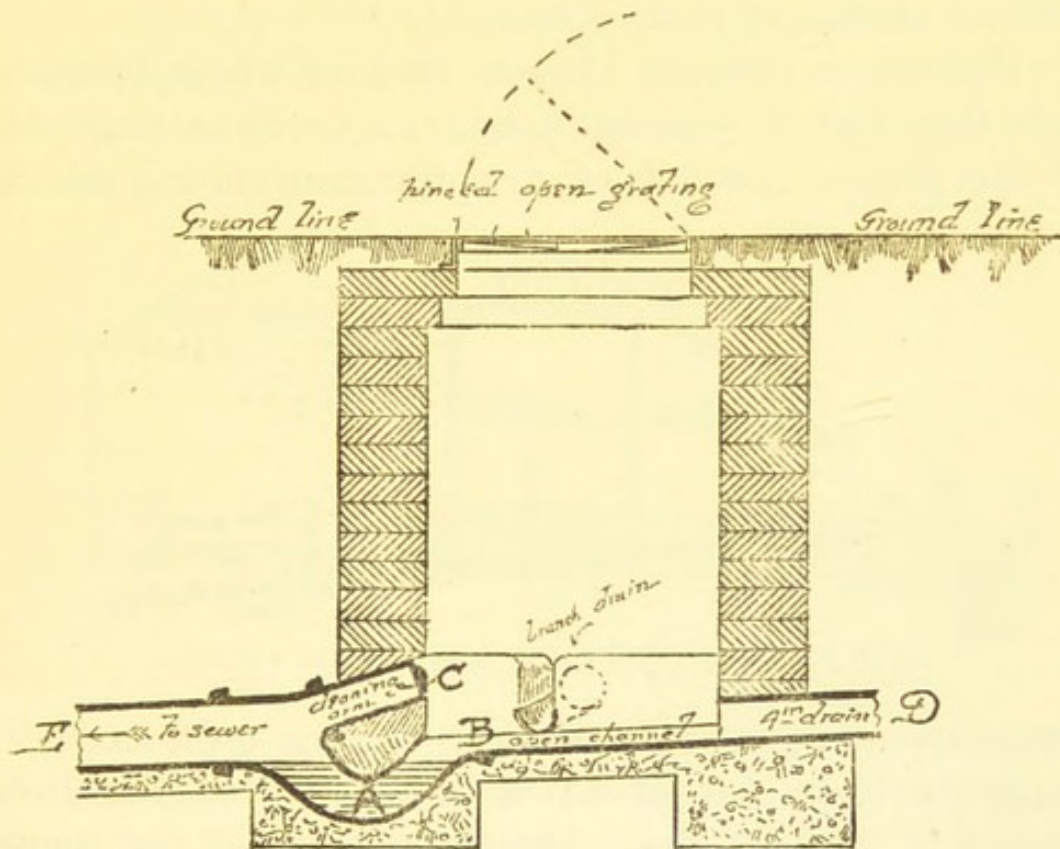


FIG. 8. Syphon-trap—the "right way" to intercept sewer air.

for opening the ground and breaking into pipes. Fig. 8 is a section through the centre of the interior of such a chamber, and shows the arrangement of the channel and trap. A is the trap, B the half pipe or channel, C is the cleaning arm for the drain beyond the trap, the mouth of the arm being covered with a disc cemented down, D is the drain leading from the house, and



E that leading to the sewer. The cover is in the form of a hinged iron grating, so that the air has free access at all times to the manhole and to the drains leading into it. The cost of constructing a chamber of this description is but a small matter if the work is done while the house is in course of erection; but even if it has to be added after the drains are all laid, it will pay for itself by the saving effected in repairs to the drains.

DISCONNECTION OF HOUSE DRAINS FROM SEWERS AND CESSPOOLS.—In fig. 9 and 10 we have examples of the proper method of disconnecting house drains

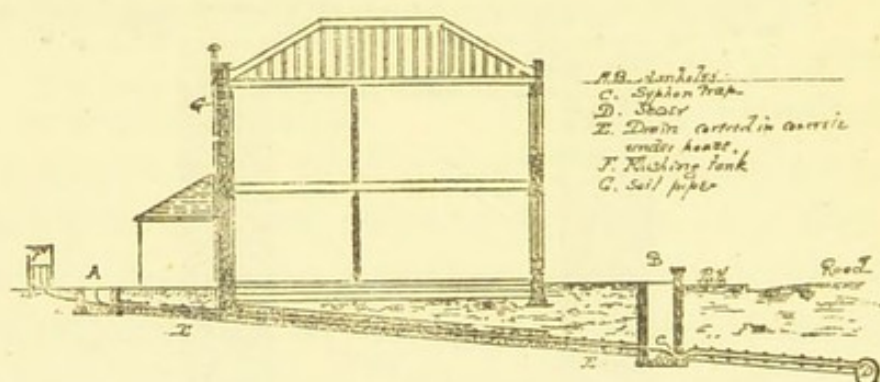


FIG. 9. Diagram showing drainage into a sewer.

from sewers and from cesspools. In fig. 9 the house is supposed to be one of a row in which it is absolutely necessary that the drain should pass under the house in order to reach the sewer. The trap which forms the disconnection between house drain and sewer is placed as near to the latter as the premises will allow. From the manhole which is formed at this point, the drain runs in a perfectly straight line to the rear of the premises, that part of it which passes under the house being enclosed in concrete. At the head or upper end of the drain is another manhole, and also a flushing tank for periodically scouring the drain. The



soil-pipe is carried up above the roof as a ventilating shaft. For the sake of clearness the rain-water pipes are not shown.

In fig. 10 the drains are kept entirely outside the house. The soil and waste-water drain is taken direct from the house to the cesspool, which, in order not unduly to enlarge the drawing, is shown very much nearer the house than it would be in fact. Just before the drain enters the cesspool, a syphon is placed with a ventilating shaft on the house side of it. In this case the simpler form of ventilation without the manhole is shown. There should be provided means of inspection

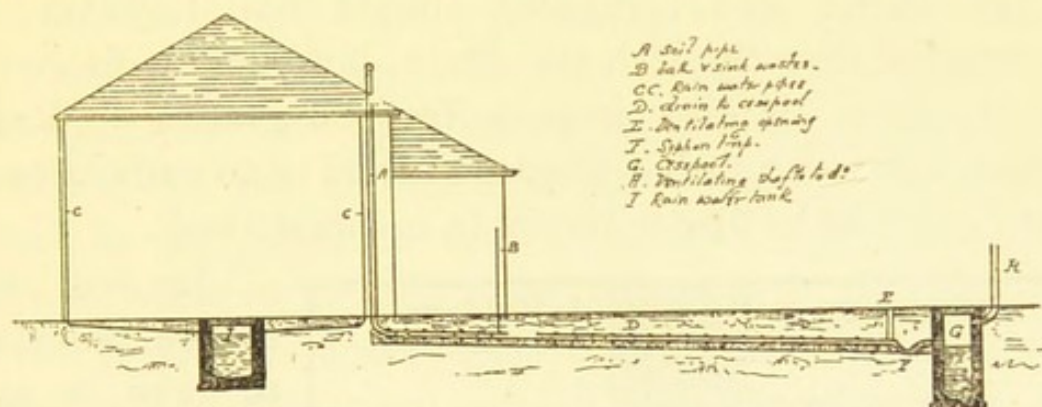


FIG. 10. Diagram showing drainage into a cesspool.

between the upper end of the drain and the cesspool, the number and position of which must necessarily depend on the distance to be traversed. The rain water is all collected in an underground tank, which should be provided with a properly trapped overflow. The cesspool is ventilated by a shaft, which should be carried up some neighbouring tree.

Any one who will take the trouble to master and apply the simple system here explained, whether he resides in the country or in the town, will always have a healthy house, pure air, and the perfection of sanitary surroundings.



VENTILATION OF SOIL-PIPES AND WASTE-PIPES.—Hitherto we have been dealing with drains under the ground; there is, however, one very important drain, which is a vertical one and above ground. This is the pipe which leads from one or more water-closets above the ground floor level, and is known as the soil-pipe. It is generally made of lead, and should be placed outside the house. As before explained, this pipe should be carried up full bore at least to the eaves of the roof, to act as the ventilating shaft or outlet for the drain. The soil-pipe must communicate directly with the drain without any intervening trap. The waste-pipes from sinks, baths, and lavatories should not, however, be connected directly with the drain, but should discharge in the open air over properly trapped gratings. Rain-water pipes also, unless they are all led to an underground tank, should be disconnected in a similar way.

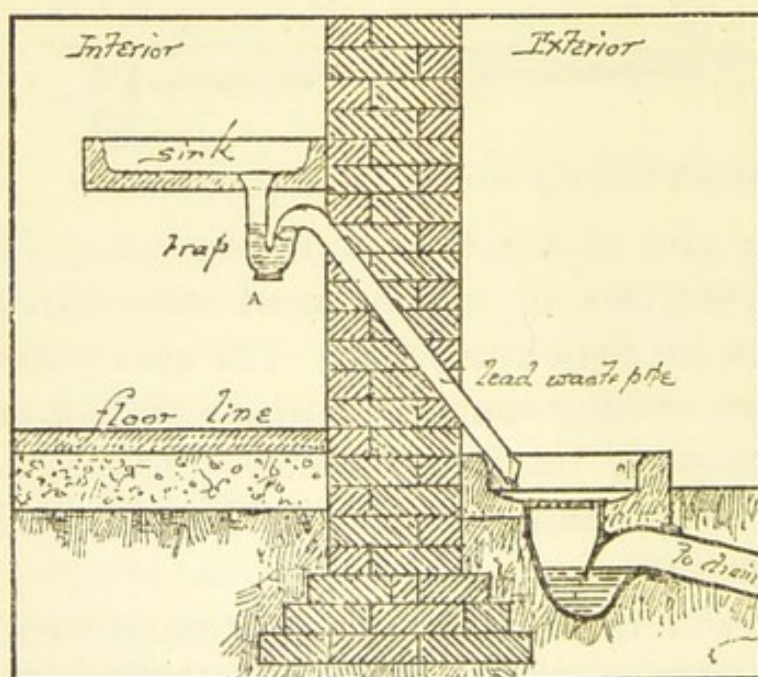


FIG. II. Disconnection of sink and waste-pipes.

It will not suffice, however, to take a pipe straight from the grating or outlet of a sink or bath into the open air. There is always more or less grease hanging about the interior of waste-pipes, more especially

those from scullery sinks, and the cold air blowing up such a pipe into the house causes an intolerable nuis-



ance. It is therefore necessary to fix under the sink, bath or lavatory, a trap cast in lead of the form shown in fig. 11, in order, by interposing a compact column of water, to keep out the rush of air through the open end of the waste-pipe. It will also be found of service to fix at the lowest part of the trap a screw cap ("A") for cleaning purposes.

EVILS OF "JERRY BUILDING."—It may be interesting, as pointing the moral of neglect to observe proper precautions in the erection of houses, to give an illustration (fig. 12), which shows a pair of houses actually in existence in a London suburb. The drawing was in fact copied from a photograph taken at Willesden, and expressly made for this work. The house on the right hand of the picture shows the condition in which it left the builder's hands, while the left hand house, so far as black and white can show it, is the same building in the condition of damp and dilapidation which it had assumed some four years later. The houses are nine-roomed semi-detached "villas," let at a rent of £50 a year each. They are built of bricks, with stone dressings and slated roofs.

The first thing to be observed is the level of the ground floor. The front door step is a bare three inches above the ground, while the side door step is slightly below the ground. Next we look, but in vain, for any signs of a damp-proof course, or for any gratings to show that ventilation to the ground floor joists has not been forgotten. The results of the first two defects are visible enough in the house as it now exists, in the damp and green stains which are everywhere to be seen from the level of the ground to some two or three feet up the walls. The want of ventilation to the floor



joists will make itself apparent one day when the floor boards will give way without warning, and reveal a plentiful crop of dry rot.

Under every window sill there are streaks as of streams of water running down the brickwork, the

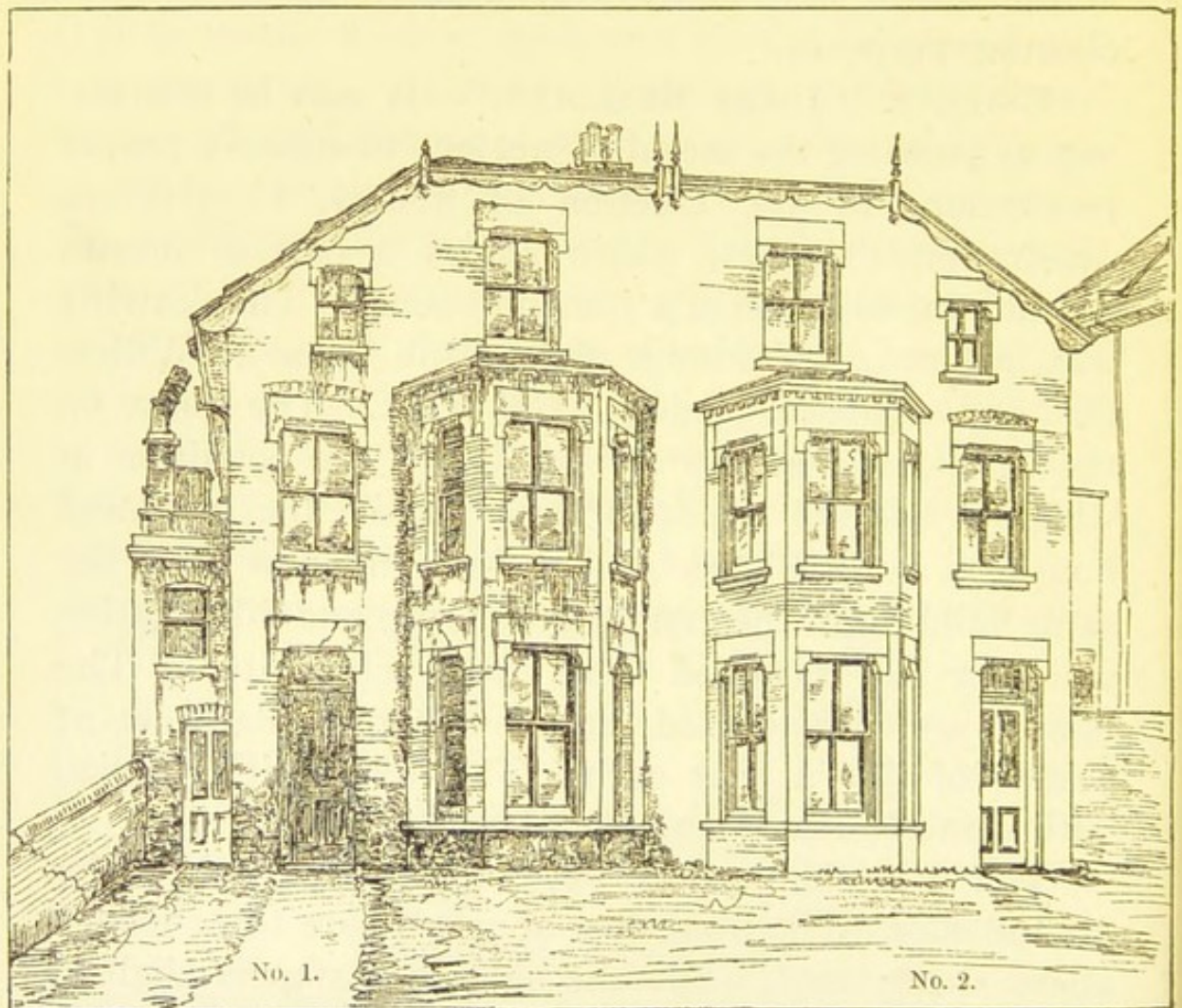


FIG. 12. No. 1, Four years in occupation. No. 2, Just built; awaiting a tenant.

cause being the want of a proper groove or "throat" below the sill to throw the water off from the surface. The result is that the wet trickles down the wall, and its doing so is unpleasantly obvious inside the house.

The same condition of affairs is observable also at



each angle of the bay window, the cause in this instance being the absence of an eaves gutter.

The lintels over the windows are in almost every case either cracked or sunk, and have had to be stopped with cement.

Just peeping round over the eaves at the side of the house a pipe about one inch in diameter is seen. This is the (so-called) ventilator to the soil-pipe. It is made of very flimsy zinc, and is so crippled where it turns the angle of the roof, that it is almost a question whether there is any space whatever for the air to pass up. This inch pipe starts from a four-inch iron soil-pipe, which has close up against the wall a crack of no inconsiderable size, through which the contents have been leaking on to the wall and *through* it.

Shortly before the photograph from which the drawing was made was taken, there had been a gale of some force. Its effects may be seen in the position of the zinc chimney-pot, and the slates, which have slid from their proper position, and are overhanging the eaves gutter.

GENERAL CAUTION.—The directions given here concerning the position of soil-pipes outside the house are to be followed in this country and in others which have no greater alternations of temperature than we have in England. In countries, however, where extremes of heat and cold are far greater, the American system of placing the soil-pipes in a well-ventilated and sealed shaft situated in the centre or inner wall of the house should be adopted.



## CHAPTER VIII.

### THE INTERIOR ARRANGEMENTS OF THE HOUSE.

*Distribution of Rooms—Windows—Stoves—Grates—Hot Water Service — Baths — Sinks — Water Closets — Cisterns—Filters.*

DISTRIBUTION OF ROOMS.—Different rooms have different requirements as regards aspect, size, height, and the like; and it may be well to give some attention to these points. *Bedrooms* should be as airy and lofty as possible, and should be so disposed that the bed need not face the light, or stand in a position where a draught, as from door to window, plays across it. The *Nursery* and *Schoolroom* should also be airy, and have as much sunshine as possible. We have already dealt at some length (in chapter i.) with the arrangement, decoration, furnishing, etc., of nurseries. *Bathrooms* should be well ventilated, and the floors should be well jointed. The walls should be painted, not papered, tiles being placed in the vicinity of the bath to receive the water that will be splashed about.

Of downstairs-rooms, the *Drawing-room*, which should of course be as bright and cheerful as possible, should face the south, and have the best natural outlook obtainable. The *Dining-room* should face the north or east, and should not be too far from the kitchen. The *Breakfast-room* should be on the east or south-east side of the house. The *Library* needs to be thoroughly well



ventilated and dry, or the books will become mouldy and damp. The *Kitchen* should be so arranged that its odours do not, as they are apt to do, penetrate the house, and it should be amply ventilated. Of cooking ranges mention is made further on.

WINDOWS.—Windows should bear a certain relation to the size of the room in which they are. There should be to every habitable room at least one window opening directly into the external air, and the area of the opening should be equal to at least one-tenth the floor area of the room. That is to say, a room 10 ft. by 12 ft. should have a window 4 ft. by 3 ft. While several different forms of sashes are permissible, no habitable rooms can be ventilated either by “borrowed lights” (that is, by windows opening not into the open air but into the interior of the house), or by skylights.

There is no better form of window than the ordinary double-hung sash, and of late years builders have generally recognised the necessity for making them so that both sashes open. By a simple and inexpensive contrivance it is possible to admit air between the upper and lower sashes without draught (see fig. 13). The bottom rail of the lower sash is made 6 inches deep, about 2 inches deeper than it is usually made, and a board 5 inches deep is fixed on the sill inside instead of the ordinary bead. By this means the lower sash can be raised  $4\frac{1}{2}$  inches, and a stream of air with an upward direction can be admitted between the upper and lower sashes while there is no direct

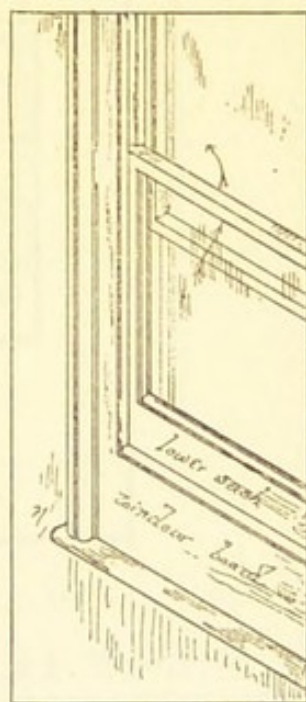


FIG. 13.



opening made. In the case of sashes already made in the ordinary way, this result can be obtained, though not in quite so satisfactory a manner, by raising the lower sash some 4 or 5 inches, and placing under it a board made for the purpose, and to which the sash should fit closely. Warming and ventilation are dealt with in a later chapter.

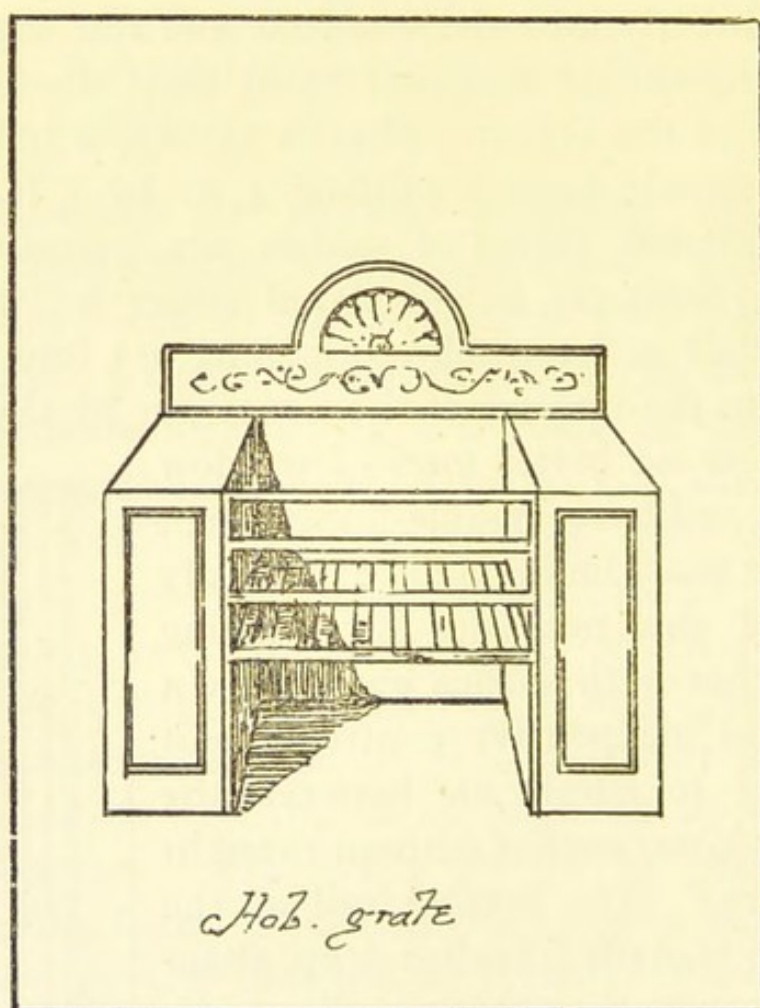


FIG. 14.

STOVES AND GRATES.—It is scarcely within the scope of this work to go minutely into the details of different kinds of stoves and cooking ranges. It will, however, not infrequently happen that a builder will allow an intending tenant or purchaser of a house to



choose his own grate and range at certain fixed prices. In these circumstances, the best advice that can be given is that, if the price allowed be manifestly inadequate to provide strong and durable grates, it will be economy in the long run to supplement the allowance in order to ensure good work. There are different

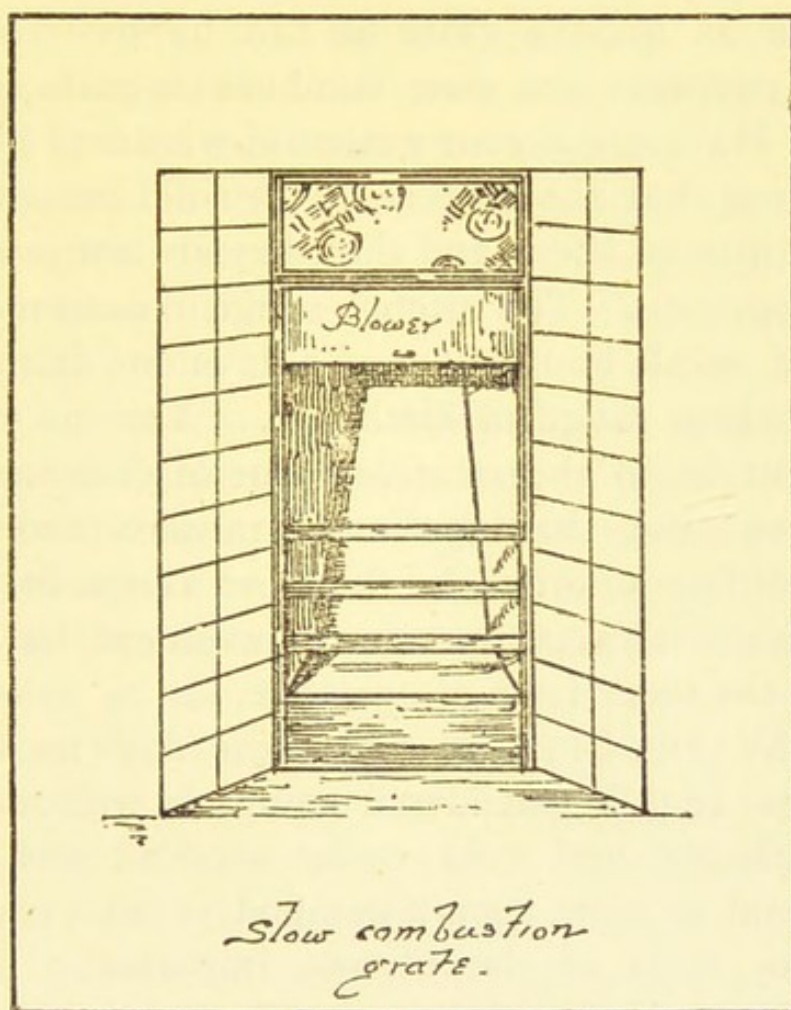


FIG. 15.

forms of grates in almost endless abundance, from the modern-antique hob grate, a product of the ultra-æsthetic Queen Anne school, to the remarkable examples of ingenuity exhibited at the Smoke Abatement Exhibition a few years ago. Of the first-named grate, it may be said that for strict attention to lavish consumption of



fuel, combined with the least possible amount of warmth given off, it probably has no equal. It should be remembered that the function of a stove is to radiate the heat generated by the fire into the room in which it is placed, and this is best attained by a comparatively shallow fire, with cheeks and back of fire-clay. Add to this splayed sides of glazed encaustic tiles, and you have as good a grate as can be desired for all ordinary purposes (see slow combustion grate shown in fig. 15). Having got your grates, of whatever kind they may be, see that they are set with solid brickwork behind and around them, and that they are not just tucked into the opening. The kitchen range in most moderate-sized and small houses is now-a-days one of the many forms of close range of kitchener. Various opinions are current as to the relative value of close and open fire ranges; but the superior cleanliness and greater heating surface afforded by the close range in a small space makes it certainly more convenient for general use than the older form of open fire.

HOT WATER SERVICE.—In these days no house of £40 a year rent is considered complete without a bath fitted with hot and cold water service; and, from a health point of view, such a demand is most commendable. But it is of the utmost importance that the system adopted should be as safe and free from the possibility of accident as it can be made. The system which a few years ago was well-nigh universal is the following. At the back of the kitchen fire is a boiler as large as the space will admit, and almost at the top of the house is the hot water circulating cistern which is connected with the bath and draw-off taps on the upper floors, and is supplied from the cold water cistern placed



at a higher level. As there are always draw-off taps in the kitchen and scullery fed immediately from the boiler, it is possible to empty both the latter and the circulating cistern at a time when, either through failure of the supply or by reason of frost, the cold water cistern is empty. If in these circumstances the fire is lighted before the water supply is properly restored, the empty boiler will become red hot. When the supply is renewed, the cold water will rush into the red hot boiler, and an explosion may take place.

A stop-cock to shut off the water from the boiler is an improvement, but there is always the possibility, one might almost say the probability, of its not being used when needed. The system is in fact a vicious one, and is happily not so frequently adopted now as formerly.

Perhaps the best system is that in which the water passes from the boiler into a cylinder, which is usually placed somewhere near the kitchen fire. The cold water from the cistern at the top of the house enters the cylinder at the bottom, the hot water from the boiler about the centre, and the circulating flow-pipe leaves it at the top. The return pipe is taken from the highest point of the service, and is connected with the cold water pipe near the cylinder. By this system an explosion is rendered impossible, inasmuch as the hot water being drawn from the top of the cylinder its supply is dependent on the cold water forcing it upward from the bottom. When, therefore, the cold water supply fails, the hot water will also fail, but the cylinder, and consequently the boiler, cannot be emptied.

BATHS.—Painted iron or zinc are the usual materials for baths, though, without doubt, the most durable



bath, and the cheapest in the long run, is a copper one, or, by preference, one of the porcelain baths. But these latter are costly as compared with iron, and a very serviceable bath in enamelled cast-iron can be had for about half the price of copper or porcelain. The difference in cost between the first and inferior qualities of cast-iron baths is due to the number of times a bath is fired. A "first finish" bath is painted and fired three times, while a "third finish" bath undergoes the process once only. And it is just this difference of finish which makes the difference in durability. Other kinds of baths, as, for instance, glazed fire-clay and concrete, are very valuable in their way, but scarcely appropriate for small houses.

SINKS.—Sinks are made of various materials: stone, wood lined with lead, pewter, or tinned copper, zinc, slate, stoneware, and glazed fire-clay. Scullery sinks are often made of stone of a very inferior sort, which after a very few years' wear scales off until it becomes impossible to clean it. Under the best conditions a stone sink rarely looks clean. Pantry sinks are commonly made of wood and lined with lead. These sinks, again, rarely look clean, and hot and cold water have a way of expanding and contracting the lead till the bottom of a sink (usually, by the way, of far too thin a substance) is full of wrinkles. Pewter and tinned copper are very bright in appearance, but too expensive for general use. The best kind of sink for all purposes is one made of glazed fire-clay. These are creamy white in colour, and have a surface which is as near perfection as possible; and when clean they look clean.

WATER CLOSETS.—Usually the speculating builder knows two kinds of closet apparatus, and two only:



one being the "pan closet," and the other the "hopper." The first, with its invariable adjunct, the D trap, is used for the best closet, the second for the servants' closet. These may be said to be the two most objectionable forms of closet apparatus obtainable. The pan closet with its D trap consists of three parts—first, the basin of earthenware with a tinned flap at the bottom to keep the water in; second, the container, an iron vessel under the basin made apparently in order to be fouled, and to afford a corrosive surface to the greatest possible extent; and last, the D trap, a lead box in which every facility is afforded to fæcal matter to accumulate (see fig. 16).

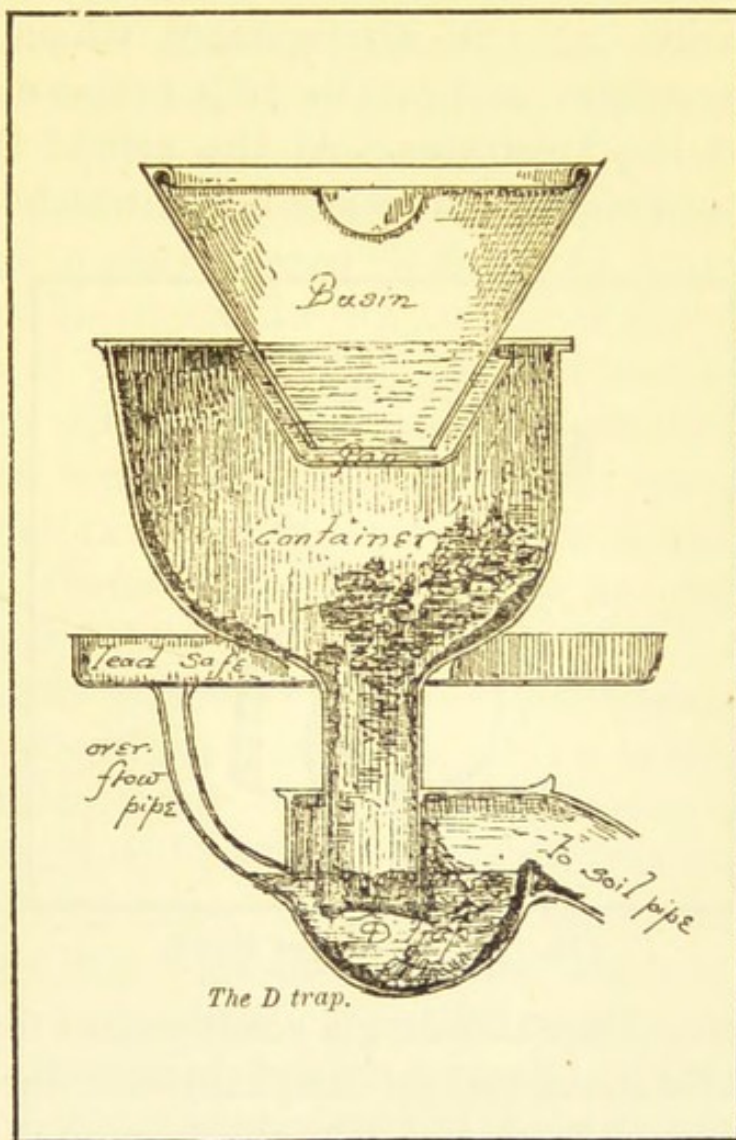


FIG. 16. The pan closet.

The peculiar faint smell which is emitted by one of these closets after it has been in use for some little time is familiar to most people, and it is only by taking the apparatus out and subjecting the iron container to



the action of heat that it can be kept at all bearable. This form of closet is now happily prohibited wherever there are bye-laws sanctioned by the Local Government Board. As, however, it must occasionally happen that, in places where there are no such restrictions, builders will insist on using them, it will be well to point out one arrangement which is by no means necessary, and greatly adds to the objectionable nature of the apparatus. At the side of the basin it will be noticed there are some holes, which are meant to afford

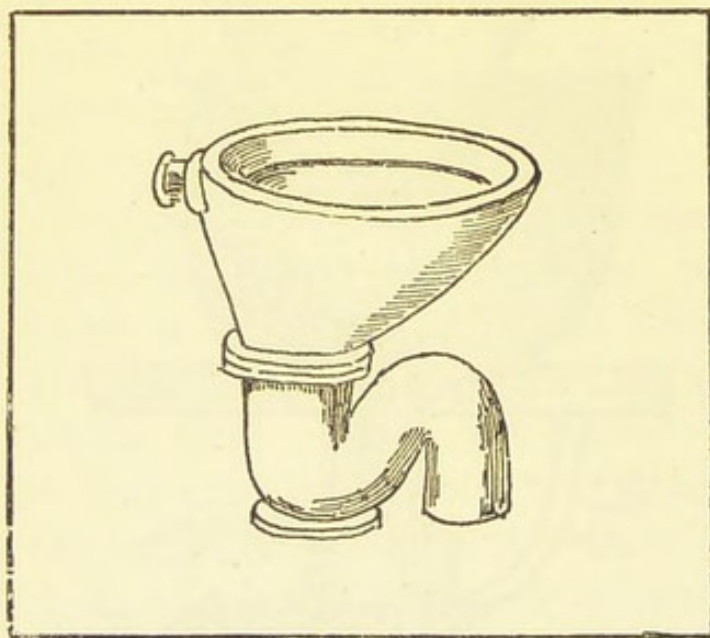


FIG. 17. The hopper closet.

an escape for the water, should the supply valve happen not to act, and so to prevent an overflow of water on to the floor below. The almost invariable custom amongst plumbers is to connect these overflow holes by means of a lead pipe with the D

trap, thus affording a ready means for the foul air generated in the trap to escape into the water closet. This pipe should be carried straight through the wall, and made to discharge into a rain-water pipe or over a trapped grating.

The second form of closet apparatus referred to is that known as the "hopper," from its form, which is simply that of a round hopper head upon a pipe. The objection to this form of basin is that it is almost impossible to keep it clean by ordinary means.



The first requisite of a good closet basin is that it shall be self-cleansing by means of the flush of water from the cistern; and it must be confessed that a basin which fulfils this condition, under all circumstances, is a thing of the future. There are several forms of closet apparatus which go very near towards perfection in this respect; they are all more or less variations of the closet known as the "wash out," and are made entirely of glazed earthenware. Without unduly advertising one kind in preference to another, it may be said that those in which the trap is readily accessible from the basin are better than those in which the trap is out of sight, and only to be got at by means of a special cleaning arm. These closets all need regular and systematic cleaning, and when kept clean are by far the most satisfactory kind that can be had, the absence of any metal work about them conducing greatly to the possibilities of keeping them sweet.

In houses of a more expensive class the best closets are usually furnished with the valve apparatus (see fig. 18). There are so many things to be said in favour of a good valve closet that it will probably retain its hold on popular favour for a long time to come. In the first place it is, always providing it be a good one, almost noiseless, an advantage of obvious value, especially in a small house; and secondly, there is always a large body of water in the basin. An almost invariable defect in valve closets is that the overflow is taken by a pipe (sometimes, it is true, this pipe is trapped) into the soil-pipe. This is a most objectionable arrangement, for the reason that the most usual, one might say the only, cause of an overflow is that slop water is thrown into the basin without the valve being opened. The trap, therefore, in the over-



flow pipe is filled with foul water, which remains there until displaced by another discharge of a similar nature.

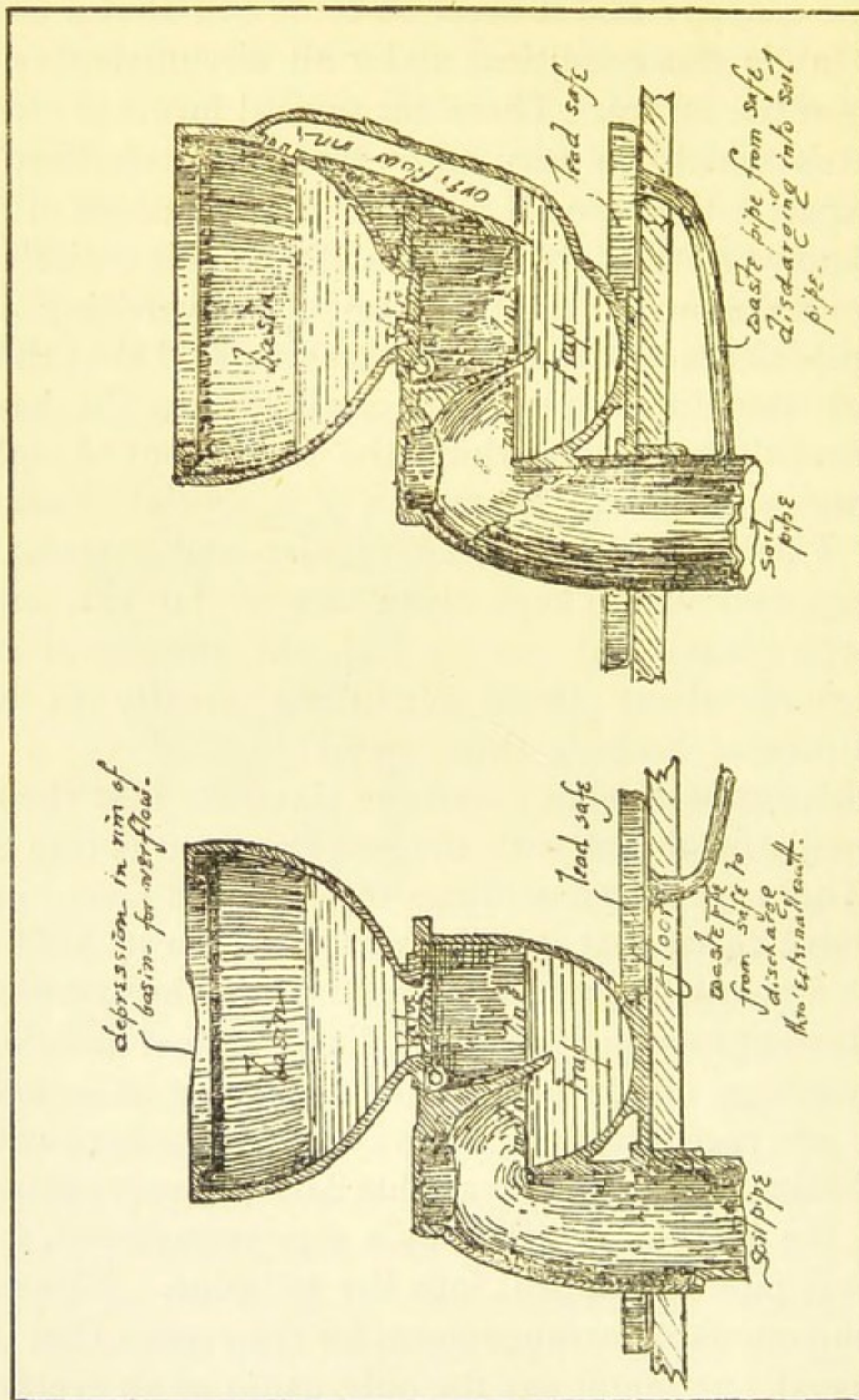


FIG. 18. Valve closets.

The condition of the overflow pipe and trap in such circumstances, and the nuisance arising from it, cannot



fail to be excessively foul, and to become after a time very offensive. The remedy is to abolish the overflow pipe entirely, to stop up the holes in the side of the basin, and let the water overflow, if need be, on to the lead tray or "safe" below the apparatus, from whence a pipe should conduct it through the wall into an open pipe. Other methods of disposal of excreta are described in chapter x.

CISTERNS.—It is sometimes said that if a house be supplied with water on the constant system there is no need for cisterns, and they should be dispensed with as unnecessary and objectionable. It is easy to see that a cistern may become by neglect very foul and unwholesome, but it is not on that account to be absolutely condemned as useless. Even where the service is constant, the water mains are liable at times to get out of order and to need repairing, and an intermission of the supply for twenty-four hours is an occurrence to be provided against. This necessitates the retention of cisterns, and it becomes tolerably plain that we must have them whether the service be constant or intermittent.

The two most important points to be observed in this connection are that the water closets should be supplied from cisterns separate from those which supply the water for drinking, cooking, and other household purposes, and that the overflow pipes of all cisterns should discharge into the open air and not into the soil-pipe. It would be well before taking a house to have the water-supply fittings (taps, ball cocks, valves, etc.) inspected by the water company's officer, and, if necessary, altered to conform with their requirements. The companies have full powers in these matters, and it is not pleasant to have notice to alter



fittings because the builder has chosen to disregard the regulations. Cisterns should always be placed where they can readily be examined and cleaned out; and it should be possible to get at all the pipes without pulling down plaster or tearing up boards. The cleansing should be thoroughly well performed at least every three months.

The best and cheapest material for cisterns is galvanized iron. Lead acts on certain kinds of water in an injurious manner, and it is therefore wise not to use it for cisterns.

FILTERS. — Too many people pin their faith to filters, and think that so long as they pass their drinking water through an earthenware jar with some mysterious filtering medium inside, the source of the water and the condition of their cisterns are matters of no importance. This is a similar delusion to the belief, which passes freely current, that if you add spirits to unwholesome water you rob it of its noxious qualities, or at least diminish them. We are not prepared to deny the usefulness of filters, but we desire to point out that they must not be exclusively relied upon. Water filtration has in its way had as much nonsense written about it as water analysis. The great point is to keep the water itself as pure as possible. Where pollution is suspected, let the water be boiled for a considerable period. It may afterwards be aerated, either by artificial means, or by pouring it several times from a height of two or three feet from one vessel to another. If a filter be used it should be of the simplest construction, and the filtering medium should readily be removable for cleansing purposes. If a filter be not very frequently and very thoroughly cleansed, it pollutes rather than purifies the water.



## CHAPTER IX.

### VENTILATION, WARMING AND LIGHTING.

*Ventilation—Objects to be Aimed at—Carbonic Acid and the Tests of Impure Air in Rooms—Admission and Distribution of Fresh Air in Rooms—Situation of Fresh and Foul Air Flues—Draughts and Smokiness of Chimneys—Cubic and Superficial Space—Open Fires—Hot Air Furnaces—Heating by Steam and by Hot Water—Ventilation Appliances—Gas—Electric Lighting.*

VENTILATION.—It would serve no useful purpose to criticise in detail the very numerous contrivances for doing artificially what should in theory be done naturally; and it must suffice, therefore, to state the principles upon which proper ventilation rests. First, then, it is essential that there should not only be an inlet but an outlet for air. Unless some means or other be adopted for setting up circulation of the air, it is manifest that fresh air to replace foul air can find no space for itself. In an ordinary room we have excellent examples of an air inlet and an air outlet in the windows and fireplace; but when fires have to be lit in the latter, in the winter time, the rush of cold air across the room from the window is too severe an experience for most people to bear with complacency. In summer time, and whenever the external air is sufficiently warm for comfort without the necessity of a fire, all the



ventilation that is wanted in an average room can be had by opening the window. But in winter the case is different, and means have to be devised for securing a flow of fresh air into the room without chilling the occupants. The best method of doing this is to connect the back of the fireplace with the outer air and with the air of the room by means of tubes or flues. The cold air flows in along the tube from the outer wall to the chamber at the back of the fireplace, is there warmed, and is then dispersed into the room. As inlets for air, Sheringham ventilators are very efficacious and inexpensive. They are placed in the wall of the room communicating with the outer air, and may be shut or opened at pleasure. The valve falls at an angle of  $45^{\circ}$  into the room, and admits a steady flow of fresh air upwards. In this country, speaking roughly, with the addition of properly constructed outlets for foul air, as afterwards described, these are all the appliances any ordinary householder will require to secure adequate warmth and ventilation for his dwelling at all seasons of the year. There are, however, so many fallacious ideas on the subject of ventilation and heating now commonly current, that it may be well to say a few words on the subjects of carbonic acid gas and the tests of impure air in rooms, the necessity for adequate distribution as well as for adequate admission of fresh air to rooms, the action and size of flues, smoky chimneys, cubic and superficial space, open fires, furnaces, steam and hot water heating, methods and cost of ventilation, and to describe various appliances.

A GENERAL CAUTION.—The following remarks are intended for the guidance and instruction of people living in the United Kingdom. As this book is, how-



ever, likely to be circulated in the colonies and abroad, it must be remembered that differences of climate and temperature affect the ventilation and heating of houses more perhaps than anything else. Thus, English houses are never heated, even in the coldest winter, much above  $60^{\circ}$  F., whereas in America a temperature of  $70^{\circ}$  F. constitutes probably the minimum point which people regard as necessary for comfort and health. These circumstances must be borne in mind; and where there is great excess of heat or cold special allowance must be made for such conditions, or else disappointment will result.

OBJECTS TO BE AIMED AT.—If a new house is about to be built, it is not difficult to arrange at the commencement for its adequate heating and ventilation. The first point to be determined, and the most difficult, is to decide the amount of fresh air to be supplied to each room. Sanitarians base their estimates of what is required to keep the air of occupied rooms in a dwelling-house free from perceptible odour to a person entering it from the outer air, upon the percentage of carbonic acid found in rooms in which this odour is barely perceptible. We must first, then, consider the presence of carbonic acid in relation to pure atmosphere.

CARBONIC ACID AND THE TESTS OF IMPURE AIR IN ROOMS.—It may be well to state at the outset that the most dangerous impurity in air is not a gas, nor do deleterious products possess any very decided or unpleasant odour. To this class of impurities belong those arising from contagious disease in a hospital ward, from sewers, and from collections of filth. Against such enemies good plumbing work is often the best safeguard, though it is one difficult to secure, owing to the bad workmanship or design, or both, of many workmen engaged in this



business. Nine hundred and ninety-nine people out of every thousand believe that the ordinary impurities of air in inhabited rooms are due to carbonic acid gas, and that to provide against this impurity is to secure an adequate and healthful supply of air. As Dr. Billings has humorously declared, the average ventilating enthusiast holds this as the dogma of true ventilation; in his papers on the subject he will enlarge on the deadly nature of this subtle poison, will point out that this deadly gas is heavy, and collects near the floor, and that special arrangements should be made to allow it to escape at this level. Now, all this is nonsense, and until a person knows enough of the physics of gases in general, and of carbonic acid gas in particular, to be sure it is nonsense, and to be able to demonstrate *why* it is so, it is useless to discuss ventilation problems with him. Owing to the law of diffusion of gases, in an inhabited room the proportion of carbonic acid at the floor will be about the same as, and in some cases even less than, at the ceiling. It depends upon the system of ventilation adopted, the number of occupants and lights the room contains, and the currents of air within it. The main producers of carbonic acid gas are respiration and lights, which raise the temperature of this gas above that of the room, and so cause it to rise to the ceiling, because when so heated its weight is less than ordinary air. Ascending thus to the ceiling it becomes thoroughly mixed with the air of the room, and so is found in combination with it in pretty uniform quantities in all parts of the apartment. Of course we have been speaking of rooms to which the outside air has access. In wells or in the shaft of a mine, which are closed on all sides except the top, this mixing is not possible,



and so carbonic acid gas sinks to the bottom and gradually expels the air. Here no currents are produced, there is little if any difference of temperature, and the process of diffusion is so slow that special means have to be adopted to secure its removal. These are very exceptional cases, however, and in no others will it be necessary for special provision to be made for the expulsion of carbonic acid gas. But if it is all nonsense to say that the ordinary impurities of air in inhabited rooms are due to carbonic acid gas, how are we to define them, and how has this fallacious idea become so general? In pure country air carbonic acid is present in the proportion of about four parts to every 10,000. In theatres, schools, and crowded buildings its proportion has been found to be from 40 to 100 parts per 10,000, whilst in soda water manufactories, in champagne cellars where the bottling is done, in certain rooms in breweries, and at a few celebrated baths and health resorts, pure carbonic acid gas is present in the proportion of 150 parts to 10,000, without producing discomfort or giving any special evidence of its presence. This proves that carbonic acid gas, in the proportions in which it is met with in the worst ventilated rooms, is not in itself a dangerous or even an injurious impurity. It is because, as Solomon has it, people are known by the company they keep, and because carbonic acid gas is usually found in very bad company, that sanitarians lay so much stress upon the results of chemical tests of air with reference to this substance, and on what may seem very small variations in the proportions in which it is found. Dr. Billings, from whom we have largely quoted, states "that variations in the amount of carbonic acid gas in the air to the extent of three or four parts per



10,000 indicate corresponding variations in the amount of those gases, vapours, and suspended particles, which are really offensive and dangerous." Now we have tests by which we can, with comparative ease and certainty, determine the variations in the quantity of carbonic acid gas, whilst we have no such tests of recognised practical utility for the really dangerous impurities. Carbonic acid is, then, in the case of air a danger signal, a sign post, a barometer of impurity, and hence the popular fallacies above alluded to have arisen. Of course we must make sure that the circumstances of any particular case present nothing unusual, or our deductions will be valueless, because our initial premiss is unsound. This precaution adopted, we may measure by this test the quantity of dangerous impurities present in the air of inhabited rooms. Sometimes a variation of one ten-thousandth part of carbonic acid gas may be very significant. This test should be combined with the sense of smell, for when the proportion of carbonic acid in a room increases from the normal amount of four parts in 10,000 to between six and seven parts in 10,000, a faint, musty, unpleasant odour is perceptible to anybody entering from the fresh air. If the proportion reaches eight parts the room is said to be close. To secure entirely satisfactory ventilation which will prevent this odour, the proportion of carbonic acid derived from respiration, or what is sometimes called the carbonic impurity, should never exceed two or, at the utmost, three parts in 10,000 of the air of the room; that is to say, if the proportion in the fresh air be four parts, the foul air must not exceed seven parts per 10,000. Although the method of testing air for carbonic acid is comparatively simple, much care and



precision must be used throughout, and it would serve no useful purpose to explain it here. Every architect ought, however, to be able to use all these tests, as without them it is impossible to decide on the merits of ventilating appliances. Householders and the public will, however, be wise if they also consider the explanations here given, and if they bear them in mind when next urged to purchase the "Patent Automatic Purification Ventilator," the "Sanitary Air Renewing Grate," and other similar appliances. The one infallible test to be applied to all such goods is that of air analysis. If a patentee cannot produce the air analysis of his invention prepared by a chemist of repute, do not purchase his goods or believe in his assertions. As Dr. Billings says: "It is not your business to investigate the value of this or that patent. It is the patentee's business to prove it to you, and this proof must be the detailed air analysis."

ADMISSION AND DISTRIBUTION OF FRESH AIR IN ROOMS.—This is a subject of the first importance, as unless the adequate distribution of the fresh air admitted be provided for, the ventilation of any house or room must necessarily be bad. Air possesses the property of adhering closely to surfaces even when in motion. When a current of air is started along a wall or floor, it may adhere to it for several feet or yards, and in this way draughts occur in places where they are least expected. Dr. Billings once found a warm air register so placed in the floor, in the corner of a room, that the entering air adhered to the sides of the room, and passed directly upwards, almost as if it were in a tube. It then streamed along the ceiling to an opening into a foul air or outlet flue in the opposite corner, and passed



out without disturbing the air in the lower part of the room at all. In this way it may happen that plenty of fresh air may pass in and out of a room, but that the air within it may remain vitiated and the ventilation bad. Adequate distribution is as important, therefore, as an adequate supply of fresh air.

SITUATION OF FRESH AND FOUL AIR FLUES.—This brings us to consider the best situation for fresh and foul air flues respectively. In old and existing houses there will often be no choice but to use the chimney flue, with an inlet on one particular wall; but even here situation, or rather the respective and relative positions of inlets and outlets, are important points to bear in mind. The shape of the air inlet is also an important consideration, and upon it will depend, in great measure, the comfort of the occupants of the room, as the velocity of the entering currents of air can be regulated by a proper attention to the position, size, and shape of the opening. No discomfort is likely to result from these inlets even in large assembly rooms, provided that the registers are of such an area as to cause the velocity of the in-flowing air not to exceed one and a half feet per second. When the in-coming air is heated previous to its admission to the room, it is necessary to secure that these inlets are not placed above the outlets, or else very little change will be effected in the largest portion of the air in the room, because direct currents between the in-flow and out-flow registers are easily established. An air flue which measures less than five inches in its smallest diameter is of little use, and no fresh air flue should be placed in a floor so as to be flush with its surface, because dust and dirt will fall into the flues and be returned in part with



the in-coming air. Besides, many small articles will constantly be lost through these openings, and it is always desirable, therefore, to continue the flue upwards into a step, seat, or wainscot, and then to place the register in the side of this. Hot air flues should be placed by choice in inner walls, and foul air flues should never be placed in outer walls unless they are to be carried downwards, and to have some means of aspiration connected with them. Foul air flues should be situated as a rule near the level of the floor, and although many eminent authorities recommend that the place for the introduction of fresh air should be near the ceiling, in order to avoid unpleasant currents, attention to the size and shape of the inlets will equally prevent these disagreeable effects, whilst a fresh air register, if situated at a lower level, will be found more satisfactory in many ways. Experience proves satisfactorily that in dwelling-houses where the rooms are of ordinary size, and where the windows are not on opposite sides of the rooms, good ventilation can be secured by placing the fresh warm air openings in an inner wall and the discharge or foul air openings on the same wall, at a lower level. By this arrangement the fresh air register is placed in the side of the chimney near the floor, and the foul air passes out a few feet away, but on a lower level. Thus the fresh air passes upwards and along the ceiling to the outer walls and windows, down the wall to the floor, and thence along the floor to the foul air outlet. There is, however, far too little reliable evidence of the effects produced by apparatus fixed in this and other ways, and there is much need of careful experiment from actual experience, especially as those with models and not with the



apparatus *in situ*, are, for practical purposes, nearly valueless. As complaints are often made of the dryness of hot air admitted to rooms, although experience proves that this is in no sense harmful or dangerous to health, it may be useful to add that a large coarse sponge, moistened and kept in front of the fresh air register, will often prove a source of great comfort.

DRAUGHTS AND SMOKINESS OF CHIMNEYS.—The problems relating to velocities of currents and areas of flues, more especially in chimneys, are, as Dr. Billings remarks, comparatively simple, if the nature of the force which produces draught in a chimney be thoroughly understood; but the popular mind is by no means clear on this point. Many persons seem to suppose that a chimney has some independent power of its own, and in this sense say that it draws well or it draws badly. Dr. Billings has heard a mason contend that the chimney itself must do some of the work independent of heat, because in a house which he was then at work on, he found an upward current in the chimney, although the roof had not yet been placed on the building, and it required several trials under different circumstances to convince him that this current was due to the heating by the sun of the south wall in which the chimney was placed. Experience proves that a velocity of ten feet per second in a chimney is sufficient to make it act properly under different circumstances, because that rate of upward current will prevent the usual winds from interfering with it at the mouth of the chimney. A greater velocity than this means a waste of fuel, and in an ordinary dwelling-house a velocity in the main flue of five feet per second will usually suffice. To secure this the opening at the



mouth of the chimney should be about one-half that of the main flue, and the temperature in the chimney, assuming it is forty feet high, to produce this velocity must be about  $40^{\circ}$  Fahr. above that of the external air. The shape of the flue should be as nearly round or square as circumstances will permit, with a preference for the circular form. The sizes of smoke flues may be given for ordinary dwelling-houses built of brick as one foot square, or if lined with cement or smooth pot pipes they may be nine inches in diameter, and for bedrooms a flue nine by twelve inches will be found sufficient.

Smoky chimneys are due to various causes, and are especially prevalent where open fires are mainly used for heating purposes. The true remedy in most cases is to secure that each chimney has its own proper supply of air from without, and that it does not draw against another flue. When flues are damp, the current of ascending air is rapidly cooled by evaporation, the chimney smokes vigorously, and hence the desirability of avoiding placing a flue in an outer wall, where it is sure to be difficult to maintain it in good working condition. The effects of wind upon the action of chimneys have already been indirectly considered, and, provided the upward current be maintained at a maximum speed of ten feet a second and a minimum of five feet per second, no difficulty is likely to be experienced on this account. Patentees, of course, maintain that cowls are an absolute cure for smoky chimneys, whereas, as a matter of fact, they were probably intended originally to prevent the entrance of rain or snow into flues. The following amusing account is given by Mr. Briggs of one such attempt to cure a smoky chimney in a large public building at Washing-



ton, in which there was a series of rooms freely communicating with each other and each having an open grate. When the caretaker commenced to light the fires in the morning, he found the first one had a magnificent draught, the second one not so good, the third one worse still, whilst the fourth smoked vigorously. Then came the chimney doctor with a patent chimney top, which was placed on flue No. 4, lengthening it about three feet. No. 4 now drew well, but No. 3 was no longer dubious, for it smoked like a tar kiln. Of course the same remedy was applied to No. 3, but then Nos. 2 and 1 became a nuisance. When these also had been duly furnished with the patent chimney pots, all the flues were again of the same height, and the process had to be begun *de novo*. These chimneys did not need chimney pots or patent preventers of any kind, but each required its own sufficient air supply from without, and precautions taken to secure for each a separate draught.

CUBIC AND SUPERFICIAL SPACE.—For purposes of heating and ventilation, it is not desirable that the rooms in an ordinary dwelling-house should be more than fourteen feet high, even if very large, whilst for ordinary living rooms twelve feet in height is ample, and for bedrooms about ten feet is the most satisfactory height. To keep a room comfortably warm and airy in an ordinary dwelling-house, when the temperature of the external air is below freezing point and the heating is by some indirect method of ventilation, it will be necessary to secure a fresh air supply per hour equal to one and a half times the cubic contents of the room. Of course, all such calculations must depend upon the dimensions of the room, the internal and external



temperature, the number and occupations of the inmates, the time they inhabit it during each twenty-four hours, and so forth. Thus the minimum amount of cubic space per head which should be given has been stated by Dr. Billings to be as follows:—

	Per Head.
In a common lodging-house, . . . . .	300 cubic feet.
In a schoolroom, . . . . .	250 „
In a barrack dormitory for soldiers or police, . . . . .	600 „
In an ordinary hospital ward, . . . . .	1000 „
In a fever or surgical ward, . . . . .	1500 „

It must be borne in mind, however, that other matters—such as floor space, the number of persons, lights, and fires to be supplied with air, and the quantity of air to be supplied to each—are much more important considerations than the mere cubical capacity of a room. It is impossible to ventilate or heat any room properly where these considerations are not accurately weighed and acted upon. The folly of regarding cubic space as the sole consideration is becoming to be fully recognised, and is, like many another fallacy, now thoroughly exposed. In most modern and other houses it would be impossible to provide a fresh air supply of 3000 feet per head per hour if the crevices and inlets, which are the accompaniments of bad construction, were not almost everywhere in full use. In a properly constructed house, where such aids to ventilation are avoided, in rooms which will be constantly occupied, it will be necessary to provide foul, fresh, and hot air flues and registers to supply one cubic foot of air per head per second. In a room which will be occupied



only three or four hours at a time, and which is well aired in the interval, a supply of three-quarters of a foot per second, or 2500 feet per hour, will suffice. No theatre, schoolroom, or church building should, however, have a less supply than this. In rooms constantly occupied, at least 3500 feet of fresh air per hour are desirable. These calculations are based on the knowledge that in the open air, with a temperature at 60° F., without perceptible wind, about 32,400 cubic feet of air per hour will flow over, or come in contact with, the person of a man, supposing his body to present an area of about nine square feet, and the displacement of air to be at the rate of one foot per second. A winter allowance of 3000 cubic feet of fresh air per hour per head is therefore not too much, and little argument should be needed to convince the most stupid and prejudiced person that in the warmer weather,—that is, for at least six months in the year,—every available window and inlet for fresh air should be utilised to the full.

OPEN FIRES, STEAM AND HOT WATER HEATING.—In Great Britain, except for entrance halls, greenhouses, conservatories, and other places not constantly occupied during many hours in the day, the system of heating adopted is mainly that by open fires. In many countries where great extremes of heat and cold occur, stoves, hot water, and steam are utilised in lieu of open fires. It is hoped that every reader of this chapter has by this time realised, if he did not know before, that no satisfactory system of ventilation can be tolerated or endured without the arrangement of an efficient system of heating. The first thing to accomplish is, in reality, to secure an adequate system of heating for every



occupied house, and then to make the plan of ventilation correspond. The first consideration with householders is cheapness, and for this reason the inhabitants of cold countries, and especially America, if they have stoves, hot air furnaces, steam heating, and hot water to select from, for the most part adopt stoves or steam. For scientific purposes, heating is divided into two systems—(1) by direct, (2) by indirect radiation. In direct radiation, the heating apparatus is placed in the room or place to be warmed, and fireplaces, stoves, and coils filled with steam or hot water are the means employed. In these cases the heat passes from the radiant body to the solid bodies and surfaces which the room presents and which absorb it, but the air through which the heat passes is not raised in temperature. It is therefore possible by this system to keep a room comfortable, although the air in it may be from five to ten degrees below the temperature of the solid bodies in the room, and this result is generally secured when an open fire is used. It is much disputed whether it is injurious to health or even trying or uncomfortable to the individual after a little practice, to constantly inhale air heated to from  $65^{\circ}$  to  $75^{\circ}$  F. It is, however, indisputable, that those of us who have been accustomed to an open fire believe that we cannot with health, as we most certainly cannot with comfort, constantly inhale air heated artificially above  $50^{\circ}$  to  $55^{\circ}$  F., and that we feel that the heating of inspired air above about  $50^{\circ}$  F. should be done in the lungs and not by other means. Those who have travelled in Russia or America must have experienced great discomfort and some ill-health from the artificially heated air which they have been compelled to breathe in houses, railway carriages, and



elsewhere. Still, insular prejudice and habit may have much to do with this, although the physique of the women especially is certainly not improved by the systems at present in force in those countries. The truth seems to be that where the external temperature falls below  $10^{\circ}$  F. it is absolutely necessary to adopt furnace, steam, or hot water heating, although in these cases it is desirable to retain the open fireplace as a cheerful additional means of raising the temperature, and of maintaining adequate ventilation. Certainly, in the English climate, an open fireplace which provides for a fresh air supply, is, if carefully selected and fixed, a quite adequate means of heating an ordinary room in the coldest weather we are likely to experience. A few useful words may be said, perhaps, about other methods of heating which have been the result of the experience gained by Dr. Billings in America and elsewhere.

HOT AIR FURNACES.—In using these furnaces it is desirable that the following points should not be forgotten:—

(1) The furnace itself must be large enough for the work it has to do, or over-heating in cold weather will soon loosen the joints of the furnace, and cause the escape of hurtful gases into the dwelling-house.

(2) Provision must be made for mixing cool air with the heated air before its entrance into the rooms, or over-heating and discomfort will result.

(3) The sources of air supply to furnaces must be guarded from the entrance of contaminated gases,—that is to say, the air chamber must be kept absolutely clean and free from impurities, and the air-duct, if brought in underground, must be air-tight.



(4) The furnace should be placed at the side of the house against which the winter winds blow most frequently and strongest, rather than in the centre of the house or building, especially as horizontal flues cause great inward friction, which checks the current and involves loss of heat.

Finally, those furnaces which have the fewest joints and the largest amount of radiating surface in proportion to the size of the fire-box are the best. We must remember at the same time "that it is poor economy to buy a furnace which is not large enough to furnish, in the coldest weather, all the heat required without heating the fire-box to extra heat."

STEAM HEATING.—The advantages of this system are that the original outlay on plant is smaller, the difficulty of fixing a steam heating apparatus which will work being far less than in the case of hot water, and the radiating surfaces are kept at a higher temperature than when hot water is used. The apparatus can, therefore, be made smaller and more compact, and will occupy far less space. It is also easier, Dr. Billings adds, to "scamp" a steam heating job than a hot water one. Again, the general use of steam has made workmen more familiar with the boilers and fittings required for steam heating, and the plant can be everywhere obtained without difficulty. These are the reasons which have led to the general adoption of steam heating in the United States and elsewhere.

The disadvantages of this system are, however, important and must be borne in mind. (1) It requires constant attention, because the moment the production of steam in the boiler ceases, the coils begin to cool rapidly. (2) Owing to the high temperature of steam



as compared with hot water radiators, it is more difficult where steam is used to regulate the supply of heat in accordance with the changes of temperature in the external air. (3) A steam apparatus is more dangerous than a hot water one, although with proper care this point is not very material. In the case of hot water these objections are largely absent, and that system is probably by far the better of the two.

In conclusion, it may be well to add that Mr. Charles Hood, in the fifth edition of his book on *Warming Buildings by Hot Water*, bases his calculations, as to the amount of radiating surface required, upon the assumption that these radiators should be composed of cast-iron pipes four inches in diameter. The Americans prefer three-inch piping. For greenhouse purposes the best authorities agree that four-inch pipes are preferable, because a large body of hot water is required as a sort of storehouse of heat to guard against the effects of negligence in firing. It will also be useful to remember in calculations, that, including sockets, etc., 100 feet run of three-inch piping gives about 100 square feet of radiating surface. From a rule laid down by Mr. Hood, it appears that to heat 1000 feet of air per minute, using for this purpose three-inch piping, at a temperature of 180° F., and supposing the temperature of the external air to be at zero F., the amount of piping stated below under each temperature would be required to maintain the room at the following degrees of heat:—

Temperature at which room is to be kept.	55°	60°	65°	70°	75°
Number of feet of three-inch piping required for each 1000 feet of air per minute supplied.	330	375	424	477	536



It will thus be seen that Englishmen owe much to their climate after all, as it is of a nature to obviate the adoption of costly systems of heating which in practice form anything but unmixed blessings.

METHODS OF VENTILATION AND VARIOUS APPLIANCES.—There are four chief methods of artificial ventilation.

(1) Aspiration from above, by which system all the foul air flues are made to converge and enter a single shaft in the attic, in connection with which there is a furnace or coil of steam pipe to give additional heat and ascensional force to the air.

(2) Aspiration on a level or horizontally, in which case the foul air flues of each story are carried horizontally to the central shaft, which they enter at the level of the ceiling.

(3) Aspiration from below, in which the foul air flues are carried downwards to the cellar, where they are collected into a duct or ducts leading to the central upcast shaft.

(4) Combined aspiration upwards and downwards, in which case the foul air flues in the upper rooms are carried upwards as in the first system, and the remainder are carried downwards as stated in the third method.

It is not possible to consider in detail here the respective advantages and disadvantages of these various methods, but it may be stated that the third system is the least costly as regards maintenance; it also secures greater uniformity of action, and is more convenient to manage. On the other hand, and especially in an old building, the first system will be found much easier to apply, and will probably prove the only one which can be used.



Of the many and various appliances which are now offered to the public, the most useful inlet for fresh air is the Sheringham valve already described, provided the openings are directly in the outer walls and unconnected with the windows. Of Tobin's tubes Sir Douglas Galton has well said: "The main objection to these tubes is that they form very convenient receptacles for dirt, insects, cobwebs and dust, which after a time may injuriously affect the air passing through them. Moreover, inlets of this shape do not readily lend themselves to act the part of outlets when occasion requires, which is so convenient a feature of the Sheringham ventilator." Of syphons and syphon-like arrangements as exit flues for foul air, of cowls, and of the effect of Archimedean screw ventilators, Dr. Billings declares with truth, many fallacies and errors have from time to time been urged by writers on ventilation. He adds: "With regard to the various forms of Archimedean screw ventilators as usually made, they have no effect, unless driven by power independent of the wind. In calm weather, of course, all forms of cowls are entirely inoperative, except as furnishing more or less obstruction to the free egress of air; and on a still, warm day, when the temperature within a large building may be several degrees lower than that out of doors, there will be a tendency to a reversal of the current, and to down draughts through any form of cowl that can be devised." He is therefore sceptical of the utility of cowls, and he prefers a single shaft about three feet in diameter and properly capped. To those who desire to make themselves thoroughly acquainted with the whole field included in the heating and ventilation of houses and buildings of all kinds, we can confidently



recommend Dr. Billings' book, *The Principles of Ventilation and Heating, and their Practical Application* (Trübner & Co.), to which we are mainly indebted for all that is most valuable in this chapter. It is undoubtedly the best book which has yet been published on the subjects of which it treats, and no architect or other person who desires to understand these matters thoroughly or to possess practical knowledge should be without it.

GAS.—Whatever may be the case in the future, gas is, at the present time, the illuminant in the very great majority of houses; and though the sanitary objections to its use are considerable, it would be absurd to forbid it or to refuse to discuss it because it is objectionable. No one will need to be told that gas is greedy of oxygen; that it fouls the air and the ceilings; that it injures delicate fabrics and destroys the binding of books. On the other hand, it is easy to manage, needs but little care or cleansing, and is cheap in comparison with other modes of lighting. For preference, perhaps, nothing exceeds for effective and harmless lighting a good oil lamp, of which there is a great variety now-a-days.

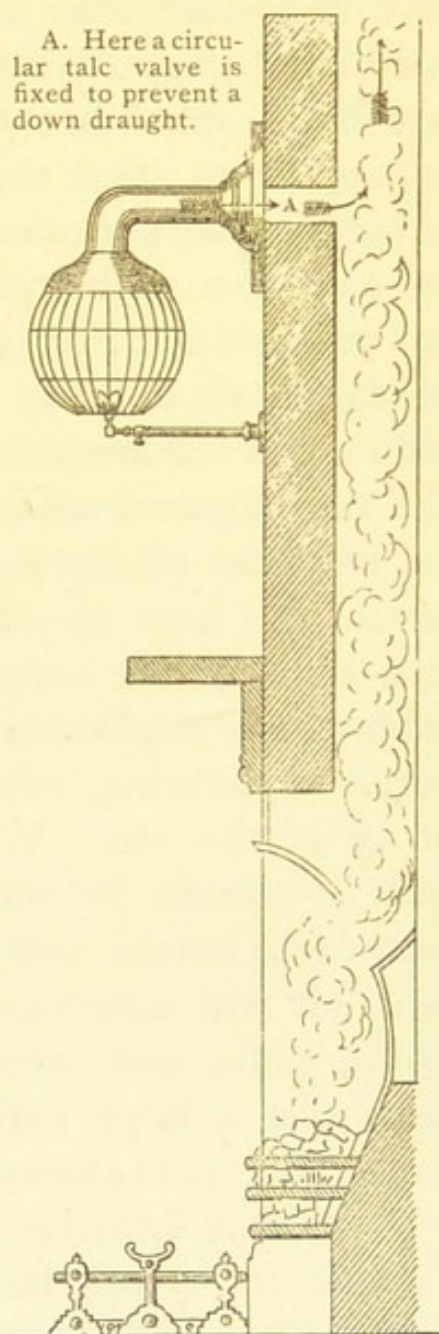


FIG. 19.



Assuming, however, that gas has to be used, it becomes needful to devise some means for the removal of the noxious products of its combustion. This need not be a very expensive matter. The choice of a burner is more important than most people seem to think. As an eminent gas authority recently remarked, when boots wear out people buy themselves new ones; but they do not appear to think the same principle should apply to burners. The periodical renovation of burners would not only give us better light, but would often decrease our gas bills. For preventing the fouling of the ceiling, a talc cover is very efficient; and it helps also to diminish the amount of carbon set loose into the air. The sun-burner is an excellent contrivance for removing not only the products of combustion, but the greater part of the heat as well. It is infinitely more sightly than some of the elaborate gasaliers that are now the fashion, and might often be substituted for them with increased lighting effect and with greatly improved purity of the air. When these sun-burners are not liked or cannot be used, a bell-shaped glass inverted over each burner and connected by tubing with the outer air will achieve much the same result. For bedrooms, halls, and other places where the diffusion of light over a large surface is not required, some such contrivance as is shown in fig. 19.

ELECTRIC LIGHTING.—Gigantic strides have during the last few years been taken in the development of lighting by electricity; but it cannot yet be said that the domestic lighting of individual houses by means of the electric current is as readily available as many householders would wish. So soon, however, as the electric light can be supplied to our homes as easily and as



cheaply as gas, then the days of the latter as an illuminant will be numbered. The electric light is almost precisely like sunlight, the spectra of the two being practically the same.

As to the cost of employing electric lighting for individual houses, no reliable figures are yet available, for such items as the price of coal vary in different localities to such an extent as to make estimates impossible. In many places it might be possible to employ water-power to drive the dynamo, and the working expense of the installation would thus be very materially reduced. But as a practical contribution to this question, the experience of the late Mr. Octavius Coope, M.P., at his country residence at Brentwood, may usefully be given. In letters to the *Times* of January 16, 1883, and January 25, 1884, Mr. Coope gave the following particulars relative to the actual cost and working expenses of an installation of incandescent lamps at his country house:—

*Cost of installation of 200 lights, each of 18 candle power.*

12-horse power engine and boiler, . . . . .	£300	6	0
Shafting and foundations, . . . . .	65	0	0
Four dynamo-electric machines, . . . . .	405	0	0
200 incandescent lamps, <sup>1</sup> . . . . .	55	0	0
200 sockets, . . . . .	10	0	0
Cables, wires, switches, cut-outs, . . . . .	66	4	0
Cutting, and making good, walls and floors, . . . . .	60	0	0
Erection, laying of wires, carriage, . . . . .	90	0	0
Buildings, . . . . .	150	0	0
Chandeliers and brackets, . . . . .	268	18	0
<hr/>			
Total cost, . . . . .	£1470	8	0

<sup>1</sup> The prices now paid for lamps and other fittings, etc., would be materially less than those given in this statement.



*Actual working expenses for one year, each lamp burning  
1823 hours.*

Coal, small, at 13s. 6d., mixed with coke at 18s. per ton, . . . . .	£90	0	0
Wages, engine-driver and lad, . . . . .	79	14	0
Renewal of lamps, <sup>1</sup> 300 at 5s., . . . . .	75	0	0
Oil, cotton waste, etc., . . . . .	20	0	0
Repairs, . . . . .	5	8	1
Sundry small items and expenses, . . . . .	7	16	8
Depreciation of machinery at 10 per cent., . . . . .	78	0	0
„ conductors at 5 per cent., . . . . .	4	0	0
Total working expenses, . . . . .	£359	18	9

Or '95 of a farthing per lamp per hour.

The lamps were actually employed for 1823 hours instead of for 1150 hours as intended; and hence, though the actual working expenses for the year exceeded the estimate, the expense of each lamp per hour was found in practice to be less than had been anticipated.

To produce an equal amount of illumination with gas, the estimated cost of the necessary plant was £1333 18s., and the estimated working expenses £400 per annum. Hence it appears that though the prime cost of the electrical installation was rather more than what a gas installation would have required, still the annual expenses in the latter case would have been in excess of those of the electric installation.

<sup>1</sup> The cost of lamps and other appliances is now much cheapened.



## CHAPTER X.

### MATTER IN THE WRONG PLACE.

*Dust in Living Rooms—Dust-bins—Removal of Refuse—Dry Methods of Disposal of Excreta—Dry Earth System—Pail System—Middens—Slop-water—Disinfection.*

DUST IN LIVING ROOMS.—The one great object of the householder is, or should be, to banish dirt—in all its Protean forms—from his precincts. It is with this object that he provides himself with drains and sinks, that he lays on water, that he sets up a dust-bin, and that he, or his wife, engages parlour-maids. Dust obtrudes itself everywhere, unless the household is perpetually on the alert against it. For these reasons every unnecessary cornice, or cupboard, or curtain, or hanging should be sternly repressed. Carpets ought never to cover the whole surface of a floor. They should be placed in the centre, with rugs in addition here and there and where necessary, and the floor of the room should either be stained and beeswaxed, or covered with parquet flooring. Carpets should never be allowed under a bed. Really all that is necessary in a bedroom is to have some wide strips of carpet at the sides of the bed and dressing table. All articles of furniture, even the heaviest, should be made to run on castors. Behind wardrobes is a favourite resting-place for dust.

DUST-BINS.—All vegetable or animal refuse should



be, as far as possible, burnt in the kitchen fire. This is not difficult of accomplishment, if only a little pains be taken. The dust-bin of towns need not be the offensive adjunct of a house that it too often is at present, if more care were taken to dry the matters before depositing them in it. No useful purpose can be served by drawing a lurid picture of the contents of a dust-bin as at present constituted, but the dangers to health of an ill-kept receptacle of the kind are very real. Dust-bins in towns ought certainly to be emptied once a week in winter, and at least twice a week in summer. No vegetable matters, or anything of a decaying character, ought to be allowed to be thrown into a dust-bin. Dust and dry matters should alone be permitted to enter it. It would, however, be far better to abolish the dust-bin entirely, and in its place to have a small galvanized iron tub with a cover and a couple of handles, so made that the dustman can lift it up bodily and empty it into his cart. A dust-bin of this kind can be completely emptied once a week, and thoroughly washed out with soda and water, or, if desired, with Sanitas, Condyl's Fluid, or some other disinfectant.

But as dust-bins must for the present be tolerated, it is well that they should be constructed on proper principles. The chief points to be observed as to the receptacles for refuse are—1st, that the receptacle, whatever it is, shall be at least six feet away from the house, in order to prevent nuisance arising from the decomposition of its contents; 2nd, that it shall, if a well or spring exists on the premises, be far enough removed therefrom to prevent contamination of the water; 3rd, that its position shall be such that the



contents can be removed without being carried through the house; 4th, that its capacity shall in no case exceed six cubic feet, or such less amount as may be sufficient to contain the refuse for a period not exceeding one week. This provision is made with a view to ensure the regular removal of dust at least weekly. Lastly, ash-pits should be constructed of impervious materials and be properly protected from rain by a roof. A tub or other suitable means of removing the refuse should also be provided, which must be so constructed that when closed the escape of its contents shall be prevented.

REMOVAL OF REFUSE.—In most populous places the removal of refuse is placed in the hands of contractors, under the supposed control of the Local Authority. The dustmen are usually very troublesome people to manage. They come at wrong times, or do not come at all, and they are insolent if they do not receive gratuities. This annoyance has happily been met, as regards London, by a provision in section 30 (3) of the Act of 1891, that “if any person in the employ of the sanitary authority, or of any contractor with the sanitary authority, demands from an occupier or his servant any fee or gratuity for removing any house refuse from any premises he shall be liable to a fine not exceeding twenty shillings.” If there is any difficulty in getting the refuse removed, a letter to the Department of Works of the Local Authority or to the Sanitary Inspector will usually secure what is required. Failing that, application can be made at a Police Court. It is as well to know that dust-contractors are not bound to remove trade refuse; a special arrangement in that case must be made.



DRY METHODS OF DISPOSAL OF EXCRETA.—In a previous chapter the methods of disposing of sewage by the agency of water have been dealt with. It will often happen that for some reason or another it is impossible or inexpedient to adopt the water carriage system, and it becomes necessary to choose some other method of disposing of the excreta. In several of the large towns in the north, the various forms of the tub or pail system are in use. With these we need not deal, as the householder has in such cases no option but to adopt the system arranged by the Local Authorities, and to comply with their regulations. But in cases where the householder is free to act as he pleases, there can be no doubt that the system devised by the late Rev. Henry Moule, and known as the *dry earth system*, is the best. The system consists in the application of dry earth to the fresh excreta, the result of which is not only to render the latter inoffensive, but to effect so complete and rapid a change in them that their original character cannot be recognised. It is necessary to have the earth very dry and finely sifted; and in order that the process shall be successful, it is absolutely necessary to prevent slop-water from being mixed with the earth. The kind of earth best suited for the purpose is loam. Clay is theoretically the best, but practically difficult to manage. Sand, gravel, and chalk are useless.

A very efficient method of excrement disposal is that adopted by the Marquis of Northampton for the cottages on his estate at Castle Ashby. The receptacle is small, above the ground level, and immediately under the seat, and it is of such a size as to require emptying about once a week for an ordinary family. The floor



is cemented and sloped in such a manner that the receptacle is easily emptied with an ordinary spade through a hinged lid at the back. It is expected that the ashes will be thrown in at the hinged lid also, and when this is done, so that all liquid matter is soaked up by them, the result is perfect. A small quantity of dry earth may be thrown in just before emptying to soak up the liquid, and a little more may be cast after the pan has been thoroughly cleansed. This closet is the most simple and effective that has been brought under the writer's notice, and only requires attention about once a week. The manure is very valuable for garden purposes, a fact which is distinctly advantageous, as even the smallest cottage in the country has usually its piece of garden ground.

Concerning other systems, the *pail system* is not to be despised, though it is not so simple as the one just described. The pail is apt to get very clogged and foul. If carefully attended to it is efficient, and may in many cases be usefully adopted. There can be no doubt, however, that the *dry earth closet* is in many respects *the* closet for rural districts. It is by far the most efficient, and should certainly be used if the closet cannot be effectually cut off from the house.

This leads us to speak of the situation of the closet. In the country it is very frequently placed at the end of the garden, but there are many disadvantages in this. Delicate and elderly people ought not to have to face the weather whenever they require relief, and if the accommodation is inconveniently distant they are apt to put off such duties until further troubles may be produced. The closet is best isolated from the house by a short, cross-ventilated passage with double doors,



and then any of the three closets we have just named may be used; but if it is necessary to have a closet quite in the house, the earth closet should be adopted. The great drawback to earth closets is the constant attention they entail, owing to the necessity for the frequent renewal of dry earth. Though adopted in many places, they have often been discarded on this account. This ought not to be an insuperable difficulty. People should keep their servants well in hand. A man should be told off for this duty, and if he does not attend to it regularly another should be employed in his stead.

As this book is intended for householders who have little, if any, technical knowledge, some other closets may be shortly mentioned to prevent their use and explain their dangers. The old *common midden*, uncemented and foul, is a source of pollution to the air, ground, and water in its neighbourhood. The same cemented is almost worse. The liquid does not drain off, the contents form a foul seething mass, and it is frequently only when it is absolutely unbearable that it is at last emptied. Sometimes the midden is cemented and communicates with the ashpit, into which the ashes are thrown, with the idea of soaking up the liquid portion and rendering it less offensive. Theoretically this arrangement is an improvement, and it is common in some country districts; but practically it is never anything but a nuisance, as the cesspool is always too large and the contents never sufficiently dry to prevent smell.

It is impossible in a short treatise to go into the different kinds of earth closets, ash closets, etc. Most earth closets now sold are very good and useful for dis-



tributing the earth over the soil matter, if it is not desirable that it should be done each time by hand. There are also cinder sifters invented for use in closets, by which the richer country people may benefit.

SLOP-WATER.—Slop-water is a fertile source of trouble both in town and in country. In town it clogs up the soil-pipe and creates objectionable smells; in the country it is thrown carelessly upon the ground to make its way to the nearest ditch or water-course. Slop-water in a town house is best disposed of by pouring it down a wide grating communicating with the main drain at the back of the house. In the country it may be carried by a drain to a small water-tight tank in the garden, whence it can be ladled out as occasion may require, or it may be distributed in common agricultural pipe drains under the garden by sub-irrigation.

The great drawback to this process used to be that, as only small dribblets escaped at a time, they never went far along such drains; but by the use of Mr. Field's flush tank this difficulty is now obviated. By means of this tank the small quantities are held up till the tank is full, when a self-acting syphon comes into play which discharges the whole contents at once, so that they are carried along the sub-soil drains for some distance. The flush tanks must be cleaned out periodically, and the drains will require re-laying after a certain time, or they will become permanently blocked. It may or may not be necessary to underdrain the ground also; that is a matter which will depend chiefly on the character of the soil. Care must of course be taken not to contaminate the drinking-water supply. This plan is so cleanly, so inexpensive, and so simple, that with very few exceptions it ought to be urged for almost



universal adoption; and there is no doubt that the drain water thus applied is of great service to the crops.

A common plan of treating the slop-water in the country is to run it into the nearest brook. This is an insanitary and dangerous practice which ought to be prohibited by law.

DISINFECTANTS.—The best disinfectant is fresh air or soap and water. What Sir John Simon once characteristically called “vague chemical libations or powderings” of strongly smelling substances calling themselves “disinfectants,” take the place of these in the economy of many households. To mask one nasty smell by another is not true “disinfection”; and the proper plan is, when an unpleasant smell arises, to track it to its lair and root out its cause. In a healthy house there is no real occasion for disinfectants at all. If, however, occasion should arise for their use for household purposes, one of the best and simplest of the compounds now in use is “Sanitas,” which has an agreeable smell and has certain antiseptic properties of its own. The use of disinfectants in sickness will be found fully described in another chapter.



## CHAPTER XI.

### SANITARY POWERS AND DUTIES OF THE CITIZEN.

*Nuisances—Inspectors of Nuisances—Duties of Local Authorities as to Nuisances—Powers of Entry on Premises—Default on the part of Authorities—Special Insanitary Conditions and their Remedies—Drainage—Water and other Closets—Refuse and Filth Removal—Foul Ditches—Bakehouses—Animals—Filthy and Uninhabitable Houses—Overcrowding—Water Supplies—Cellar Dwellings—Common Lodging-houses and Houses Let in Lodgings—Offensive Trades—Unsound Meat—Infectious Diseases—Other Nuisances—Exceptions and Explanations.*

CIVILIZED life is now so complicated an affair that the health of an individual is by no means a matter which his own care and caution will suffice to safeguard. As a member of a community, he is subject to physical and social disturbances which the carelessness or recklessness of neighbours may inflict upon him. It has for many generations past been necessary, therefore, to forbid by law the performance of certain acts or the omission of certain precautions. A person may catch an infectious disease through the improper exposure of another who is suffering from that disease; he may get blood-poisoning from an offensive or imperfect drain; he may suffer discomfort, if not actual sickness, from nuisances of various kinds which his neighbour may



create. Accordingly the law steps in and lays down certain rules which every citizen must obey under penalty of a money fine or even of imprisonment. So much ignorance exists as to the legal powers and duties of individuals with regard to sanitary matters, that it has been thought well to add a chapter on this subject to a book which deals with health in all its many and various phases. But only the briefest indication of the main features of our somewhat intricate sanitary laws can be attempted here.

It may be well to point out the somewhat curious circumstance, for which no adequate reason has ever been forthcoming, that London is for the most part subject to different sanitary enactments from those which apply to the rest of the country. In 1875 the chaotic Sanitary Acts were, as regards extra-metropolitan England and Wales, consolidated into the famous Public Health Act which, with the numerous minor measures since enacted, still continues to govern sanitary affairs outside London. But the metropolis had to wait until 1891 for a satisfactory consolidation and strengthening of its sanitary law, which up to that time had been scattered throughout some thirty separate enactments. The Public Health (London) Act, 1891, is greatly stronger than the measure of 1875, and whereas hitherto London has been struggling to get on at least even terms with the rest of the country in this matter, the provinces are now in a worse position than the metropolis.

NUISANCES.—First, then, as to “nuisances,” which are more or less within the experience of everybody.

By section 91 of the Public Health Act, 1875, which is the law governing sanitary matters throughout Eng-



land and Wales with the exception of the metropolis, a "nuisance" is defined as—

"1. Any premises in such a state as to be a nuisance or injurious to health :

"2. Any pool, ditch, gutter, water-course, privy, urinal, cesspool, drain, or ashpit, so foul or in such a state as to be a nuisance or injurious to health :

"3. Any animal so kept as to be a nuisance or injurious to health :

"4. Any accumulation or deposit which is a nuisance or injurious to health :

"5. Any house or part of a house so overcrowded as to be dangerous or injurious to the health of the inmates, whether or not members of the same family :

"6. Any factory, workshop, or workplace not kept in a cleanly state, or not ventilated in such a manner as to render harmless, as far as practicable, any gases, vapours, dust, or other impurities generated in the course of the work carried on therein, that are a nuisance or injurious to health, or so overcrowded while work is carried on as to be dangerous or injurious to the health of those employed therein :

"7. Any fireplace or furnace which does not, as far as practicable, consume the smoke arising from the combustible used therein, and which is used for working engines by steam, or in any mill, factory, dyehouse, brewery, bakehouse, or gaswork, or in any manufacturing or trade process whatsoever ; and any chimney (not being the chimney of a private dwelling-house) sending forth black smoke in such quantity as to be a nuisance."

These are nuisances liable to be dealt with summarily in the manner provided for by the Act—

"Provided—*First.* That a penalty shall not be



imposed on any person in respect of any accumulation or deposit necessary for the effectual carrying on any business or manufacture, if it be proved to the satisfaction of the Court that the accumulation or deposit has not been kept longer than is necessary for the purposes of the business or manufacture, and that the best available means have been taken for preventing injury thereby to the public health.

“*Secondly.* That where a person is summoned before any Court in respect of a nuisance arising from a fireplace or furnace which does not consume the smoke arising from the combustible used in such fireplace or furnace, the Court shall hold that no nuisance is created within the meaning of this Act, and dismiss the complaint, if it is satisfied that such fireplace or furnace is constructed in such manner as to consume, as far as practicable, having regard to the nature of the manufacture or trade, all smoke arising therefrom, and that such fireplace or furnace has been carefully attended to by the person having the charge thereof.”

In the London Act of 1891 this definition of a nuisance is extended to include circumstances which are “dangerous” to health, and the procedure for securing abatement is much simplified and strengthened. It is also worth noting that the new London Act puts the duty of discovering and abating nuisances much more definitely upon the Sanitary Authorities than does the Act of 1875; it provides that information of a nuisance liable to be dealt with summarily may be given to the Sanitary Authority by “any person,” and that the Authority *shall* proceed to verify and act on such information. Generally its provisions are much more stringent than those of the older Act.



INSPECTORS OF NUISANCES.—The powers with which the Legislature has entrusted Sanitary Authorities in respect to nuisances and other conditions injurious to health are varied and extensive, and the steps to be taken preliminary to the exercise of those powers devolve to a very large extent upon two officers, the Medical Officer of Health and the Inspector of Nuisances or, as he is now to be called in London, the Sanitary Inspector. Of these the latter has perhaps the greater contact with the people, and hence it would be difficult to over-estimate his importance if the duties properly attaching to his office are efficiently performed. To him complaint is commonly first made of nuisances or other unlawful conditions existing upon the complainant's or other premises. It is he who puts the law in force against the purveyor whose stock includes unwholesome food apparently intended for human consumption; it is generally his duty to obtain samples of food, drink, and drugs to be tested for adulteration, and he requisitions the services of the Medical Officer of Health in cases having a medical bearing.

Inspectors of Nuisances are appointed strictly by the local Sanitary Authorities, and so far as regards their special duties they may be divided into two classes—those appointed simply under the Public Health Act of 1875, or some Local Act, and those the details of whose appointments made pursuant to the law are regulated by a General Order of the Local Government Board. The Board are empowered on the application of the Authority to authorise the repayment to the latter by the County Council of half of the salary of the inspector if the terms of his appointment appear satisfactory, and in all cases of such application the Authority have to



produce evidence that the arrangements which they propose for the discharge of the duties are such as may reasonably be expected to conduce to efficient administration and supervision. Such evidence must show among other things that the officer is not so young as to be unqualified from inexperience, or on the other hand so advanced in years as to be disqualified by old age and infirmity; that his antecedents (if any) in the public service are satisfactory; that he does not suffer from pecuniary embarrassment; and that any other office or occupation which he may be permitted to hold or engage in is not of a nature to interfere with or militate against the proper performance of his duties as inspector. Thus an innkeeper would not be allowed to hold office as inspector under the Order, neither could the post be given to a clerk already serving under the Authority; but it is common and convenient for the inspector to hold also the surveyorship under the same Authority. As regards London the Act of 1891 provides that every sanitary inspector appointed after 1st January, 1895, must be specially qualified and hold a certificate from some competent authorised examining body. The duties required to be performed by an officer whose appointment is sanctioned by the Local Government Board are set out as regards the provinces by that Board in an Order dated 23rd March, 1891, and as regards London in an Order dated 8th December, 1891. Unfortunately the Board have no power to prescribe duties for Inspectors of Nuisances to Authorities who do not seek repayment from the County Fund, and who are therefore at liberty to determine the extent of their officer's action. This is much to be regretted, for it is undeniable that some Authorities evince a complete



want of an effective sense of sanitary propriety; and sometimes from ignorance, but more often from unwillingness to make the necessary expenditure which would prove to be the wisest economy, they put off what they regard as the evil day of improvement until the occurrence of an outbreak of some spreading disease excites public feeling. Then some works mainly directed strictly to the occasion are undertaken, and the hands of the inspector are for a little while full. With such an Authority the office is for the most part a sinecure; for, although legally bound to make an appointment, they give but a nominal salary, and get a correspondingly small amount of work done. Between the two extremes are many stages, and some Authorities, although not in receipt of extraneous assistance towards the inspector's salary, have elected—to their credit it must be said—to adopt for their officer the duties prescribed by the Local Government Board.

DUTIES OF LOCAL AUTHORITIES AS TO NUISANCES.—Having thus seen what constitute nuisances from the sanitary point of view, and also the status of the officials appointed to carry the law into effect, it will now be convenient to notice the principal powers and duties which are possessed by or devolve upon the Local Authorities to deal with such nuisances and with other conditions liable to be generally objectionable and troublesome, and which the Authorities may empower or direct their inspector to exercise on their behalf. It may possibly be thought that the list of matters presented below is very extended and includes conditions scarcely likely to arise; but it must be borne in mind that the law is intended to reach conditions obtaining in the lowest circumstances as well as those in which



money and influence rule, and that not a few of these are quite undreamt of by many persons in a higher sphere. Thus the inconveniences which the provisions respecting cellar dwellings, and such like, are intended to meet, apply primarily to localities in which very often a whole family occupy a single room, and the questionable morality and general "lowness" of the majority of the inhabitants is only equalled by the unwholesomeness of the premises and the lack of common decency in the accommodation. But the same provisions apply also to a better class of house in which, owing to the value of ground, the "half-sunk basement" occurs. Again, a tenant's health may suffer from insanitary conditions, the result on the one hand of the negligence or callousness of a rapacious landlord, or on the other hand of the selfishness or carelessness of an unneighbourly neighbour, and for these evils remedies must be provided. Or, he may suddenly find the sparkling little brook from which his drinking supply is derived turbid and stinking, from some cause beyond his reach or outside his district, and here he may effectively invoke the aid of his Authority. The Legislature does not, however, provide only for the sins of commission or omission of individuals. It regards as equally possible that even an Authority may neglect their duty, and to meet this a still higher power must be available to stir the defaulting body into activity.

In looking at the powers and duties on both sides we will regard first the provisions as to nuisances generally, and afterwards some special enactments designed for particular cases.

INSPECTION OF DISTRICT.—It is the duty of the Sanitary Authority, under section 92 of the Public



Health Act, 1875, and section 1 of the Public Health (London) Act, 1891, to have their district examined from time to time, to ascertain whether nuisances exist, and to receive and act upon reports made to them thereon by their officers. The Housing of the Working Classes Act, 1890 (sec. 32), also imposes duties on the Authority in this matter.

COMPLAINTS.—Besides the official reports, a complaint of a nuisance may be made to the Authority by any person aggrieved thereby, by any *two* inhabitant householders, or by any officer of the Authority, or by the relieving officer, or by any constable or police officer of the district (sec. 93 of the Public Health Act, 1875). Complaint may also be made direct to a justice. In this case it may be made by a person aggrieved, or by *any* inhabitant, or any owner of premises within the district (sec. 105 of above-mentioned Act).

In London, complaints or information of a nuisance may be made by “any person,” without qualification, and every such complaint must be promptly dealt with by the Local Authority. (See sections 3, 4 and 12 of Public Health (London) Act, 1891.)

POWER OF ENTRY.—*Its Object.*—On the Authority receiving a complaint, their first duty is to satisfy themselves as to its justness or otherwise, and their knowledge on this point must be acquired by examination of the premises. This introduces us to a very special power on the part of the Authority by virtue of which the Englishman’s castle loses its proverbial impregnability. This power is one of entry upon any premises, and is conferred as regards nuisances in general by section 102 of the Public Health Act, 1875, and section 10 of the Public Health (London) Act, 1891,



and specially as regards drains, water closets, earth closets, privies, ashpits, and cesspools by section 41 of the Act of 1875 and section 40 of the Act of 1891, and as regards water supply in rural districts by the Public Health (Water) Act, 1878 (sec. 7). Admission may also be claimed by the Local Authority to see that their notices of abatement of nuisances are carried out, or their requisitions for execution of works complied with, or, if not, to execute all necessary works themselves.

*Who may Enter.*—This power of entry is, as regards general nuisances and water supply, given to the Authority or any of their officers, but in the latter case it is exercisable also by any person authorised *in writing* by the Authority, while in the case of drains, etc., the Authority may, *on a written complaint*, empower their Surveyor or Inspector of Nuisances to enter. When the complaint is made by a private person direct to a justice, the Court may address their admission order to any constable or other person whose powers and restrictions are then similar to those of an officer of the Authority (sec. 105 of Act of 1875).

*Hours of Entry.*—The power of entry thus conferred must be exercised between 9 A.M. and 6 P.M. outside of London, and “at any hour by day” in the metropolis, except in the case of a business, in which case the examination may be made at any hour when such business is in progress or is usually carried on (sec. 102 of Public Health Act, 1875, and sec. 10 of the London Act of 1891).

*Enforcement of Power of Entry.*—If admission for any of the purposes above mentioned is refused by the person in charge of the premises, complaint of the same may be made on oath before a justice by any officer of the Authority after notice to such custodian,



and the justice may make an order requiring the latter to admit the Authority or their officer, and if no person having custody of the premises can be found may make a further order giving them power to enter. Any such order holds good until all requisite works are done (sec. 102 of Public Health Act, 1875). The penalty for refusing to obey the order of Court is £5 (sec. 103).

It will not be necessary in this place to give details of the exact procedure by which a Local Authority can obtain and insist upon the abatement of a nuisance. Ample powers are, however, given to them for this purpose by the Public Health Acts.

DEFAULTING AUTHORITY.—If an Authority outside London neglect their duty in regard to nuisances—as for instance by omitting to do things which may be necessary, or failing to attend to repeated complaints—they may be reported, by any person interested, to the Local Government Board, and that Board, if satisfied of such default, may authorise any police officer in the district to take the regular proceedings and exercise the usual power of entry. Hence, if admission be refused the police must obtain a justice's warrant of admission, or, if necessary, of authority to force an entrance (sec. 106 of Act of 1875). We believe, however, that these extreme powers have never been called into requisition. In London the power of intervention in the first place rests with the County Council (secs. 100 and 101 of the Act of 1891).

#### SPECIAL INSANITARY CONDITIONS AND THEIR REMEDIES.

DRAINAGE.—If a house is without effectual drainage and a sewer is within a hundred feet of it, the Sanitary



Authority may require the owner or occupier to connect it with the sewer; or if not, then to connect it with some covered cesspool or other receptacle, the works to be subject to the surveyor's approval. In default of compliance the Authority may do what is necessary themselves at the cost of the owner (sec. 23 of Public Health Act, 1875). A house may not be newly erected or rebuilt in an urban district without effectual drainage, under a penalty of £50 (sec. 25). If the Authority deem a drain, though sufficient for the house, not convenient for their system of sewerage, they may close it, but they must substitute an effectual drain for it (sec. 24). A house may not be built over a sewer of an Urban Authority without their consent, under a penalty of £5, and 40s. a day after the Authority have given notice (sec. 26 of Act of 1875).

WATER CLOSETS, EARTH CLOSETS, PRIVIES, AND ASHPITS.—A house may not be newly erected or rebuilt outside the metropolis without "a sufficient water closet, earth closet, or privy" and a covered ashpit, or in London without a proper ashpit and one or more water closets, under a penalty of £20 (sec. 35 of Act of 1875, and sec. 37 of Act of 1891). If an existing house is without proper accommodation in these respects, the Authority may require the owner or occupier to provide it, and in default do the work and recover from the owner (sec. 36 of Act of 1875, and sec. 37 of London Act). In a house intended as a factory, separate accommodation must be provided for each sex, under a penalty of £20, and 40s. a day (sec. 38 of each of the Acts). The penalty for allowing the contents of any water closet, privy, or cesspool to overflow or soak therefrom is 40s., and 5s. a day (sec. 47 of Act of 1875).



POWER TO EXAMINE DRAINS, CLOSETS, etc.—On a *written* complaint that any drain, water closet, earth closet, privy, ashpit, or cesspool is “a nuisance or injurious to health, but not otherwise,” the Authority may with, or in any case of emergency without, notice to the occupier, empower the Surveyor or Inspector of Nuisances to enter the premises with or without assistants, and cause the ground to be opened and examine the drain, etc. If the drain, etc., is found to be in a proper condition the Authority must close the ground and make good any damage. Otherwise the Authority may proceed as in a case of nuisance. The penalty for non-compliance with the Authority’s order of abatement is 10s. a day (sec. 41 of Act of 1875, and sec. 40 of Act of 1891).

REFUSE MATTER, FILTH, etc.—In London it is the duty of the Sanitary Authority to secure the removal of house refuse and the cleansing of any ashpits, privies, cesspools, etc., and to appoint sufficient scavengers for this purpose and also for the sweeping and cleansing of the streets and footways (secs. 29-36 of the London Act of 1891). In the provinces the duty is optional. If an Authority undertake to remove refuse and cleanse earth closets, privies, ashpits, etc., they or their agents must be allowed to do so, unless an occupier elects to dispose of his own refuse, in which case he must keep it so as not to be a nuisance (sec. 42 of Public Health Act, 1875). But if he request the Authority in writing to remove his refuse, etc., they are bound to do so within seven days, unless they make reasonable excuse, under a penalty of 5s. a day (sec. 43). If the Authority do not undertake or contract for the work, they may make bye-laws imposing the duty on occupiers. An Urban Authority



may also make bye-laws for the prevention of nuisances from snow, filth, dust, ashes, and rubbish, and for regulating the keeping of animals (sec. 44).

In an urban district the inspector may require the owner of any manure, dung, soil, filth, or other offensive or noxious matter, or the occupier of the premises on which it exists, to remove it within twenty-four hours, and in default of compliance the Authority may remove it, sell it to defray expenses, and hand over the balance (if any) to the owner (sec. 49 of Act of 1875). The Authority also may by public notice require the periodical removal of stable refuse. The penalty for default is 20s. a day (sec. 50). Somewhat similar provisions are in force in London (secs. 35 and 36 of Act of 1891).

**FOUL DITCHES.**—In the provinces, if a ditch or water-course forming or lying near to the boundary between two adjoining districts is injuriously offensive, a justice may, on the complaint of one of the Authorities, direct the execution of the necessary works, and decide as to who shall do them, and as to costs (sec. 48 of Act of 1875). In London full powers are given by sec. 43 of the Act of 1891.

**BAKEHOUSES.**—A bakehouse must not have within it or communicating directly with it any water closet, earth closet, privy, or ashpit. Any cistern for supplying water to the bakehouse must be separate and distinct from any cistern for supplying water to a water closet. No drain which carries fæcal matter may open into it. Penalty, 40s., and 5s. a day. No premises unfit on sanitary grounds as a bakehouse may be used as such, under a penalty on summary conviction of 40s. for first offence, and £5 for any subsequent one (sec. 15 of the Factory and Workshop Act, 1883, and sec. 26 of



Public Health (London) Act, 1891). No person may sleep in a bakehouse, in a place having a population of over 5000 persons. The Medical Officer of Health has power of entry into a retail bakehouse at all reasonable times by day and night (secs. 35 and 68 of the Factory and Workshop Act, 1878, and sec. 17 of the Factory and Workshop Act, 1883).

ANIMALS.—In an urban district keeping pigs in a dwelling-house so as to be a nuisance, or suffering stagnant water to remain in a cellar, renders the offender liable to a fine of 40s., and 5s. a day (sec. 47 of the Public Health Act, 1875). In the provinces, bye-laws “may” (in London, they “shall”) be made by Local Authorities regulating the keeping of animals on premises (sec. 44 of the Act of 1875, and sec. 16 of the London Act of 1891).

FILTHY HOUSES.—If a house is so filthy or unwholesome as to be injurious or dangerous to health, or requires cleansing to prevent or check infectious disease, the owner or occupier on notice from the Authority must cleanse it accordingly, under a penalty of 10s. a day. The action of the Authority must be taken on the certificate of the Medical Officer of Health or of any two medical practitioners (sec. 46 of Public Health Act, 1875).

UNINHABITABLE HOUSES may be closed by a justice until rendered fit for habitation. Very stringent provisions dealing with this question are contained in the Housing of the Working Classes Act, 1890. It is therein made the explicit “duty of the Medical Officer of Health of every district to represent to the Local Authority of that district any dwelling-house which appears to him to be in a state so dangerous



or injurious to health as to be unfit for human habitation." Full powers are at the same time given to the Local Authority to deal firmly with any such cases. Powers are also given for dealing with unhealthy areas on a larger scale than that as to unhealthy dwelling-houses.

OVERCROWDING.—On two convictions taking place within three months relative to the same premises, irrespective of ownership, a justice may direct the closing of the house for such period as he may deem necessary (sec. 109 of Public Health Act, 1875, and sec. 7 of Public Health (London) Act, 1891).

WATER SUPPLY.—*Waste and Fouling*.—When the Authority undertake to supply water they are invested with the general powers of a water company for preventing waste and fouling the supply.

*Compulsory Provision*.—When a house is without a proper supply the Authority may require the owner to provide it if it can be obtained at a cost of 2d. a week, or at a reasonable cost, the reasonableness to be determined by the Local Government Board (sec. 62 of Public Health Act, 1875). A Rural Authority, however, is only bound to see to the sufficiency, etc., of the supply in the case of occupied dwelling-houses (Public Health (Water) Act, 1878), except in cases where danger arises to the health of the inhabitants from the insufficiency or unwholesomeness of the existing supply, and a general scheme is required and the supply can be got at a reasonable cost.

An appeal may be made against an order of a Rural Authority on any or all of the following grounds:—

1. That the supply is not required; or
2. That the time limited by the notice for providing the supply is not sufficient; or



3. That it is impracticable to provide the supply at a reasonable cost ; or

4. That the Authority ought themselves to provide a supply of water for the district or contributory place in which the house is situate, or to render the existing supply wholesome ; or

5. That the whole or part of the expense of providing the supply, or of rendering the existing supply wholesome, ought to be a charge on the district or contributory place.

The appeal is to be made by memorial to the Authority, to whom it must be addressed within twenty-one days after service of their second notice, the final decision resting with a justice, or, if the fifth or fourth objections are made, with the Local Government Board (sec. 4 of Public Health (Water) Act, 1878).

*Fouling Water by Gas Washings or Products* or by any act connected with the manufacture or supply of gas, renders the offender liable to a penalty of £200, and, after notice from the Authority or the owner of the water, £20 a day, recoverable in any of the superior Courts (sec. 68 of the Public Health Act, 1875).

*Polluted Wells*, if the water in them be so polluted as to be injurious to health, may be closed by a justice permanently or temporarily, or he may order that the water be used only for certain purposes. On default of the person to whom the order is addressed, the Authority may be authorised to do the work and recover from such person (sec. 70 of Public Health Act, 1875).

In London the water supply is regulated by the Metropolis Water Acts of 1852 and 1871, and by the



several Acts of the eight water companies. Various provisions for securing a proper water supply are contained in secs. 48 to 54 of the Public Health (London) Act, 1891.

CELLAR DWELLINGS may not now be built, and an existing cellar (in which term is included any underground room) may not be used separately as a dwelling unless it is at least seven feet high in every part, three feet of which must be above ground, unless it has an open area two feet six inches wide along its entire frontage and six inches below the floor level, unless it is effectually drained, unless it has a proper closet and an ashpit as appurtenances, and unless it has a fireplace with a proper flue, and a window. The penalty for contravention, recoverable from the person who lets or occupies the cellar, is 20s. a day after notice from the Authority. After two convictions in respect of the same cellar, a justice may close such cellar for such time as he may deem necessary (secs. 71-75 of Public Health Act, 1875).

In London the provisions as to the use of "underground rooms" are even more stringent (secs. 96-98 of Public Health (London) Act, 1891).

COMMON LODGING-HOUSES.—A house may not be kept as a common lodging-house unless registered as such by the Authority, who may refuse to register it unless it is certified by one of their officers as fit for the purpose, and they may make bye-laws for fixing the number of lodgers, the separation of the sexes, the cleanliness and ventilation of the house, the giving of notice to the Relieving Officer and to the Medical Officer of Health of cases of fever or infectious disease, and generally for the well-ordering of the house. Any officer of the Authority has right of *free access* to such



houses at all times. The penalty for not properly reporting the inmates or the cases of infectious disease is £5, and 40s. a day during default (secs. 76-89 of Public Health Act, 1875).

In London, common lodging-houses are at present under the supervision of the police, and not of the Sanitary Authorities.

HOUSES LET IN LODGINGS.—Local Authorities may make bye-laws—

1. For fixing or varying the number of lodgers :
2. For the registration of the houses :
3. For the inspection of the houses :
4. For enforcing drainage, privy accommodation, cleanliness, and ventilation :
5. For the cleansing and lime-washing of the premises and paving of courtyards :
6. For the giving of notices and the taking of precautions in case of any infectious disease (sec. 90 of Public Health Act, 1875, and sec. 8 of the Housing of the Working Classes Act, 1885).

In London the making and enforcing of such bye-laws is compulsory (sec. 94 of Public Health (London) Act, 1891).

OFFENSIVE TRADES.—These are any trades which operate noxiously or offensively, but especially blood-boiling, bone-boiling and crushing, fellmongering, soap-boiling, tallow-melting, tripe-boiling, and slaughtering, and these may not be newly established without the Authority's consent. Complaint of nuisance in existing businesses must be made by the Medical Officer of Health, or any two legally qualified medical practitioners, or any ten inhabitants. The penalty on conviction before a justice, to whom the case must be



taken by the Authority, is £2 to £5, and any subsequent offences double the preceding penalty up to £200. But conviction will not follow if it can be shown that the offender has used the best practicable means of abating the nuisance, or preventing or counteracting the effluvia. Where the cause of nuisance lies outside the district, the Authority have the same powers as in other nuisances (secs. 112-115 of Public Health Act, 1875).

In London there are somewhat more stringent provisions now in force under the Act of 1891 (secs. 19-22).

UN SOUND MEAT.—A Medical Officer of Health or Inspector of Nuisances may at all reasonable times examine any animal, carcase, meat, poultry, game, flesh, fish, fruit, vegetables, corn, bread, flour, or milk, intended for the food of man, whether exposed for sale or not, and if he regards it as unfit for such use, he may seize it, and carry it before a justice, who if satisfied of its unfitness may order its destruction and impose a penalty of £20, or, without fining the offender, imprison him for a term not exceeding three months. The penalty for preventing the examination or removal of the articles by the officer is £5. A justice has also power to grant a search warrant on complaint on oath by a Medical Officer of Health, or Inspector of Nuisances or other officer of a Local Authority (secs. 116-119 of Public Health Act, 1875).

These provisions, however, are not as comprehensive as they originally were intended to be, and they have been extended in various Local Acts. Section 28 of the Public Health Acts Amendment Act, 1890 (which may be voluntarily adopted by any extra-metropolitan Sanitary Authority), very properly extends the provisions of



the Act of 1875 to "all articles intended for the food of man."

In London very similar but more stringent provisions are in force, sec. 47 of the Act of 1891 authorising, for instance, the imposition of a fine, on conviction, of £50, instead of £20, and imprisonment for six months, instead of three, without the option of a fine.

INFECTIOUS DISEASES.—*Compulsory Notification of Cases.*—Under the Infectious Disease (Notification) Act, 1889, which has been adopted by a large proportion of the Sanitary Authorities throughout the kingdom, under the Local Acts which have been obtained by fifty of the largest towns, and under the Public Health (London) Act, 1891, every case of the specified infectious diseases (namely, "smallpox, cholera, diphtheria, membranous croup, erysipelas, the disease known as scarlatina or scarlet fever, and the fevers known by any of the following names, typhus, typhoid, enteric, relapsing, continued or puerperal") must be promptly notified on the prescribed form to the local Medical Officer of Health.

*Infected Premises, Bedding, and Clothing.*—The owner or occupier may be required to disinfect and cleanse, under a penalty of 1s. to 10s. a day; but the Authority may themselves disinfect and cleanse the houses of poor persons, with their consent, free of charge. Infected articles of bedding, clothing, etc., may be destroyed by the Authority, and replaced by others, or compensation allowed (secs. 120-122 of the Public Health Act, 1875). In London, under the Act of 1891, disinfection is for the most part to be done by the Sanitary Authorities free of charge.

*A disinfecting apparatus and also an ambulance may*



be provided by an Authority for use without charge. In London this provision is compulsory.

*Removal of Infected Person to Hospital.*—If an infectious patient is without proper accommodation, and the authorities of a hospital are willing to receive him, a justice may, on a medical man's certificate, direct his removal to the hospital. The penalty for disobedience or obstruction is £5 in the provinces, and £10 in London (sec. 124 of the Act of 1875, and sec. 66 of the Act of 1891).

*Exposure of Infected Persons and Things.*—Any person who wilfully exposes himself while suffering from infectious disease in any place or conveyance open to the public, and in the case of a conveyance enters it without the conductor's or driver's knowledge, or who so exposes an infectious patient, or exposes or parts with infected things, is liable to a penalty of £5, and, in the case of the conveyance, to make good any loss the owner may have suffered. The owner or driver of a vehicle is not bound to carry an infected person until a sufficient compensation is paid, but if he does undertake the carriage, he must immediately afterwards disinfect the conveyance, under a penalty of £5.

In London, as the ambulances of the Metropolitan Asylums Board are always available for the conveyance of infected persons, the use of public conveyances knowingly for that purpose is prohibited. If, however, a cab become infected in this way, it is the duty of the Local Sanitary Authority to disinfect it free of charge; but the efficient disinfection of a public conveyance having padded seats, etc., is a matter of great difficulty (secs. 126 and 127 of Act of 1875, and secs. 68-70 and 74 of the Act of 1891).



*Letting Infected Houses or Lodgings.*—Any person who lets a house or lodging in which an infectious patient has been, without previously disinfecting it and everything in it to the satisfaction of a medical man, or who, on being questioned as to the existence of infectious disease therein within six weeks previously, knowingly gives a false answer, is liable to a penalty of £20, or, in the latter case, to imprisonment for one month (secs. 128 and 129 of the Public Health Act, 1875, and sec. 64 of London Act of 1891).

In London and in those other districts throughout the country where the Infectious Disease (Prevention) Act, 1890, has been adopted, the Sanitary Authorities possess much more effectual powers in regard to disinfection and all matters related to infectious sickness than are given by the Public Health Act, 1875.

In later chapters is given further information on this subject of infectious disease and disinfection.

**OTHER NUISANCES.**—As householders know to their cost, there are other nuisances than those contemplated by the Public Health Acts. Indeed, any act which unwarrantably interferes with the enjoyment by a person of his rights or of his property, amounts in law to a nuisance. Many of these nuisances may be suppressed by a simple application to a police constable. Others require an application to the Police Courts, while others again can only be remedied by application to the County Courts, or to the High Court of Justice, according to their magnitude.

The various nuisances are classified below under the different authorities which have power to suppress them—1. Police Constables; 2. Police Courts; 3. Courts of Justice.



## I. BY POLICE CONSTABLES.

Abusive language.	Lighting fireworks or bonfires in streets.
Baiting animals.	Musicians in principal streets.
Betting in public places, streets, etc.	Obscene language in streets.
Careless or furious driving.	Obstructing the footways.
Cock-fighting.	Obstructing the traffic.
Collecting a crowd in street.	Playing games in streets.
Defacing buildings.	Posting placards, etc., without leave.
Discharging guns, etc., in public places.	Removal of dust and offensive matter during prohibited hours.
Depositing goods in streets.	Selling obscene books and pictures in streets.
Disorderly persons who may be ejected from the house.	Sliding in streets.
Displaying obnoxious advertisements.	Stone-throwing.
Drunk and disorderly people.	Stray or mad dogs.
Exposing goods for sale in parks and other privileged places.	Throwing rubbish and refuse into street.
Extinguishing street lamps.	Unlicensed public conveyance.
Indecent exposure of the person.	
Knocking at doors or ringing bells.	

## 2. BY POLICE COURTS.

Among those which require application to a Police Court are, besides the sanitary nuisances already spoken of:—

Carrying on unlawful trades.	Keeping explosives or dangerous goods without a licence.
Disorderly houses.	Lotteries.
Gaming and betting houses.	

## 3. BY COURTS OF JUSTICE.

Other nuisances can only be abated by a civil action in County Courts if they are of small degree, otherwise



in the High Court. Of such may be classed the following:—

Damaging river banks or intercepting water-course.	Neglecting to fence in property properly, or protect wells, shafts, sewers, etc., or to provide against dangerous paths.
Encroachment on highways, etc.	Negligently allowing a horse to run away and so cause injury.
Injuries from furious driving or riding.	Publishing injurious advertisements.
Injuries to commons.	Pulling down boundary wall, etc.
Keeping ferocious or mischievous animals.	
Overhanging lamp, etc.	

*Exceptions and Explanations.*—A private person cannot bring an action to abate a nuisance which is public in its nature—as church bell-ringing—unless he proves that it affects him more than the rest of the neighbouring community.

A person cannot go on his neighbour's property to prevent a nuisance, but he is justified in doing so to abate a nuisance, provided he cannot put a stop to it by any other means.

A person, although he comes to a nuisance, may have it abated. But some necessary trades, although they may prove a nuisance to neighbouring owners of property where the trade is carried on, yet if they be conducted in a legitimate manner so as to cause as little injury as possible, cannot be abated.



## CHAPTER XII.

### HEALTH RESORTS.

*Bracing, Exciting, Relaxing, and Sedative Climates—Mineral Waters—Chalybeate or Ferruginous Waters—Saline Aperient Waters—Sulphurous Waters—Alkaline Waters—Miscellaneous Waters—Places suitable for particular Ailments—The Water Cure—The Theory of Hydropathy—Mineral Baths—The Milk Cure—The Grape Cure.*

HEALTH resorts are divisible into two classes: *first*, those which depend for their celebrity on some peculiar beneficial characteristic of climate suitable for certain maladies; and *secondly*, those which owe their popularity to mineral waters found in the locality. Some, but comparatively few, offer for certain maladies, at least, a combination of the advantages stated above. Unfortunately there are a still larger number, where, although climate may suit an individual case, waters will not, and where, although the waters may be beneficial, climate will not be. The choice therefore of a locality for an invalid is a more complicated question than it might appear at first sight.

The principal British and Continental "Health Resorts" which depend for their celebrity on climatic peculiarities may be classed under the following headings:—

BRACING CLIMATES.—*British*—Aberystwith, Brighton (east end), Buxton, Clifton, Eastbourne, Filey,



Harrogate, Llandudno, Malvern, Margate, Moffat, Ramsgate, Scarborough, Southport, Tunbridge Wells, Whitby. *Abroad*—Aix-la-Chapelle, Aix-les-Bains, Baden Baden, Bagnères de Luchon, Biarritz, Carlsbad, Franzensbad, Homburg, Marienbad, San Remo (the most bracing on the Riviera), Spa, Wildbad.

EXCITING CLIMATES.—*British*—Harrogate (high parts), Malvern Hills, Scottish Highlands. *Abroad*—Cauterets, Bagnères de Luchon, Bareges, Eaux Bonnes, Eaux Chaudes, the Engadine generally and St. Moritz in particular; also the high Alps and Pyrenean stations not named above. Hummum R'viha, fifty miles from Algiers.

RELAXING CLIMATES. — *British* — Bath, Brighton (west end), Bournemouth, Channel Islands, Cheltenham, Dawlish, Ilfracombe, Leamington, Matlock, Queenstown, Southsea, Tenby, Weymouth, Worthing, Sandown, Shanklin (less so than the other parts of the Isle of Wight). *Abroad* — Algiers, Aix-la-Chapelle (some parts), Bagnères de Bigorre, Dinan, Ems, Genoa, Kissingen, Kreuznach, Lisbon, Pfeffers, Vichy, Wiesbaden. On the Riviera, Bordighiera, Mentone, and San Remo are less relaxing than other places.

SEDATIVE CLIMATES.—*British*—Dawlish, Hastings, Penzance, Sidmouth, St. Leonards (not so much so as Hastings), Torquay, Undercliff, Ventnor. *Abroad*—Algiers, Como, Ems, Malaga, Naples, Pau, Rome, Venice, and the Riviera generally, Nice, Genoa, and San Remo being least sedative.

The above classification is formed on a consideration of *all* the various conditions which tend to modify the climate of any particular place, such as local



position, altitude, neighbouring hills, rivers or sea, soil and geological characteristics, temperature, rainfall, direction of prevailing winds, and amount of sunshine. But such a classification, as indeed any classification, must be to a certain extent arbitrary, and the headings can only convey the leading characteristics of the climate as compared with other places. For it is difficult to determine the line at which a climate ceases to be bracing and becomes relaxing, and *vice versâ*; hence the climate bracing or relaxing to one person may be less so to others, or even to the same person in a different condition of health. Again, a locality may be bracing at one season of the year, and the reverse at another. And one locality may present in a small space different varieties of climate. It must be recollected that the climate which will do good or harm is often extremely localised. Not only may the wrong district be chosen, but the wrong town, the wrong part of a town, the wrong house, and even the wrong room. A place may be unexceptionable with regard to its general character and climate, but there may be and usually are many situations in that place, in which the benefits of the general climate may be more than neutralised by such causes as a crowded locality, low damp situation, eastern or northern aspect, imperfect ventilation, massive neighbouring buildings which radiate the heat, and bad sanitary arrangements. Many of the continental so-called "health resorts" are notorious for the latter defect, and it is absurd to expect that the invalid Briton will regain health abroad, while he is being poisoned by the vitiated air of badly ventilated sleeping rooms, or by the escape of sewer gas from badly trapped closets and drains.



Conditionally that a fair position is chosen, and that the surrounding sanitary arrangements are satisfactory, persons suffering from the following diseases may resort to the places mentioned above with a confident expectation of being benefited by the change.

#### MINERAL WATERS.

As numerous invalids will require to use the mineral waters found in many of the localities, a few words on this subject are desirable before mentioning the places suitable for particular diseases. The ancient time is past, when mineral waters were regarded as simple units in which the mysticism of the healing power bubbled from the depths of the earth. Thanks to modern chemistry, we now know that mineral waters are complex medicinal agents, containing various salts, and sometimes gases mixed together. Water falling on the earth and percolating through it dissolves what soluble parts it may come in contact with. Most spring waters contain some minute proportion of saline ingredients, the principal being common salt and sulphate of lime. But the term *mineral waters* is customarily reserved for those waters in which the saline matters are sufficiently potent to impart a disagreeable taste. Mineral waters again vary in temperature, from cold to nearly boiling. Therefore mineral waters are sometimes used for the sake of the salts they contain, sometimes for the gases they afford, and at other times *externally* as tepid, warm, or hot baths. Much of the good resulting to invalids frequenting the spas of Europe depends more on the change of scene and air, the exercise taken, the mental rest obtained, and the regular life observed, than on the



actual use of the waters. As a rule, it is incumbent on the invalid to give the greatest consideration to climate, and not to resort to a bad or unsuitable place for the sake of drinking waters which may be regarded as suitable. Most mineral waters may be imported, but climate cannot be imported. And although it is stated with some truth that mineral waters are never so beneficial as when used at their source, still this should not lead to the sacrifice of climate for what in many cases would be a minor advantage.

Mineral waters may be classed under various and numerous heads, but the following is a brief and sufficient classification for all practical purposes—*viz.*, 1. *Chalybeate* or *ferruginous*; 2. *Saline aperient*; 3. *Sulphurous*; 4. *Alkaline*.

1. CHALYBEATE OR FERRUGINOUS WATERS. — Of these the principal sold are those of Harrogate, Pyrmont, Schwalbach, Spa, and St. Moritz. Although iron waters are bottled for exportation, they do not keep very well; for when the bottle is opened, the iron, being generally in the form of a carbonate, decomposes, the carbonic acid gas escaping and the iron sinking to the bottom of the vessel. Imported iron waters are therefore not very strongly recommended.

HARROGATE iron water contains a carbonate of iron, and is useful for anæmia and for the complaints of young females. Two or three pints may be taken daily.

PYRMONT iron water contains carbonate of iron, with magnesia, lime, and other salts, among which is alumina. It is beneficial for anæmia and the complaints of young females, especially when accompanied by dyspepsia and slight diarrhœa. Dose, half a pint two or three times daily.



SCHAWLBACH iron water contains carbonate of iron, and also a small proportion of sulphuretted hydrogen gas, and is therefore in some degree also a sulphurous water. It is useful in the same class of cases as Harrogate iron water, but being more nauseous has nothing to recommend it above the latter. Dose, two or three pints daily.

SPA iron water contains carbonate of iron with magnesia and other salts, also free carbonic acid. It is useful in the same class of cases as Pyrmont water, excepting when there is diarrhœa, as it exerts a greater action on the bowels. It should therefore be used in preference for anæmia and debility, and in the complaints of young females when accompanied by constipation. Dose, one to three tumblerfuls daily.

ST. MORITZ iron water contains principally carbonate of iron and is useful for the same maladies as Harrogate iron waters. Dose, two or three tumblerfuls daily.

Several other waters contain iron, as those of Franzensbad, Kissingen, and Desdames at Vichy, but as their activity depends principally on other constituents they are classed elsewhere.

2. SALINE APERIENT WATERS.—Of these the principal sold are Adelheidsquelle (Bavaria), Birmensdorf, Friedrichshall, Hunyadi Janos, Kissingen, Carlsbad, Marienbad, Pullna.

ADELHEIDSQUELLE water contains a large proportion of common salt, with sulphate and carbonate of soda, and carbonic acid gas. It is not very strongly aperient, but is considered to be of great service by increasing all the secretions as well as those of the bowels. It is used chiefly for affections of the skin, gout, rheumatism, and



certain female complaints accompanied by discharges (whites). It is also useful for scrofula. The dose is from one to two bottles daily.

BIRMENS DORF water contains sulphate of magnesia and sulphate of soda with iron. It is a mild laxative, and is useful in liver complaints, jaundice, hæmorrhoids, and hypochondriasis. Dose, a tumblerful before breakfast.

FRIEDRICHSHALL water contains a large proportion of sulphate of soda, sulphate of magnesia, chloride of magnesium, and common salt. It is a valuable, harmless, and efficacious aperient in all forms of constipation, and is much recommended as a laxative in cases of calculous disease. Dose, a wine-glass to half a tumblerful, half an hour before breakfast. A little warm water added promotes speedy action.

HUNYADI JANOS water contains a very large proportion of both sulphate of soda and sulphate of magnesia, with some chloride of soda and a minute proportion of iron and strontia. It is perhaps the best of all aperient waters, having the advantage over most others of being almost tasteless. It is recommended especially for habitual constipation, for persons of gouty habit, for disorders of the liver, for hæmorrhoids, and for organic diseases from fatty degeneration if a laxative is required. It is also a safe aperient for use during pregnancy. It may be taken for a length of time without injury, and it may be discontinued without inconvenience. A wine-glassful may be taken at bed-time or in the morning. An equal quantity of warm water renders its action more speedy.

KISSINGEN water contains chloride of sodium, carbonate of lime, sulphate of magnesia, and a small



proportion of iron. It is but slightly aperient, and is sometimes described and sold as an iron water. It is beneficial in the same class of cases as Adelheidsquelle water, especially when there is dyspepsia combined with debility. It is also useful in liver derangements, and in weakness with confined bowels proceeding from age or exhaustion. One bottle may be taken daily for a dose.

CARLSBAD water contains sulphate of soda as the principal active ingredient, with carbonic acid gas. It is especially useful in congestion and other diseases of the liver, for gouty subjects, for threatenings of apoplexy, for constipation, and for obesity. From half a tumbler to two tumblers may be taken in the morning fasting. Carlsbad salts, which are made by evaporating the water, is a more portable form, and equally efficacious.

MARIENBAD water contains a large proportion of sulphate of soda with bicarbonate of soda, common salt, and carbonate of magnesia. The water is purgative and alkaline, and is chiefly used in maladies arising from too good living, gravel, gout and derangement of the digestive organs in gouty habits of body. It is also reputed beneficial in uterine and female complaints generally. One bottle may be taken daily.

PULLNA water contains sulphates of soda and magnesia. It is useful in the same class of maladies as Friedrichshall and Hunyadi Janos waters, and is to be preferred by those who also suffer from acidity of the stomach, and by females who suffer at the monthly period.

3. SULPHUROUS WATERS.—The principal waters of this class which can be procured are those of Aix-la-



Chapelle, Bareges, Bonnes, and Harrogate. As with bottled ferruginous waters, so bottled sulphurous waters are not to be recommended, as they are liable to decompose, and become useless on exposure to the air.

AIX-LA-CHAPELLE water contains various salts, among them being sulphuret of sodium, together with carbonic acid gas. It is more useful for bathing in than drinking, and has proved beneficial in rheumatism, skin affections, stiff joints, etc. Dose, a quart daily.

BAREGES water also contains sulphuret of sodium, and is useful in the same maladies as Aix-la-Chapelle waters. Dose, from two to four half-pint tumblers daily.

BONNES water owes its properties chiefly to sulphuretted hydrogen gas. It is stated to be useful in asthma, catarrh, and diseases of the respiratory organs. But if so, its utility must depend on the salts it contains, and not on its sulphurous properties. It is not recommended for use, as sulphuretted hydrogen gas will not remain in a bottle after the cork is drawn, and indeed much of it escapes before. The dose is one-quarter to one-half a tumbler taken before breakfast.

HARROGATE sulphurous water contains both sulphuretted hydrogen gas and sulphuret of sodium, the latter in a larger degree than any of the continental springs. It is also rich in other salts, so that it seems unnecessary for those requiring sulphurous water to obtain it from abroad, when they have better nearer at hand at home. Harrogate sulphur water has a great reputation for the cure of skin diseases, for indigestion, gout, rheumatism, and, as it contains iron also, for chlorosis and anæmia. Dose, from a tumblerful to a bottle daily.



4. ALKALINE WATERS.—The principal sold are those of Bethesda, Bussang, Ems, Homburg, Kissingen, Kreuznach, Tarasp, Woodhall.

BETHESDA water contains bicarbonates of lime and magnesia, with various other salts, and a minute proportion of iron. It is useful for kidney and bladder maladies. From eight to ten tumblers may be taken daily.

BUSSANG water contains carbonate of magnesia and sulphates of soda and lime, with also a minute proportion of iron. It is useful in dyspepsia accompanying kidney and bladder affections. Dose, two or three half-pint tumblers daily before meals.

EMS water is rich in bicarbonate of soda, combined with salts of lime, magnesia, baryta, strontia, etc., and a minute degree of iron. The water is prescribed for dyspepsia and sluggish liver, producing throat irritation; also in cases of chronic cough, with tenacious expectoration depending on digestive derangements. Two bottles may be taken daily.

HOMBURG water contains common salt and carbonate of lime as the principal ingredients, with carbonate of magnesia and traces of iron. There is also free carbonic acid gas. It is prescribed in cases of dyspepsia accompanying chlorosis, hysteria, and inactive liver. Dose, up to three tumblers daily.

KISSINGEN water has already been mentioned under saline waters. It is also an alkaline water, and may be used in the same ailments as Ems water, when greater action on the bowels is required. Dose, a bottle daily.

KREUZNACH water contains common salt, chloride of calcium, iodides, bromides, and a small degree of



iron. It is very useful in any form of scrofula, especially when the glands of the neck, or the eyes, or the glands of the bowels are affected. It has also a reputation for the cure of female discharges. Dose, a pint daily.

TARASP water contains sulphate of soda, carbonate of soda, common salt, carbonate of lime, etc., with a little iron. The water, being more aperient than most alkaline waters, is useful in cases of obesity, for enlarged liver and spleen, and for indigestion accompanied by pain, distension, and gaseous eructations. Dose, half a pint to a pint before meals.

WOODHALL water contains iodides, bromides, and a minute proportion of arsenicum. It is especially useful in rheumatism, gout, neuralgia, obstinate skin diseases, especially those of a syphilitic character, and for goitre or Derbyshire neck. Dose, a tumblerful two or three times a day, or more if the bowels are constipated.

MISCELLANEOUS WATERS.—In addition to these ferruginous, aperient, sulphurous, and alkaline waters, others are imported and sold as *table* waters, which possess in a comparatively infinitesimal degree some of the properties of the above. These are: *Apollinaris* water, which is slightly alkaline from carbonate of soda. This is the most popular table water, and often proves invaluable in obstinate cases of indigestion. It is pleasant and agreeable to the taste, and is preferable to ordinary water for table purposes. *Bellthal*, slightly alkaline from potash, lime, and magnesia. *Bilin*, which contains a larger proportion of soda. *Birresborn*, which contains the same salt. *Fachingen*, also chiefly alkaline from soda. *Gerolstein*, which contains some fourteen varieties of salts in minute quantities, and having iron,



may be regarded as a tonic water. *Roisdorf*, the principal ingredient in which is common salt. *Saint Galmier*, containing bicarbonate of magnesia. *Seltzer*, also containing common salt, with soda, magnesia, and lime. *Wilhelm'squelle*, similar to *Gerolstein*. All these waters may be taken to promote digestion and correct acidity.

#### PLACES SUITABLE FOR PARTICULAR AILMENTS.

ANÆMIA, or that impoverished state of the blood which arises from overwork, anxiety, bad sanitary surroundings, and in females from over-nursing, requires a bracing climate and iron waters. In severe cases, Brighton or Eastbourne may be chosen, but if the person is stronger, Scarborough or Whitby, or if the malady has not made much progress, the Scottish Highlands. If the anæmia is of tropical origin or connected with enlarged spleen, Torquay is recommended for weak, Tunbridge Wells for stronger persons. On the continent there is Bagnères de Luchon—especially for females—Biarritz, Marienbad, Spa, St. Moritz, and the Upper Engadine.

APOPLEXY, WARNINGS OF (such as giddiness, especially on stooping, fainty feelings, a sense of pressure, constriction or heat in the head, confusion of ideas, flushing of the face, noises in the ears, etc.), require a somewhat relaxing climate and aperient waters, indications to be met with in Great Britain at Bath, Cheltenham, and Leamington, and abroad at Baden Baden, Bagnères de Bigorre, Carlsbad (in the summer), Kissingen, and Marienbad.

ASTHMA will probably be benefited by the comparatively mild and equable climates of Dover, Hastings,



St. Leonards, Bournemouth, Ilfracombe, Southsea, Worthing, Ventnor; and abroad by Como, Pau, Geneva, and the Riviera generally.

BLADDER, CHRONIC AFFECTIONS OF.—A slightly bracing climate is desirable, with alkaline waters. If the person is tolerably strong, Harrogate may be recommended, especially the lower parts of the town, where the climate is less bracing than on the heights. In other cases, Bath, Buxton, Cheltenham; and on the continent, Ems, Homburg, Kreuznach, Wiesbaden, and Vichy.

BRONCHITIS, CHRONIC.—This malady requires a mild, equable, and somewhat relaxing climate, such as may be found at Dover, Hastings, St. Leonards, Bournemouth, and Sidmouth. During the summer Sidmouth may, however, prove too relaxing, and the same remark applies to Torquay. There is, however, at Ventnor a climate which is mild, yet to a certain extent less relaxing, and therefore more bracing than most southern localities in the British Isles. For very feeble or aged persons, Penzance may be recommended. Abroad there are Como, Pau, Venice, and the Riviera generally.

CHLOROSIS OR GREEN SICKNESS, being the malady characterised by great anæmia, which often attacks young females about the age of puberty. As a general rule a bracing climate and ferruginous waters are required. Therefore Scotland, Scarborough, Whitby, Malvern, Tunbridge Wells, or for weaker girls, Eastbourne or Bath may be resorted to. On the continent there are Baden Baden, Ems, Homburg, Kreuznach, Marienbad, Spa.

CONSTIPATION.—Scottish Highlands, Scarborough,



Harrogate (especially if there are piles), and Cheltenham or Leamington for weakly persons; on the continent, Homburg, Carlsbad, Marienbad, Kissingen, all the latter places fulfilling the desired indications, both as regards climate and waters.

CONSUMPTION.—If the malady is attended with dyspeptic symptoms, experience shows that Sandgate may be resorted to. If there is tendency to *hæmoptysis*, or spitting of blood, Hastings, Worthing, Sidmouth, Torquay, Bournemouth, Ilfracombe, or Queenstown in Ireland. Abroad there are Como, Pau, Venice, and San Remo, Bordighiera and Cannes, in preference to the other Riviera stations. If the patient can proceed for a longer distance, there are Algiers and Egypt. Recently, elevated mountain places have been much lauded as curative of lung disease, and when such malady is rather *suspected* than confirmed, a trip to the Scottish Highlands may be productive of benefit, especially in the summer and autumnal seasons. But notwithstanding all that has been said of the advantages of consumptives resorting to high Alpine stations, it may be questioned if the growing practice is not one of those "fashions of physic" which must sooner or later die out. St. Moritz in the Engadine has been particularly lauded as beneficial for consumptives. The barometric pressure at this elevated locality is  $24^{\circ}$ , whereas that of the air of the English coast is  $30^{\circ}$ , and this diminution of atmospheric density is said to be favourable to diseased lungs. The climate is, however, like all mountain climates, exhilarating and exciting, and *certainly cannot be fitted for those who have any tendency to spitting of blood*, although it may prove so to those of phlegmatic temperament with sluggish circulation and



inexcitable nervous system, and who have *no* tendency to spitting of blood. Moreover, the general state of health may be too low to allow of sufficient power of reaction against the cold of a mountain climate, and such a condition should prevent any consumptive proceeding to an elevated position. If consumptives derive any benefit from mountain climates, it is really the pure air of an elevated and thinly populated locality which is productive of such benefit. St. Moritz and other places of the kind are far better suited to anæmic and chlorotic than to consumptive patients.

DIABETES.—In the first stages of this malady a slightly bracing climate, such as Ramsgate, Margate, Brighton, or Eastbourne, will generally prove beneficial. In the more advanced stages a somewhat relaxing locality is more desirable, such as Bournemouth, Torquay, the Channel Islands, and the Isle of Wight. On the continent, Bagnères de Bigorre, Biarritz, Ems, Kissingen, may be resorted to first, and at a later date, Como, Lisbon, Málaga, Naples, and the Riviera.

DYSENTERY AND DIARRHŒA.—A mild, equable, and somewhat relaxing climate is generally desirable. Bournemouth, Ilfracombe, Eastbourne, Brighton, Southsea, and the Isle of Wight may be mentioned. If, as is sometimes the case, there is much nervous irritability, the more sedative climates of Penzance or the Channel Islands are to be recommended. When convalescence is advancing, Tenby on the coast and Tunbridge Wells inland may be resorted to for the summer and autumn. If there is in addition any liver affection, Bath or Cheltenham. Abroad, the Riviera for very weakly persons; and for stronger persons, and especially when there are alternations of diarrhœa and



constipation, Kissingen, where the mineral waters in small quantities have rather a constipating effect, and the reverse in larger doses. On the continent Aix-les-Bains presents a desirable climate in the autumn, with a mineral, astringent, alum water. For tropical diarrhoea, Biarritz may be advised; Malaga has also proved beneficial. On the Riviera, Cannes or San Remo would be most desirable.

DYSPEPSIA.—Dover, Folkestone, Southsea, and Eastbourne may be tried. If connected with torpidity of the liver, Cheltenham and Leamington. If from sedentary pursuits, Scarborough, Brighton, Clifton, the Scottish Highlands, or the Malvern Hills. On the continent, Carlsbad, especially if there is constipation, and Ems or Vichy, especially if there is great acidity. If the dyspepsia is connected with or dependent on female irregularities, or with hysteria, an elevated station such as St. Moritz, where there are also iron waters, would be desirable.

FAT, ACCUMULATION OF.—A course of exercise on the Scottish or Malvern Hills, accompanied by a course of Hunyadi Janos water, with care in avoiding fatty and saccharine articles of diet, will probably prove as efficacious as strict "Bantingism." Or the same system may be pursued at Leamington or Cheltenham, drinking the water of those places, or on the continent at Carlsbad. Homburg and Vichy waters have also a reputation for the reduction of obesity.

FEVER, RECOVERY FROM.—Almost any of the localities already mentioned under "Bracing" will be beneficial in promoting convalescence from fevers and other exhausting diseases. Aberystwith, Llandudno, and Matlock may be specially recommended.



GALL STONES.—In Great Britain the climate and waters of the following places are most suitable, *viz.*, Bath, Cheltenham, Leamington. On the continent, Carlsbad, Vichy, Marienbad and, for delicate persons, Ems.

GOUT.—Harrogate, Leamington, Bath, Buxton, Cheltenham, present suitable climates and waters. Hastings and Torquay may also be recommended for aged persons. On the continent, strong, middle-aged people should go to Carlsbad, and weaker people to Vichy, Ems, or Baden Baden (where there is lithia in the water). Lean and decrepit persons are usually much benefited at Homburg or Kissingen. Aix-la-Chapelle, Wiesbaden, and Wildbad have a somewhat inferior reputation. Baden Baden and Vichy for waters, and San Remo for climate, are most beneficial in gout.

GRAVEL.—The best places in England both as regards climate and waters are Cheltenham, Leamington, Bath and Harrogate. On the continent, Carlsbad and Vichy.

KIDNEY AFFECTIONS.—In most affections of this organ Bath or Brighton will be found desirable residences, and on the continent, Aix-la-Chapelle, Baden Baden, San Remo, Wildbad, Algiers, and, in some cases, Carlsbad. But kidney maladies are so numerous and complex that the advice of a medical man should always be sought.

LIVER AFFECTIONS.—For simply sluggish liver arising from sedentary life, the Scottish Highlands or the Malvern Hills. For enlarged liver, the result of too good living, or residence in tropical climates, Cheltenham, Leamington, and Bath. If there is accompanying diarrhoea, Ilfracombe, Bournemouth, or Sidmouth.



Abroad for stout people, Carlsbad, Marienbad, Franzensbad. If there is congestion of the liver, Carlsbad, Marienbad, or Kissingen. For fatty liver, Carlsbad, Marienbad, Homburg, Eger, and Ems, the latter two when there is tendency to biliary calculi. On the Riviera, Mentone appears best suited to liver complaints.

NEURALGIA AND NERVOUS AFFECTIONS. — These complaints generally require sedative climates, such as Hastings and St. Leonards, Ilfracombe, Bournemouth, and Ventnor in the Isle of Wight. Abroad, Aix-les-Bains, Wildbad, Bordighiera, and Spa have the greatest reputation for such maladies.

PILES.—These troublesome ailments depend on a number of causes, of which constipation, congestion of the liver, and sedentary occupation are among the principal. Piles therefore can only be cured or relieved by first finding out the cause, and then using the remedies applicable to the cause. Speaking generally, piles are benefited at Cheltenham, Leamington, Bath and Harrogate in England, and at Carlsbad, Homburg, Marienbad, Spa, Wiesbaden on the continent.

RHEUMATISM, LUMBAGO, SCIATICA, require an equable and slightly relaxing climate, with aperient waters and alkaline, stimulating, or sulphurous baths. The first indications are met at Torquay, Queenstown, Bournemouth, and Ventnor, while both are afforded at Bath, Cheltenham, and Leamington. Buxton and Harrogate have also a reputation, partly from climate, partly from waters. So have the salt baths of Droitwich and Nantwich. On the continent there are Aix-la-Chapelle, Aix-les-Bains, Bareges, Bagnères de Luchon, Baden Baden, Franzensbad (with its mud baths), Carlsbad, and for muscular rheumatism the hot baths of Wiesbaden



and Wildbad. Vichy is also to be recommended when there are accompanying acidity and dyspepsia. Naples, San Remo, and Cannes are also beneficial in most forms of rheumatism.

SCROFULA.—Ramsgate, Margate, Tunbridge Wells, Malvern Hills. If accompanied by glandular swellings, Dover or Sandown in summer, Ventnor or Hastings in winter. Aberystwith may also be recommended in the summer, and Queenstown at other seasons. Abroad, Aix-la-Chapelle and Aix-les-Bains, Wiesbaden, Wildbad, the Swiss Alpine stations in the summer, and San Remo or some other Riviera locality in the cold weather.

SKIN DISEASES are very likely to be benefited by saline baths as obtainable at Droitwich, by sulphur baths as given at Harrogate, and by mixed saline baths as used at Bath or Cheltenham. But skin diseases depend on a number of causes (such as dyspepsia and habit of body) affecting the general health, and therefore the treatment of skin affections must be directed to the cause rather than to the effect, and the locality and baths must be chosen accordingly.

THROAT AFFECTIONS. — As a general rule, the localities suitable for bronchitis are equally desirable for throat affections. In the British Isles this applies even more forcibly than on the continent, where Lisbon, Naples, and San Remo have acquired a questionable reputation as being more curative of throat ailments than of bronchial or lung affections.

WOMB DISEASES AND FEMALE COMPLAINTS.—These affections usually require a bracing climate, with slightly aperient and ferruginous waters. In Great Britain there are Moffat in Dumfriesshire, Scarborough, Whitby, Filey, Harrogate, Malvern, Cheltenham.



ham, Brighton, Bath, and Eastbourne—all affording a suitable climate and waters. Of the two latter places (Bath and Eastbourne), the former is desirable if there is accompanying dyspepsia; the latter, if the patient cannot bear the more bracing climates of the north. Abroad, Aix-la-Chapelle, Baden Baden, Carlsbad, Homburg, Ems, Kreuznach, Marienbad, and Spa have attained a certain celebrity as beneficial in such cases.

#### THE WATER CURE.

The water cure originated under a guiding notion that disease of the most different nature was caused by an acrid humour in the blood, and that the skin was the organ by which it was to be removed. By the constant application of water, as by poulticing, it is possible to induce a series of boils or local eruptions, which the peasant Priesnitz, who afterwards attained considerable celebrity as a curer of disease, taught were *crises* connected with the malady treated. While admitting that the water cure is in many instances productive of great benefit, it must be stated that it is not the general *panacea* which some enthusiasts have asserted it to be. Much of the benefit derived from the treatment pursued at hydropathic establishments must be attributed to the *regimen* as regards hours, diet, and exercise made incumbent on the patients. With such adjuvants, there are, undoubtedly, many diseases which are more benefited than they would be from any other system. Still, people should not rush off blindly to hydropathic establishments under the idea that such places are temples of health. There are cases which may be benefited by the hydropathic treatment, and there are, perhaps, a larger number of cases which



certainly will not be benefited by such treatment ; and often a medical man can only decide on an intimate knowledge of the individual and his malady.

WATER DRINKING.—The hydropathic treatment consists mainly in drinking water and in taking baths of various descriptions. The drinking of pure water aids digestion by acting as a solvent on the food ; but if taken in large quantities, it dilutes the gastric juice, and therefore impairs the digestive powers. The inference is, that large quantities of water should be avoided both immediately before meals and while digestion is going on, or for three or four hours after meals. The systematic drinking of cold water at other periods assists the tissue changes constantly going on in the system, and helps both in the building up and breaking down which is perpetually progressing in the body. Or, in other words, the tissues are washed out, and the secretions increased. All this is well known at hydropathic establishments, where there is generally a medical officer quite competent to advise as to when and how each patient should drink water. For, although general rules may be mentioned as above, individual cases may require some modification thereof.

BATHS.—Drinking water, however, is only one item in the programme, and not such an important item as the bathing. The external use of water in the shape of baths is both physiologically and therapeutically the most important. The *cold* bath acts by abstracting heat. Its first effect is to chill, but if not continued too long—the cutaneous nerves being also stimulated—reaction ensues, and the body glows from increased circulation of blood, while as a consequence the absorption of oxygen by the lungs is quickened, and the



appetite is augmented. But if a cold bath is continued too long, depression instead of reaction ensues, the fingers become shrivelled and white, blood is forced from the surface into the interior, and any weak organ in the body suffers from the strain. Similar remarks apply to the *shower* bath, which being more sudden and forcible should only be used by strong persons. The *tepid* bath from  $85^{\circ}$  to  $90^{\circ}$  has little appreciable effect on moderately strong people, being neither stimulating nor depressing, but on weakly persons with bad circulation it acts as the cold bath, and should therefore be used in preference by such persons. The *warm* bath from  $96^{\circ}$  to  $104^{\circ}$  causes increased frequency of pulse and redness of the skin; while the *hot* bath from  $102^{\circ}$  to  $110^{\circ}$  is followed by greater frequency of the pulse, increased skin redness, and profuse perspiration, and if indulged in to excess causes faintness, drowsiness, and lethargy. The *hot air* bath acts still more vigorously in the same manner. In other words, the cold bath drives a moderate amount of blood from the surface, but if continued too long there is no reaction, and internal congestions ensue; while the hot and warm baths draw blood to the surface, and if continued too long denude the internal organs, especially the brain, of blood. It is therefore at once evident how important such agencies may be made in the treatment of disease. But this is not all. There are packing in wet sheets, local, foot, and other baths, or tepid baths followed by shower baths, by which a combined calming and stimulating effect may be produced; and there are the *Russian* and *Turkish* baths, which may be regarded as an *heroic* or forcible method of removing impurities from the system by way of the skin. It would be impossible



except in a large work to mention a tithe of the multitudinous methods in which water may be used, or a tithe of the legion of maladies in which, properly used, it is beneficial.

It must therefore suffice to give some leading indications of the diseases in which the water cure is beneficial. These are—1. Digestive derangements, especially those arising from too free living, and particularly if associated with sensations of fulness about the bowels or with a hypochondriacal condition. 2. Habitual constipation, especially if combined with indigestion. 3. Chronic rheumatism, the variety attacking the muscles being usually most benefited. 4. Most kinds of chronic skin diseases. 5. Metallic poisoning, especially that arising from mercury.

MINERAL BATHS.—The preceding remarks apply to simple water baths, but both sea bathing and mineral baths demand a few words. Sea water baths are more stimulating than plain water, owing to the salts contained in solution. The sea is also more equable in temperature than fresh water. Sea water baths may therefore be regarded as a general tonic for those in moderately good health, rather than a curative agency. The same remark also applies to saline springs such as Droitwich and Nantwich, the principal ingredient in which is chloride of sodium or common salt. These salt baths are chiefly used for retarded convalescence after a serious illness, for affections of a gouty or rheumatic nature, and for some chronic skin diseases. But there are many other mineral baths of reputed efficacy as containing very different ingredients. Among these are sulphurous water baths, also chiefly used for cutaneous maladies. In the carbonic acid gas



baths of Spa, the gas adheres to the surface of the body in bubbles, and is spoken of as exciting and stimulating to the skin. Then there are the moor or mud baths of Franzensbad and Teplitz, made with peat earth stirred up in water, and beneficial for rheumatism and some forms of paralysis. Also baths of the leaf of the pine—*Pinus sylvestris*—the odour of which is delicious, but the medicinal value doubtful. It must, however, be recollected that many authorities deny that any mineral matter is absorbed by the skin; and if any is absorbed it is certain that it is only an infinitesimal quantity. The real virtues of mineral baths therefore depend, like fresh-water baths, on their temperature, and on the way they are used, *plus* the extra stimulation of the skin, due to the effects of the salts they contain on the surface of the body.

#### THE MILK CURE.

As the ancients mostly pursued a pastoral life, and therefore doubtless consumed large quantities of milk, their opinion regarding milk as a food is entitled to respect, and this opinion may be gleaned from Homer, who states, “feeders on milk are the most honest of men.” By the light of modern science we now know that milk is indeed the only model food, containing in itself all that is necessary for the nourishment of the body. On the authority of Sir William Jenner, one pint of good milk is equal to a mutton chop. The nutritive qualities of milk are perhaps never more forcibly demonstrated than when taken warm after fatigue of either body or mind. Some portion appears to be digested and assimilated immediately, and the prompt influence of its restorative qualities will soon



convince those who think that under such circumstances they require alcohol, of the superior advantages of taking milk. It is also a great restorative in disease, and for this purpose it is not sufficiently used. It would probably be better for numbers of our sick if we imitated more frequently the Tartar tribes, who, although only having mares' milk, limit the dietary of their sick to that fluid, or to preparations from it.

The milk cure, as applied to certain diseases, consists in allowing the patient no other nourishment, except perhaps a little dry bread. Still, however simple such treatment appears, its conduct requires a considerable amount of knowledge, care, and attention. For although milk contains all the necessary elements of human food in the desired proportions, yet it is not always digested well by diseased persons. Patients when they begin to take it often declare it does not agree with them. This, however, is no reason why the treatment should be discontinued, but rather that the milk should be examined as to quality, and if necessary taken in a different manner, or quantity. For instance, persons may object to milk as causing what they term "biliousness," which arises from the milk being regarded as a mere drink instead of the main article of food, and the consequent indulgence in other viands. Again, when milk is received into the stomach, it is "curdled" by the gastric juice; or, in other words, a peculiar nutritive substance found to perfection in milk and known as *casein* is precipitated. If too large masses of *casein* are allowed to accumulate in the stomach the result is indigestion—a condition which often occurs in children and infants, who being overfed throw up the curdled milk in large masses. Again,



milk may not agree from its being rendered deleterious by the animal from which it is derived having eaten poisonous herbage, especially the meadow saffron or colchicum. Or milk may be rendered impure or soured from the growth of a microscopical fungus in it—the *oidium lactis*—the origin of which is obscure, but may probably be due to dirty vessels, or to mixture of the milk with dirty water. Lastly, milk may acquire metallic impurities from being kept in lead or zinc vessels. When the milk cure is adopted, all such matters must be taken into consideration, the next most important point being to drink the quantity of milk decided upon in small proportions and as often as convenient, rather than in large draughts at longer stated intervals. Then there is the question whether it should be taken cold, tepid, warm, or hot. In weak stomachs the digestibility of milk depends considerably on temperature. When there is much nervous prostration, as in fevers, it should be taken warm or even hot. Given to such patients cold, it will probably be complained of as lying heavy on the stomach and as causing acidity. But as a general rule it is best to let patients drink it tepid. It may also be mentioned that, with children especially, a fourth proportion of lime water added to milk will cause it to agree well, when it does not do so without such addition. This occurs when there is extraordinary acidity of the stomach, which the lime water corrects.

Under such of these precautions as may be necessary, a purely milk diet is almost certain to be beneficial in such maladies as chronic diarrhœa and dysentery, especially in that form of these diseases which arises during residence in tropical climates; in



the atrophy or wasting of children, especially when connected—as it most frequently is—with knotty enlargement of the bowels and chronic diarrhœa; in chronic inflammatory affections of the bladder; and in severe cases of sickness during pregnancy. In all kinds of scurvy, too, milk is the best diet. In such diseases as those mentioned above, milk may be taken, if well digested, to the extent of a gallon *per diem*.

#### THE GRAPE CURE.

The “grape cure” or *cure de raisin* was first proposed by Lefevre in Russia about the year 1845. Then for some time the head-quarters of the remedy was at Meran in the Tyrol. At present there are many places in the vine countries between the Alps and the Rhine where the treatment is practised. It consists in taking large quantities of grapes daily, some physicians allowing nothing else either as food or drink for weeks, except perhaps a little dry bread. Other physicians do not insist on any particular diet, or rather on no diet, believing the grapes to be so satisfying that food will not be wanted or wished for by the patient. The invalid begins with two or three pounds of grapes daily, the quantity being divided into three portions, eaten at the breakfast, dinner, and supper hours. After a few days the amount is gradually increased until four or five pounds are consumed. The effects are said to be repellent of noxious matter from the blood, and to resemble in many respects the results of the water cure. But Lersch considered grapes and raisins to be compounds analogous to mineral waters—to be, in fact, “mineral water of an organic nature!” We



certainly know that ripe grapes are cooling, antiseptic, antiscorbutic, and in large quantities diuretic and laxative. The benefit derived from the treatment is probably partly in consequence of the qualities named above, and partly a result of the change of climate and mode of life adopted by those undergoing the grape cure. For the fruit should be eaten in the open—*sub Jove frigido*—and those who would reap the full benefit are desired “to forego all luxury, sleep in the peasant’s crib, sit upon his bench, avoiding even anything in the shape of comfort. The grape alone for food (except perhaps a little dry bread), the grape alone for drink.”

Lefevre recommended the treatment for all functional nervous affections which resist the routine methods generally employed; for chest affections and consumption; for chronic liver maladies, especially when due to an excess of wine or spirits; theorising that the potash salts in the grapes supplied the elements which the wine in the process of manufacture had lost. For the same reason the grape cure, or at least a modified form of the treatment, is extremely beneficial in any malady which may be aggravated by or complicated with scurvy. The diuretic and laxative properties of grapes also render them suitable for any dropsical affection connected with the liver or spleen. They are also highly beneficial for bowel complaints of a scorbutic nature. Lastly, although almost any person, suffering from almost any malady, may consume plenty of grapes with benefit, no one should essay the grape treatment in its entirety without having his case well examined into by a competent medical man.



THE HISTORY OF THE  
CITY OF BOSTON  
FROM THE FIRST SETTLEMENT  
TO THE PRESENT TIME  
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*PART II.*

THE TREATMENT AND NURSING OF EMERGENCIES  
AND SIMPLE AILMENTS.







## PREFATORY NOTE.

To emphasize a few practical points in household nursing—to shortly notice the more trivial ailments and their means of relief—to be a guide in those emergencies which may at any moment happen to any one of us—to point out dangers which to many would be unforeseen till perhaps too late—and thus to bring a compendium of household medicine and surgery within the reach of all, is the object of this division of the work. Any attempt to invade the province of the medical man has been carefully avoided. Such an attempt would not only increase far too greatly the size and scope of this book, but would tend to mar its utility, and perhaps render it rather a source of danger than of strength.







## CHAPTER XIII.

### TREATMENT OF EMERGENCIES.

*Wounds—Fractures and Dislocations—Bleeding—Suffocation—Drowning—Hanging and Strangling—Suffocation from Charcoal Fumes and from Carbonic Acid—Poisoning from Escape of Gas—Foreign Substances in Wind-pipe—Stings by Venomous Insects—Stings from Plants—Bite by Dog—Sunstroke—Sunburn—Heat Exhaustion—Freezing and Exposure to Cold—Burns—Lightning Stroke—Foreign Bodies in Nose and Ear—Swallowing Coins, Needles, etc.—Injuries to Head—Apoplexy—Intoxication—Compression of Brain—Poisoning—Emetics—Indigestion—Toothache—Neuralgia.*

WOUNDS.—With regard to the washing of old wounds, it is advisable never to use sponges or anything but what can be immediately burnt ; otherwise foul discharges may inadvertently be carried from one wound to another, setting up inflammation, erysipelas, and the like. Tow, old rag, or something of the same kind is to be preferred, and immediately after use it (with the dressings that have been removed) should be burnt. Too much care cannot be taken in washing the hands after dressing, and in the matter of cleanliness of every sort and description. Old ointments must never be allowed to accumulate round a wound, for after a time they decompose, irritate the sound skin, and cause a larger wound. It is sometimes difficult to remove



them, when attention has not been paid to this point ; but some sweet oil, well rubbed over the surface of the deposit with a little cotton wool, will gradually dissolve it, and then the skin may be gently washed with soap and warm water. Marks of strapping are easily removed in the same way ; turpentine and spirits of wine are sometimes recommended, but they are much too irritating to young, tender skin. In removing the strapping from a wound, care is requisite, for if one end of the strapping is seized, and the strip pulled off right across the wound, it must inevitably, when it reaches the other side, pull the two edges of the wound apart, and reopen it. Instead of this, both ends of the strapping should be taken, one in each hand, and they should be gradually drawn towards each other, till they meet in the centre over the wound.

In treating a fresh wound, it must first be well washed, all dirt, sand, etc., and any splinters that may be in it being removed ; the bleeding, if any, must then be stopped by appropriate measures, and the place dressed in the best way to promote its healing. Wounds vary so much in their nature that some subdivisions must be made before their treatment can be with sufficient clearness indicated.

1. *Clean Cut*.—Made with a sharp instrument. This is the best kind of wound for healing quickly. The great object is to bring the two edges accurately together with strapping. This is best done by taking a narrow strip of strapping and warming it, and by commencing to apply it at such a distance on one side of the wound that it may get a firm hold of the skin. On reaching the wound, draw its outer edge well up to the inner one, adapt them carefully with the finger, and, when adapted,



take the strapping quickly across, and fix it at an equal distance on both sides of the wound ; apply other strips in the same way, till the wound is covered or nearly so ; and lastly, place two strips diagonally across these to keep the whole in place. As a rule, the strapping will require changing every other day ; but a wound should not be disturbed more often than is necessary. In many cases a piece of dry lint and a bandage over the strapping will keep the parts quiet, and the strapping from slipping. A piece of dry lint on a cut finger is preferable to strapping, as the movement of the part will prevent strapping from sticking accurately. On the face, where a scar is a matter of some importance, it will be necessary, if the wound is of any size, to have the edges accurately sewn together.

2. *Bruised Cut*.—Made by a blunt instrument, often with much force. The edges are here bruised, and will not unite so readily as in the former case. If there is not much bruising, an attempt may still be made to get the edges to heal quickly by strapping them together. If this is considered inadvisable, dry lint or water dressing may be applied. Water dressings and lotions are not nearly so much used as formerly, and quite rightly so ; for when taken off, the dressing is filthy and foul smelling. Dry applications are now more general. A very good dressing for these cases is made by, first, cutting a small piece of gutta-percha tissue, as long as and rather wider than the cut, placing it carefully over the wound, and bandaging a piece of dry lint over that. This will only require changing every second or third day. Wounds usually heal readily under it, and the gutta-percha tissue prevents the lint from sticking to the wound and drawing the edges apart when it is changed.



3. *Stabs and Deep Wounds*.—These must on no account be brought together with strapping, or the skin would heal, leaving a cavity beneath it unhealed. The discharge would collect, and an abscess eventually form, which would have to be opened by slitting up the healed skin. These wounds must be made to heal up from the bottom, and if the skin tends to heal over too soon, a piece of lint must be introduced between the edges to keep it open. The gutta-percha tissue and dry lint form a useful dressing for these cases also, but disinfecting lotions must often be used in the after stages. Remember in these cases that an artery or deep vein may be injured, and ascertain the amount of bleeding before determining to treat it without surgical assistance.

4. *Lacerated Wounds*.—These are large torn wounds, which will almost always require stitches and skilled treatment. Bleeding must be stopped, and any injury prevented to the wound till a doctor can arrive.

5. *Still Larger Wounds, as Torn-off Limbs*.—The same remarks will apply. Attend to the bleeding and give stimulants. Fortunately, torn vessels seldom bleed much, so that these wounds are not necessarily so immediately dangerous as would at first appear.

Any wound of a joint is very dangerous: it almost always results in a stiff joint, or perhaps worse. Always send for a surgeon in such cases.

So much as to the immediate treatment of wounds, and providing the case goes on well the same sort of dressings may be continued. But if the wound becomes hot and painful, if the edges look red and angry, if it seems to the patient to throb and shoot, then inflammation has set in: it is useless to look for immediate union; hot fomentations or poultices must be applied,



and, if the wound is of any size, skilled advice must be sought.

FRACTURES AND DISLOCATIONS. — Great care is needed in these cases. As long as the skin is sound and the fracture is what is known as a simple fracture, good union may be expected; but directly the skin is broken and air gets access to the broken end, the fracture becomes converted into a compound fracture, and the course is very much more severe. It is hardly necessary to point out how easily this misfortune may be brought about by want of care in the removal of the patient from the place of accident to his home. Many cases have occurred where the bone has been thrust through the skin by rough handling during the transit. In the case of the *leg* or *thigh*, the limb may be found shortened and perhaps twisted in some way. If so, take the foot firmly, replace it in its natural position, and draw gently downwards so as to bring the two limbs as nearly as possible to an equal length, but without applying force; then tie the two legs together with a scarf or handkerchief, just above the ankle, and again below and above the knee. In dislocations of the *hip* it will be found that no drawing down makes any difference to the length, or the injured limb may even be longer than the other from the first: here the only thing to be done is to tie the two legs together as before. In a fracture of the *arm* between the shoulder and elbow, let the hand lie loosely in an ordinary sling, and tie a scarf or handkerchief round the body so as to keep the arm close to the side. If the *forearm* is broken—*i.e.*, the part between the elbow and the wrist joints—let the whole forearm lie evenly in a sling, so adjusted as to support the whole length: in these fractures tem-



porary splints may easily be applied. If the *shoulder* is dislocated, the arm will not come to the side, and the hand must simply be supported in a sling. It is not wise to try and reduce any dislocations without medical advice, for there may be a fracture as well, or some other injury, and permanent harm may be done to the limb. The only doubtful exceptions are the elbow and fingers. The *elbow* assumes often, when dislocated, such an inconvenient position, and usually slips in place so easily, that an attempt may be made to reduce it, by steadying the upper arm, taking firm hold of the wrist, drawing it downwards, placing the knee in the bend of the elbow, and gradually bending the lower arm over it towards the shoulder. The *wrist* is seldom dislocated, in fact such an injury may be left out of the question here. Dislocations of the *fingers* may generally be reduced by pulling strongly on them. Be careful about dislocations of the *thumb*; it is sometimes quite impossible to reduce them by any means. In fracture of the *collar-bone*, put the hand in a sling, and take the weight of the arm off the shoulder by a handkerchief passed round the elbow, and tied tightly over the opposite shoulder. In fracture of the *ribs*, bandage the chest firmly, or pin a flannel band firmly round it. This will limit the movements of the chest, and give great relief. Little can be done in other fractures, save taking care that no harm is done by unnecessary jolting or other means. In many of the above fractures, especially if the patients have to be carried some distance, it will be advisable to take extra precautions to prevent injury, by applying temporary splints. These are best made of thick pasteboard—a bonnet-box, or something of that kind: if the accident occurs out of doors, some



bark, narrow bundles of straw, thin branches tied together, or thickly folded brown paper, may all be utilised to keep the limb temporarily at rest. These splints are best applied one on each side of the fractured limb, and kept in place by handkerchiefs. A patient with a fractured leg or thigh should be placed on a mattress, not a feather-bed; and it will be all the better if a board is placed under this, to keep the splints from sinking down, and so disarranging the position of the limb. A bed-pull—*i.e.*, a cross-bar of thick wood with a strong cord fixed to it, and this again made fast to a ring in the ceiling—will be of immense assistance to a patient in these cases; in fact it is almost a necessity, and can easily be applied by any carpenter. What is known as a cradle, to keep the bed-clothes off the limb, is also necessary; a bonnet-box will answer the purpose admirably. In lifting a fracture always have plenty of assistance. Let one take the limb at the bottom, and the other at the top of the splint, passing the fingers of each hand under the splint, and letting the thumbs meet, or as nearly so as possible, over the limb. In unwinding the bandage also, do not let the end lie loose, but gather it up closely as you proceed. A bandage may thus be removed in a very much shorter time than would otherwise be required.

BLEEDING.—When an artery of any size is wounded, the blood comes out in jets, and is bright red; bleeding from a vein, on the contrary, oozes out, and is much darker in colour. The following are the usual means adopted to stop bleeding:—

1. *Direct Pressure*.—By means of the finger pressed firmly on the wounded spot, serious loss of blood need in no case occur, if the bleeding spot can be seen: it



may always be thus controlled. Persons must remember this, and never lose their presence of mind. By strips of lint folded into a thick pad, or a towel folded and firmly pressed on the place, either by the hand or by a firm bandage, bleeding from the head can always be controlled, for the pad presses the vessel firmly against the bone and closes it. In any position where the vessel can be thus compressed against a firm substance this will succeed, but the pad must not be removed for forty-eight hours, unless absolutely necessary for other reasons, or the bleeding will recommence. In some cases, where blood comes from the bottom of a large deep wound, a sponge or some strips of lint may be firmly packed into the wound, and kept there; but this will require some courage to do effectually, as it causes much pain, and other means should be first tried.

2. *By what is known as a Tourniquet.*—A temporary one may be thus applied. Take a handkerchief and tie it tightly round the limb above the bleeding spot; introduce under this a firm piece of wood, and twist it round and round, so as to tighten the handkerchief till all bleeding stops. This plan is very useful when the bleeding is from some part of one of the limbs, but is now usually superseded by the following:—

3. *By Tying an Elastic Band firmly round the Limb.*—This is much more easily applied. At all railway stations these bands are now kept, and the officials of the railway company instructed as to their use. If one is not kept in every house, there ought to be one in every village, as it is invaluable when a large vessel of the limb is wounded. In applying it, it is simply wound two or three times round the limb above the bleeding point, being drawn as firmly as possible each time, and



it is then tied securely, or is made to fasten with two hooks. This proceeding renders unnecessary detailed directions as to the course of the different arteries, and will effectually control any bleeding from a wounded artery in the limbs. Care must be taken to draw the band sufficiently tight, and it must be looked on as only a temporary means of stopping severe hæmorrhage from an artery till surgical assistance can arrive.

It remains to notice a few special forms of bleeding.

BLEEDING FROM THE NOSE.—Do not let the patient hang his head over a basin; let him sit upright and apply cold to the bridge of the nose and nape of the neck, or syringe ice-cold water up the nose. Hold the hands above the head. Do not blow the nose. If these means fail, the nose must be plugged by a surgeon.

BLEEDING FROM VARICOSE VEINS OF THE LEG.—Raise the leg considerably above the level of the body, keep the patient at full length on a sofa, put a pad and bandage over the wounded part, and apply firm pressure in this case *below* the wound, because the course of blood in the veins is from below upwards towards the heart.

SPITTING OF BLOOD.—Keep the patient raised in bed; let him avoid coughing as much as possible; give him ice to suck, and iced milk to drink; keep the room cool; do not give anything hot; if the spitting is profuse, put an ice-bag to his chest; let him keep perfectly quiet, and not exert himself in any way. He must not even get out of bed on any pretence.

VOMITING OF BLOOD.—The same rules apply, but instead of putting an ice-bag to the chest, apply a mustard plaster over the stomach.



In all these cases do not be in a hurry to give stimulants; a little faintness does good, as it tends to restrain the bleeding. See also that there is nothing tight about the limbs or neck that may interfere with the circulation.

**SUFFOCATION.**—An interruption of the function of respiration, which, sufficiently prolonged, causes death. Under this head we may conveniently include not only drowning, strangling, and hanging, but also those cases in which food gets into the windpipe and obstructs the passage, and those in which deleterious gases are breathed to a dangerous degree, as the gases from burning charcoal, escape of ordinary gas, etc. When the respiration is totally obstructed, all external movements cease within five minutes, and the heart within ten minutes. Restoration is possible as long as the heart continues to beat, but some cases of drowning have been restored after a much longer period (half an hour), it being then probable that the person has fainted at the moment of immersion. Even in apparently hopeless cases, therefore, all means should be tried for some considerable time. The treatment of persons apparently drowned may be taken as a type, the differences in other forms of suffocation being subsequently noticed.

**DROWNING.**—Raise the patient, and hold the head downwards for a moment, to allow any water to escape; cleanse mouth and nostrils; open the mouth; keep the tongue forward; loosen all tight clothing. Place him on his back, and keep head and shoulders slightly raised. Grasp his arms just above the elbows and draw them gently and steadily upwards till they meet above the head (this is for the purpose of drawing air



into the lungs) ; keep the arms in that position for two seconds, then turn them down, and press them gently and firmly for two seconds against the sides of the chest (for the purpose of pressing air out of the lungs). Repeat these measures alternately fifteen times in a minute, till the patient is seen to make a voluntary effort to breathe. (This is known as Sylvester's method of performing artificial respiration, and is the best.) Whilst this is proceeding, others may be engaged in other ways, as in removing wet clothing, and wrapping him in blankets, or dry clothes. Putting ammonia to the nose, tickling the back of the throat with a feather, and slapping the surface of the face and chest, are all useful in tending to provoke respiration. After breathing has been restored, it is necessary to induce warmth and circulation by applying hot flannels, bottles, etc., and by rubbing the limbs upwards firmly and quickly. Lastly, when he can swallow, small quantities of hot tea, wine and water, etc., may be given.

HANGING AND STRANGLING.—Cut the patient down, and commence artificial respiration as above.

SUFFOCATION FROM CHARCOAL FUMES.—Remove the person at once into the fresh air, and commence Sylvester's method of artificial respiration ; but it is doubtful whether this will be of much service, as carbonic oxide is the most poisonous agent in these cases, and acts as a blood poison. Nothing else can be done, however, except by a medical man. Great care should be taken not to sleep in a room where there is no flue for the escape of fumes of burning charcoal, or into which there is a leakage from a stove pipe.

SUFFOCATION FROM CARBONIC ACID.—This is the



gas that is known as the choke damp of mines. It also accumulates in the process of brewing over vats of fermenting beer, and is given off from lime kilns, being met with also in old wells, volcanic grottoes, etc. The treatment in all these cases is removal into a pure atmosphere, and performance of artificial respiration. It is this gas which causes the headache, sense of oppression, and drowsiness felt in badly ventilated rooms, especially where much gas is being burnt.

POISONING FROM ESCAPE OF GAS.—Carbonic oxide is such an active poison that probably it is the chief cause of death in these cases, and the same treatment may be applied as for that poison.

FOREIGN SUBSTANCES IN WINDPIPE.—These are sometimes drawn into this tube by a sudden breath whilst eating, as from laughing, etc., or when a substance is being carried in the mouth. It is no easy matter to dislodge them, and they will give rise to difficult breathing, distressing paroxysms of coughing, etc. The patient may be placed on his stomach with his head downwards, and his back may be well slapped. This is seldom successful however, and surgical assistance is almost always necessary.

A large piece of meat or food may lodge in the swallow so as to shut off the entrance to the windpipe; it can usually be here reached by the finger and removed.

STINGS BY VENOMOUS INSECTS, AS GNATS, WASPS, ETC.—Remove the sting if present. Vinegar and water, dilute ammonia, or eau de cologne and water, will give relief: moist soil immediately applied is also said to remove the pain at once. Where there are many wasp stings, some stimulant may be necessary. After



a snake or adder bite, a band should be tied tightly round the limb above the bite to prevent entrance of the poison into the system, and the place should be well burnt by a red-hot iron. A free use of stimulants is essential.

STINGS FROM PLANTS, NETTLES, ETC.—Apply dilute solution of ammonia, or of carbonate of soda. This will give great relief if done at once.

BITE BY DOG.—Wash the wound well and encourage bleeding. It is best then to freely apply nitric acid to it, as this is a liquid and gets more freely to every corner of the wound; but if this would necessitate delay, use a hot iron, or lunar caustic. If the dog is known to be rabid, the hot iron should be used, or if the wound is on the finger it is better at once to amputate it. An absurd superstition is held in many country places that if the dog is killed the person bitten will not have hydrophobia; this, of course, is a most ignorant and silly notion. It is much more satisfactory to the mind of the person bitten to keep the dog under observation, to see if he develops rabies.

SUNSTROKE.—Remove into a cold place. Apply cold douche to the head and cold sponging to the body. Fan the body. Give small quantities of cool water, but in this be very careful; and also in applying the cold douche, do not go to extremes.

SUNBURN.—Baking soda is recommended, or cold cream, vaseline being also useful and inexpensive.

HEAT EXHAUSTION.—This must not be confounded with sunstroke or heatstroke. The distinctive characteristics are a cold moist skin, the skin being hot and dry in cases of sunstroke and heatstroke.

FREEZING AND EXPOSURE TO COLD.—This causes



severe depression of vitality, and must be treated with caution. It is essential to restore the bodily warmth, and with this object a warm bath, the temperature of which should be gradually increased to the bearing limit, should be used. If this is not available, heated blankets, exposure to the open fire, and the administration of a moderate amount of stimulants such as hot brandy or whisky and water, tea, coffee, or cocoa should be resorted to.

BURNS.—If slight and simply occasioning redness, dust well with flour, and wrap plenty of cotton wool round the part. If it has gone a stage farther, and blisters have formed, spread some vaseline, zinc ointment, or cold cream on strips of lint, or, for first application, *oil* is best; prick the blisters in several places with a needle to let out the fluid, wrap the ointment round it, apply plenty of cotton wool, and a bandage. Any very severe burn may be dressed in the same way, till help arrives. The chief aim should be to exclude all access of air. Give stimulants if necessary, and keep the patient warm. It cannot be too widely known that the best way of putting out the flames, when a person's clothes have caught fire, is to take the hearth-rug, a great-coat, or any similar article that is handy, and wrap it closely round him, or roll him in it so as to entirely prevent the access of air.

BURNS BY ACIDS.—Bathe the parts with an alkaline fluid, like dilute ammonia, or carbonate of soda in solution (this is generally at hand), and afterwards dress as a *burn*.

BURNS BY LIME.—Bathe the part with vinegar and water. If lime gets into the eye, it will do an immense amount of mischief, and always requires medical advice,



or permanent injury will result. Till advice can be procured, weak vinegar and water should be freely applied by running it over the eye.

**LIGHTNING STROKE.**—Apply cold to the head, and, if necessary, warmth to the extremities; rub the limbs well, and give some stimulants, as soon as the patient can swallow.

**FOREIGN BODIES IN NOSE AND EAR.**—Leave them alone. It is usually difficult for a doctor to remove them, and if an unskilled person attempts it, he will render the doctor's task much more difficult, probably impossible. Gentle syringing may alone be tried on the ear. The treatment of foreign bodies in the eye is referred to in the later chapter which deals with "Minor Injuries and Ailments."

**SWALLOWING FOREIGN BODIES, AS COINS, NEEDLES, ETC.**—Do not be in a hurry to give castor oil, etc.; in fact, do just the reverse. Keep the bowels confined, and give plenty of suet pudding, gruel, and such like food. By this means the needle or other object is more likely to get embedded in the mass, and to do no injury to the bowels. If the substance sticks before reaching the stomach, try the effect of swallowing large draughts of water, etc. If it is too large to pass into the stomach and cannot be reached with the finger, surgical aid must be sought.

**INJURIES TO THE HEAD.**—It is not the design of this work to go into the differences between concussion of the brain, hæmorrhage, and fracture of the skull. Their treatment till aid arrives is identical. Remove the patient as quickly as possible to a cool, darkened room, keep him lying down, perfectly quiet, with the head somewhat raised, and apply cold rags to the head.



APOPLEXY is due to the rupture of a blood-vessel in the brain. Paralysis may begin at once, or after some time, and is generally limited to one side. The patient has a slow pulse, stupor, heavy breathing, deeply flushed face, dilated pupils (generally), and paralysis may be detected, as one side of the face—the unaffected side—is drawn up, whilst the corner of the mouth hangs loose and is flabby in appearance. The doctor must be sent for at once, the patient being kept restfully quiet, with cold applications to the head, until his arrival.

INTOXICATION.--This must not be confused with apoplexy, which it sometimes closely simulates. The breath will usually indicate the condition of the patient, but to prevent mistakes inquiries should be made as to whether any alcohol has been given by those who first reached the patient. In these cases the patient can be roused from his stupor, and the eyeball is sensitive to touch. An emetic is very often of value, but must be avoided unless the evidence of intoxication is conclusive. Paragraphs constantly occur in the newspapers headed "Drunk or dying," which record cases of mistaken diagnosis in the case of patients taken to the hospital. Every hospital ought to have a casual ward containing a few beds in which all doubtful cases of intoxication or brain injury should be retained for twenty-four hours. Several of the best managed hospitals have long adopted this practice, which ought to be universal.

COMPRESSION OF THE BRAIN.—This is due to pressure on the brain caused either by bone, in the case of fracture of the skull, or of blood due to hæmorrhage within the skull. Symptoms: loss of consciousness,



with or without paralysis, and twitching of the muscles; the pupils are usually widely dilated, the breathing is heavy, and there may be convulsions. A doctor should be sent for at once, the patient being kept restfully quiet until the practitioner's arrival, which should be hastened.

#### IMMEDIATE TREATMENT IN CASES OF THE MORE COMMON POISONS.

*Acids* (Nitric, Sulphuric, Hydrochloric Acids).—Give continuously plenty of alkaline fluid well diluted. Bicarbonate of soda or potash, ammonia, sal volatile, common washing soda, chalk, magnesia, or whiting, whichever may be at hand, mixed with plenty of water. Thick gruel, white of egg, and milk are also useful.

Carbolic Acid and Creosote.—Give emetics;<sup>1</sup> lime water may be drunk, or a tablespoonful of sweet oil taken occasionally; stimulants will generally be necessary.

Oxalic Acid.—Give chalk, lime, or whiting. Do not give potash, soda, ammonia, or their salts.

Prussic Acid.—Death is so sudden that usually nothing can be done. Emetics, plenty of stimulants, hot and cold douche alternately, and artificial respiration may be tried.

*Aconite*.—Give emetics, stimulants, warmth and friction to the surface of the body.

*Alcohol* (Drunkenness).—Emetics, cold douche, keep the patient roused, flap with a cold wet towel, etc.

*Alkalies* (Potash, Soda, and Ammonia).—Give plenty of water, and in it a little vinegar, lemon juice, or orange juice; also white of egg, milk, gruel, and sweet oil.

<sup>1</sup> A list of useful emetics is given later on in this chapter.



*Antimony* (Tartar Emetic).—Generally there is vomiting: if not give an emetic. Large doses of strong coffee, milk, white of egg, may be used; stimulants, if there is much faintness.

*Arsenic*.—Emetics if necessary, plenty of magnesia, stimulants, warmth and friction to surface of body.

*Belladonna* (Deadly Nightshade).—Emetics, stimulants, coffee, hot and cold douche alternately, artificial respiration.

*Blister or Blistering Fluids*.—Emetics, barley water, white of egg, and gruel. Do not give oil.

*Chloral*.—Emetics; apply warmth and friction to the surface; keep the patient roused by speaking to him, flapping with a wet towel, etc.; artificial respiration.

*Chloroform*.—Lower the head, and commence artificial respiration; plenty of fresh air; hot and cold douche; stimulants when the patient can swallow.

*Copper Salts* (Bluestone).—Emetics if necessary; give plenty of milk and eggs, also barley water and gruel.

*Corrosive Sublimate*.—Emetics; plenty of white of egg beaten up in water, arrowroot or gruel; stimulants if necessary.

*Cyanide of Potassium*.—Treatment same as for Prussic Acid. This compound, which is very deadly, and which somewhat resembles sugar, is largely used in photography, and some other processes.

*Digitalis* (Foxglove).—Emetics, plenty of stimulants, etc.; keep the patient lying down for a long time.

*Hemlock* (Conium).—Emetics, strong tea, stimulants, warmth and friction, artificial respiration.

*Laburnum Seeds*.—Emetics, stimulants, hot and cold douche.



*Lead* (Sugar of Lead).—Emetics; give half an ounce of Epsom salts in water, also milk, white of egg, and barley water.

*Lunar Caustic* (Ordinary Caustic used to Warts, Corns, etc.).—Give plenty of common salt dissolved in water or milk emetics, white of egg, barley water, etc.

*Mushrooms*.—Emetics; stimulants freely; apply warmth and friction.

*Opium*.—Emetics. Keep patient walking about, pinch him, and try to rouse him in every way. Hot coffee, cold douche to head, artificial respiration.

*Phosphorus*.—Emetics; no oils or fats of any kind; white of egg, barley water, etc.

*Strychnia*.—Emetics; inhalation of chloroform if possible.

*Turpentine*.—Emetics; white of egg, barley water, milk, etc.

*White Precipitate*.—Emetics; plenty of white of egg beaten up in water; arrowroot, barley water, etc.; stimulants if necessary.

Such are the poisons most likely to be met with, and their treatment. A few explanations are necessary.

Friction and artificial respiration must be applied as in the directions already given under the head of "Drowning."

Stimulants include all wines and spirits; in bad cases preferably the latter, and often with hot water. Also sal volatile, strong smelling salts, ammonia to the nostrils, etc.

EMETICS.—The one most usually at hand is mustard—a tablespoonful to half a pint of water; or common salt, two tablespoonfuls to half a pint of water.



Sulphate of zinc, 30 grs. (half a teaspoonful) in water, is about the best of all if obtainable. It should be kept in remote country districts in the house ready weighed. Powdered ipecacuanha, same dose in water, or ipecacuanha wine, two tablespoonfuls in water, may also be taken. Tickling the back of the throat with the finger or with a feather will help to produce vomiting, and so will draughts of tepid water.

The following are POISONOUS COMPOUNDS in common use, with the poison they contain, and in accordance with the directions for which they must be treated:—

Almond Flavour: Laurel Water: Essential Oil of Almonds: Benzol and Nitro Benzol:—*Prussic Acid*.

Chlorodyne: Godfrey's Cordial: Syrup of Poppies: Soothing Syrup: Nепenthe:—*Opium*.

Vermin Killers: almost all made up of *Strychnia*.

Rat Poisons: Lucifer Matches:—*Phosphorus*.

Emerald Green: Fly Papers:—*Arsenic*.

Salt of Sorrel or Essential Salt of Lemons is really an acid oxalate of potash, and must be treated like *Oxalic Acid*.

Spirit of Salt:—*Hydrochloric Acid*. Sometimes kept in houses to clean brass.

INDIGESTION.—There are several forms, and it is not easy to give only simple remedies. Cases of heart-burn or the sharp burning pain felt at the pit of the stomach after a meal are best relieved by small doses of bicarbonate of soda—about as much as will lie on a sixpence—dissolved in a wine-glass of water. Indigestion with much pain and distress, if it can be traced to a heavy meal, or a meal which has consisted of some very indigestible food, is cut short almost at once by an emetic. Colic or spasm is often a most intensely



painful disorder: till medical assistance can arrive hot turpentine fomentations may be applied externally, and hot brandy and water may be administered. If very severe, nothing but opium will relieve it, and chlorodyne in twenty-drop doses every two hours may be given; but never give this to a child, and, if possible, get medical advice before resorting to such strong drugs, especially as stronger opiates still may be required.

TOOTHACHE.—If due to commencing inflammation or congestion about the fangs, etc., this will be relieved by hot bran poultices made as directed in the chapter on "Nursing." Rubbing the gums with equal parts of laudanum and spirits of chloroform will also often relieve it, but great care must be taken in using such strong remedies. Internal remedies, when the pain is very acute, must be of such a character that they should only be given under a medical man's directions.

NEURALGIA.—External remedies known as counter irritants often give relief, as mustard poultices, etc., or strong sedative liniments—aconite or belladonna liniments especially—but these are exceedingly poisonous. Internally, quinine in five-grain doses may be tried, but, if not successful, medical advice should be sought before using stronger remedies. Quinine in this dose is best taken as a powder in a small quantity of coffee, which effectually disguises the taste.



## CHAPTER XIV.

### DISEASES OF CHILDREN.

*Symptoms — General Hints — Feverishness — Teething — Thrush—Discharge from the Eyes—Eczema of Head—Thread Worms—Descent of the Bowel—Constipation—Diarrhœa and Vomiting—Nocturnal Incontinence—Diseases of the Lungs—Croup—Scalds of Windpipe—Convulsions—Children's Food and Management—Need for Sufficiency of Milk.*

THE diseases to which children are subject are, as a rule, those which attack older people; but there are undoubtedly diseases peculiar to children; and diseases in children are so modified by the marked excitability of their nervous system and other peculiarities, that something, however little, must be said concerning them. It is impossible here, however, to go into the subject fully. To do so would alone more than fill the space allotted to this part of the work. Now, children can tell us nothing; all their symptoms must be made out by careful observation of their ways, their appearance, their manner, etc., and the utmost must be made of the least change from the child's habitual demeanour. After some experience it is easy for a medical man to tell almost with certainty, from simple observation of a child for a few minutes, what that child may be suffering from; and this habit of observation must be acquired by any one wishing to become



a good nurse, or to be useful to her children in their various maladies.

As an example, take the case of a child with inflammation of the lungs or chest walls. He will probably be found lying on one side, and will show repugnance if an attempt is made to turn him on the other; the breathing will be very hurried, and the breaths short and shallow; he will have a short, dry cough, interrupted almost as soon as it has commenced; there will be no wheezing and rattling, as in bronchitis; he will spit nothing up at any time, but this is peculiar to children, as they swallow the phlegm at once, and cannot be taught to spit matters out of their mouth; the face will look flushed and feverish, and the nostrils will be hard at work with each breath; the pulse will be very fast; the body will feel extremely hot and dry, seeming to almost burn the hand; the cry will be like the cough, merely a short, sharp whimper, interrupted almost as soon as commenced, as if the attempt gave him pain; his whole time will be taken up, as it were, with the difficult task of breathing; he will wish to be left alone, and probably show repugnance to any interference, declining all food, except cold water, which he will drink with avidity.

Much more might be pointed out as to the different stages of the disease, but, as a contrast, let us take bronchitis, and show the differences between the two. Here the little sufferer will still breathe quickly, and the nostrils will work rapidly, more so as the disease progresses; there will obviously be much secretion about the lungs, and wheezing, rattling noises will be heard in the chest and throat; the cough will be much longer and looser; it will evidently be attended with



much expectoration, which is usually at once swallowed, but occasionally it will come up in quantities, and can be wiped out of the mouth; he will not lie on his side, but will like to be raised somewhat in bed, as he can then get his breath more easily; the skin will not feel hot and dry, but be covered with perspiration, brought on by the muscular exertion of working hard for his breath; the pulse will be fast, but perhaps chiefly from the exertion of breathing, much force being required, as it were, to pump the air in and out of the obstructed tubes, and food will still be declined. This will show what can be done in the matter of observation in children, and, did space permit, each different disease might be taken *seriatim*, and the differences noted; enough, however, has been given for an example. It will be the nurse's duty to note all these points, however trifling, and report them to the doctor. A few of the more common ailments of children and their treatment must be shortly described.

FEVERISHNESS.—So excitable is their nervous system that the least thing may throw children into a state of violent fever—even some undigested food may do this: so that it is not wise to be unduly alarmed, unless other symptoms declare themselves that point unmistakably to disorder of some particular organ. If indigestion is supposed to be the cause, and the child is quite an infant, a small dose of grey powder can do no harm, and may give relief when it has acted. It is astonishing how small a dose will do good; half a grain is ample, and will act as well as a much larger dose. It may be given in a little milk, and the child will not notice it. Whilst on the subject of medicines, the old practice of giving large nauseous powders must be



emphatically condemned; the dose of grey powder suggested, or, for an older child, the same dose of calomel, is ample, quite tasteless, and may be given in a little milk without the child knowing it. These powders, unfortunately, must not be given regularly in obstinate constipation, or they would in time cause serious symptoms. Small pills containing these ingredients (and many other sorts also) are now made up and sold as "parvules". They look like small rose-coloured pills, have a sweetish taste, and children suck them like sweets; they cannot be too highly recommended and used. Further treatment for feverishness may consist of a warm bath, or sponging with warm water, and rest in bed in a well-ventilated, darkened room.

TEETHING.—This process reacts on the nervous system in various ways in different children: one child may have diarrhœa and symptoms of bowel disorder at the cutting of each series of teeth, another will have all the symptoms of a bad cold, whilst another may have a somewhat severe attack of bronchitis at these times. More care must be given to the diet and nursing, and the various disorders must be treated medically. If, as in the more favourable cases, there is only some slight fever, it may be treated as in the former paragraph. Lancing the gums is occasionally useful, but should not be performed till the tooth is evidently just ready to come through, and is producing symptoms of irritability. There is no doubt that teething may give rise to convulsions.

The first teeth generally cut are the two front teeth of the lower jaw (as a rule, those of the lower jaw just precede the upper), then the corresponding teeth of the upper jaw; next will come the four teeth on each side



of these. The front teeth usually appear at the seventh month, and the second at the ninth, but there are many exceptions; some children do not begin to cut their teeth till they are a year old. The first set of teeth are generally complete from the age of two years to two and a half. The number of the first set is twenty.

THRUSH.—Generally denotes a weak state of health, and is due to improper food. The great mistake is to begin farinaceous food too soon. This should never be commenced till the child is six months old, except under medical advice, and even then some of the partially malted foods should be used, beginning with very small quantities, as Mellin's or Liebig's foods for infants. It is customary to treat thrush by smearing the tongue with a nasty mess of borax and honey. As it is due to the development of a fungoid growth, it is much more rational and effectual to keep the mouth frequently wiped with a rag dipped in sanitas lotion, or in a saturated solution of boracic acid. Great attention should always be paid to the cleanliness of feeding bottles, etc.

DISCHARGE FROM THE EYES.—Many new-born children are subject to a discharge from the eyes, which, if neglected, gets very profuse, gumming the lids together after sleep, and soon destroying the eye. It is generally the custom to regard this very lightly, and we mention the subject here to condemn such negligence most emphatically. If treated early the discharge is easily cured, but numbers of eyes are lost annually from neglecting the first stages. Alum lotion (a teaspoonful to a pint of rain water) should be thoroughly washed over the surface of the globe of the eye every half-hour. Wipe all discharge away with a piece of



rag dipped in the same lotion, and burn the rag immediately, as the discharge is very infectious. For the same reason, wash the hands well after each application of the lotion, use separate towels, etc.

ECZEMA OF HEAD.—This is another disease often much neglected till great mischief is done. If slight, soften the scabs well with plenty of sweet oil, almost continuously applied, and then rub in some vaseline. If severe, the scabs must be softened by using linseed poultices with sweet oil, till they can be removed, and then zinc ointment or vaseline may be used. The general health may require treatment at the same time.

THREAD WORMS.—These are always situated at the lower end of the bowel. It is useless and weakening to give the child aperients for them, though of course constipation must not be permitted; they are best cured by injections of salt and water, given with a small india-rubber bottle. They often cause the screaming at night, and nightmare, to which some children are subject, and occasionally worse troubles, such as convulsions, etc.

DESCENT OF THE BOWEL.—Generally caused by constipation. To this attention must be paid. When the bowel is down bathe it carefully with alum lotion, and then replace it. If this does not succeed, consult a doctor.

CONSTIPATION.—If the child is very young, a teaspoonful of glycerine every morning will often succeed in overcoming it, or rubbing the bowels night and morning with sweet oil. Sometimes very small doses of belladonna, given every night in the way already referred to as a parvule, will in time produce a proper action. In older children fruit may be tried, or the diet may be varied.



DIARRHŒA AND VOMITING.—Generally due to faulty feeding. If it shows signs of continuing, do not neglect it, but seek medical advice at once. On its first appearance give only milk, or milk and lime water in proportions, according to the age, with a few drops of brandy; give more meals, and less quantities at each meal. If the child has habitually much flatulence, a few drops of brandy will do good.

NOCTURNAL INCONTINENCE.—If children wet their beds after two years of age, on no account neglect it, but consult a doctor, and if he says that they will grow out of it, consult another. It is easily cured at this age as a rule, but, if neglected, the habit becomes so confirmed that it is most difficult to overcome it.

DISEASES OF THE LUNGS.—In bronchitis it is very necessary to keep up a warm moist atmosphere whilst the attack lasts, and the child should remain continuously in one room at a certain temperature, with a bronchitis kettle at work, or some hot water poured occasionally into a bucket standing near the bed, so that the steam may escape into the room. It is of no use to simply keep a kettle boiling on the fire, as the steam goes then straight up the chimney; a tube must be put to the spout of the kettle, so as to convey the steam into the room.

Inflammation of the lungs in children is generally a further stage of bronchitis.

CROUP.—The most common form of croup is due to inflammation of the upper part of the windpipe, and is dangerous from the small size of this tube in children, so that the swelling caused by the inflammation may quite block it. It is the same cause that renders bronchitis in children so much more dangerous than in



grown-up people. In this disease the precautions given for bronchitis must be emphasised. A tent must be made by tying four poles, each about six feet long—one to each corner of the bed—and spreading sheets or blankets over them, so as to leave only one opening for access to the child; the tube from the kettle must be led into this tent, and the air inside it thus kept warm and moist. Croup is known by the hoarse voice or total loss of voice, the peculiar noise made in breathing, and the harsh paroxysms of cough; almost every parent is familiar with the sound. Always give a hot bath immediately, which often affords effectual relief. Should the breathing get worse, however, lay some sponges dipped in water as hot as they can be borne over the throat just above the breast bone. It is a common custom to give ipecacuanha wine till the child is sick, but in every case at all severe get a doctor at once; soothing medicines and patience do just as much good as emetics. The child usually gets better the next day; but do not be deceived, continue all precautions, for the breathing is almost sure to get worse again at night for some few nights.

It must be mentioned that there is another form of croup, happily very rare, which is exceedingly dangerous, and almost always fatal. It is, however, impracticable to describe it, and it is only mentioned here to show how necessary it is to procure the early attendance of a doctor. Till he arrives the treatment above given for croup is all that can be done.

SCALDS OF WINDPIPE.—Not very infrequent. They occur thus: A young child tries to drink water out of the spout of a kettle, or some vessel containing boiling water. The moment the water gets into the mouth,



the pain causes the child to shriek loudly, during which he takes a deep breath, and the water is drawn into the windpipe. The symptoms and treatment correspond almost exactly with those of the most severe forms of croup.

CONVULSIONS.—Only too common, and need no description. Send for a doctor, and till he arrives make a minute examination of the child, to see if you can detect any source of irritation that may account for the fit. If you can remove it, the convulsions will probably soon cease; a pin may be pricking the child, or the attack may be due to the teeth, etc. Undress the child and put it in a hot bath (100° F.), and put some cold rags to its head. Keep it in the bath twenty minutes, and whether the convulsions cease or not, wrap it then in a blanket, and put it in bed; keep it perfectly quiet in a darkened room, and avoid all noise, talking, etc.; continue the cold rags to the head. A convulsion is often the prelude in children to an attack of some severe disease, as scarlatina, pneumonia, etc.

CHILDREN'S FOOD AND MANAGEMENT.—It is terrible to think of the enormous sacrifice of infant life that takes place every year because parents, or those in charge of children, neglect to feed and tend them properly. In ninety cases out of a hundred the child is born healthy, and, if properly reared, would develop into a robust and vigorous adult. In the middle classes, and especially the upper middle classes, too much fuss is often made, and children become delicate because they are crippled by over-tending. Abundance of light, air, and nourishing food are essential. Yet in London, for instance, how much air and light are the children allowed? The nurseries (day and night) are



usually at the top of the house, and are—more often than not—confined, low, and ill-ventilated apartments, in which it is humanly impossible for a child to progress satisfactorily. As to food, it is sad to reflect how many mothers are wholly ignorant of the art of feeding a little one. When the child becomes less and less vigorous, it is regarded as a sickly member of the family, and medicine is prescribed, instead of the change of diet and healthful regime needed. If a child cries, it is either frightened, in pain, or hungry, and this fact should not be lost sight of by mothers. It is not too much to say that if children are brought up under a good system, if they are fed upon good, plain, wholesome food, and if their sleeping accommodation is adequate, they will thrive as well in London as anywhere else.

By good food is meant suitable food properly cooked. For a baby not fed by the mother, cow's milk, rightly mixed, is most nourishing. When milk does not appear to agree with the child, then inquiry will almost certainly show that the fault lies in the mixing, and not in the milk. The constitution of one child differs from that of another, and this fact must keep the careful nurse on her guard, to anticipate and provide for any peculiarities of diet which may be necessary in consequence. Remembering this, it may be broadly asserted that a healthy child will do well on milk alone for the first six months. Afterwards must be added by degrees biscuit powder, or some other similar food, to be followed in from three to six months by beef tea. When meat is given at first, raw rump steak, finely minced and cooked by means of boiling gravy poured over it, should be given in small quantities. When



meat in larger quantities is required, none but that which has been once cooked only should be given to children. They cannot digest twice-cooked food, and it ought never to be given to them.

In this connection attention may usefully be called to the cruelty practised upon the children of the poor by certain landowners and farmers, who refuse to supply the poor with milk. Attention was once called in the *Lancet* to the action of a wealthy landlord in Northamptonshire, who behaved with brutal tyranny to the poor on his estate. Here, in three weeks, out of a population of 100 souls, three children are reported to have died from want of that nourishment which good milk could alone supply. In one of these cases the parents resided under the same roof that covered the squire's dairy, wherein was stored the milk of a large herd of cows. Not one drop of milk was, however, allowed to be given to the poor suffering little one; nor in this village could the poor procure milk. Now and again buttermilk was occasionally given in small quantities, but since the *Lancet* exposed the landlord's cruelty this practice is forbidden. The author regrets that he cannot print the name of the squire in question, as he deserves the contempt of all men. In this Northamptonshire village the diet of the babies has, in consequence, to consist of corn-flour, bread and water, and death soon terminates their sufferings. No wonder the population in villages is decreasing! It would be a great gain if the clergy in each parish were to arrange to supply milk from the school or some other centre. The present state of things is a disgrace to our common humanity, and a remedy must speedily be found for it.



## CHAPTER XV.

### GENERAL HINTS ON NURSING.

*Rules for the Sick Room—Arrangement of the Sick Room—Ventilation—Washing and Bathing the Patient—Bed-making—Bed-pan—Feeding-cup—Feeding the Patient—Preservation of Ice—To give Cod Liver or Castor Oil—To apply Leeches—To apply a Blister—To give an Enema—To give Suppositories—Medicine Measures—Bed Rests—Useful Drugs and Apparatus—To introduce Eye-drops—Poultices—Fomentations—Cold Applications—Liniments—Bed-sores—Report for Doctor—How to take Patient's Temperature.*

RULES FOR THE SICK ROOM.—Consider in all things the comfort of the patient. If light or noise seem to annoy him, rectify the grievance as effectually as possible. Do not worry him with unnecessary questions, or press food on him when he has great distaste for it, unless you are specially told to do so by the medical man. Loud talking must on no account be permitted, but whispering is often just as cruel, as the patient may strain his attention to hear what is said. Do not discuss his symptoms before him, and especially not any bad symptoms; when you think he is asleep he may only be dozing, and it would then be gross cruelty. Avoid all unnecessary noises; do not rustle a newspaper; bring the coal up wrapped in paper, and put it on the fire with your hand. Do not allow



visitors into the room indiscriminately, but only such as are likely to be quiet and helpful. Always look cheerful and pleasant before him, and, if he is low-spirited, do your best to encourage him. Empty slops outside the room, carefully clean all vessels, and keep a small quantity of some disinfectant in the bed-pan. Never leave the room without looking round to see if there is anything you have to take with you.

ARRANGEMENT OF THE SICK ROOM.—This room, if possible, should be on the cheerful and quiet side of the house. A fireplace as a means of ventilation is most essential. The bed should not be exactly facing the window, and it should be near the centre of the bedroom, that air may get to it on all sides, and the nurse move easily round it. Screens may be placed, if necessary, so as to exclude superfluous light and draughts. All useless ornaments and articles likely to form a lodging for dust must be removed, but a daily supply of fresh flowers will tend to brighten and enliven the room. Place a small table by the bed within easy reach of the patient, and on it any drink, fruit, etc., that he may be constantly desiring. Keep the medicines handy, but all poisonous drugs should be kept carefully by themselves, and preferably under lock and key. The temperature of the room should be from 60° to 65°, except in bronchitis, croup, or other diseases, in which the doctor's orders must be taken. The thermometer should neither hang exactly over the fireplace nor in the draught from the window.

VENTILATION.—This is a most essential requisite, but one for which probably least provision is ordinarily made. When possible, and it is very seldom not so, one of the windows should always be down an inch at the



top; a screen being arranged, so that there may be no draught on the patient. Do not be afraid of night air. This fear is a popular delusion; in towns, at any rate, the night air is usually the purest. A small fire or a lamp in the grate will help greatly to purify a room. On no account burn pastilles and spray scent about a sick room; such means only conceal the smell without purifying. If there is any smell, let it be removed by ventilation. In very cold weather, or when the patient is suffering from certain throat and lung affections, the room must be ventilated thoroughly three or four times a day, either by opening the window freely for a few minutes, and covering the patient entirely with blankets, or by first admitting fresh air into an adjoining room, and then, when it is warmed, opening the intervening door. It is seldom advisable to ventilate by means of the door; the stale air of the house, kitchen smells, and noises get in at the same time. The number of cases in which the window is better kept closed is quite infinitesimal. It is a most fearful but popular mistake that fresh air is in some way poisonous.

WASHING.—Unless otherwise ordered, the patient should have his body sponged over as far as practicable every morning, and the face and hands again at night. There are few diseases in which this is impracticable if it is carefully performed, and too much of the body not exposed at one time, and it adds greatly to the patient's comfort. The teeth and mouth require especial care if he is unable to attend to them himself, or dark-coloured foul discharges gather round the teeth and gums. The nurse should in these cases dip a rag in sanitas and water, or lemon juice and water, and carefully cleanse the teeth and gums with it, afterwards



burning the rag. In some fever cases this must be done very frequently. A small piece of stick or whalebone with the rag tied to it is preferred by some. Mackintoshes over the sheet to protect it whilst washing are useful, but they strike terribly cold unless first well warmed; therefore a clean old blanket is better.

BATHING.—This must only be done under instructions from the doctor. Get everything ready before disturbing the patient, as quickly and noiselessly as possible, and avoid all undue exposure, especially during the operation of drying. The following list will be useful:—

Cold bath,	.	.	.	40° to 60° Fahrenheit.
Tepid bath,	.	.	.	70° „ 80° „
Warm bath,	.	.	.	80° „ 95° „
Hot bath,	.	.	.	96° „ 100° „

On no account have the temperature over 100° F. unless specially ordered.

BED-MAKING.—Have all sheets, blankets, changes of linen, etc., well aired immediately before use. In all bad cases with much hæmorrhage or discharge, keep a clean mackintosh under such part of the patient as is requisite, and place a draw sheet over it. The draw sheet is one of a nurse's most serviceable agents, keeping the patient dry, and protecting the bed; in some cases it requires changing frequently, and it is of the utmost importance that this should be done with the least possible disturbance. A soft old sheet having been folded to the required width (generally two feet), let the sheet be rolled up at one end, leaving just sufficient of it to pass under the patient's buttocks. When the sheet is wet, draw it through from the side



opposite to the one under which it was first passed, unrolling just enough of the clean end to secure a dry piece under the buttocks. The soiled end may then be rolled up tightly and pinned. In this way one draw sheet will be sufficient for several changes, and by pinning a clean one to it, a succession of draw sheets may be passed under a patient with the least possible disturbance. When it is necessary to change the bed-clothes of a bed-ridden or nearly helpless patient, the following will be found an easy course to pursue: Having a clean sheet half rolled up, turn the patient on one side, roll up the dirty under sheet as close to the patient as possible, and place the unrolled half of the clean sheet over that portion of the bed from which the dirty linen has been removed; then turn your patient on to this, and having removed the remainder of the dirty sheet, and replaced it by unrolling the clean one, the patient will be made comfortable very rapidly and with the least possible inconvenience. If the patient is too weak to be thus moved, it is not difficult to change the under sheet without much disturbance, provided the aid of an assistant is secured. With this method it is necessary to begin at the head of the bed, to gradually roll up the dirty sheet, and at the same time to replace it with the clean one, which must be rolled up and put in readiness at the head of the bed before the dirty linen is removed. With a little practice this may be done quickly, and without any discomfort to the patient. In surgical cases, fractures, etc., the patient may grasp the bed-pull, and thus raise himself sufficiently to allow the sheets to be changed without any trouble or delay.

BED-PAN.—Should always be provided with china



not wooden lid. The slipper shape is sometimes preferred. Introduce it at the side of the bed, bend the patient's knees, and slip it under him. Place some disinfectant powder in it before use; cover it afterwards with some more powder, and remove it immediately from the room.

FEEDING-CUP.—Should have a nicely curved spout, better if at right angles with the handle. Scald it after use.

FEEDING.—Bring the meals on a tray covered with a clean napkin. Prop the patient up with bed rest or pillow, cover his shoulders, and put a napkin under his chin. If he has to be fed, do not hurry him, wash his mouth afterwards, and make him comfortable. Remove all food from the room at the end of a meal. Do not in severe cases let him sleep too long without food, but in these cases get instructions from the doctor, as sleep may be more beneficial than food. Feeding a patient in an unconscious or semi-conscious state is often a matter of some difficulty: the points to remember are: (1) to give only a small quantity at once; (2) to pass it well back to the root of the tongue. This often seems a bold plan, but really it is safer than the more timid practice of just passing it between the lips. In the former case it immediately calls into action those muscles concerned in the act of swallowing, and usually at once disappears; in the latter it remains gurgling and accumulating in the mouth, until it is perhaps suddenly drawn into the windpipe by the patient taking a deep breath, when it gives rise to alarming symptoms of choking. Sometimes it is possible, if the patient keeps his teeth firmly clenched, to pass one finger between the teeth and cheek, and



draw the cheek outward, thus forming a pouch into which the nourishment may be poured; then by withdrawing the finger and keeping the head low, the liquid may often be pressed into the centre and back part of the mouth, when it is immediately swallowed. In these cases only liquid nourishment must be given. In any severe case it is advisable to get the medical man in charge of the patient to order in writing the diet of the patient, and this must be strictly adhered to. Soda water and milk (3 parts to 1) is a most refreshing drink for a feverish patient. In cases of serious or exhausting disease, always give the patient a little warm food—warm milk or arrowroot—with perhaps a little brandy in it just before he settles down for the night. Also have ready for him when he wakes early in the morning a little warm nourishment, and keep rather more fire going, as it is at this time that the period of lowest temperature of the body is reached, and a little extra warmth should be furnished, that he may quickly rally from any approaching exhaustion.

PRESERVATION OF ICE.—Ice in many cases of illness is so valuable that any hint as to its preservation is useful. To prevent it from melting too quickly the great need is to drain its water away as quickly as it forms. This is best done by getting a piece of coarse flannel with large open meshes, and tying it round the mouth of an ordinary tumbler, so as to leave a cup-shaped depression of flannel to half the depth of the tumbler. This flannel cup may be filled with small pieces of ice, and another piece of flannel put over the top. A reserve supply in a cool place outside the bedroom may be secured by making a flannel cup on the above plan, in a jug, and filling it with ice, care being taken that there



is space enough below the bag to allow the water to collect, and leave the ice dry. Ice is best broken into small pieces by the point of a strong needle or skewer.

TO GIVE COD LIVER OR CASTOR OIL.—Rinse out a wine-glass with a little brandy, leaving a few drops at the bottom of the glass. Pour the dose of oil into the glass, and the spirit will roll the oil, so to speak, into a ball like the yolk of an egg, which can then be easily swallowed without any unpleasant taste. A little milk may be afterwards taken. Another good plan is to divide a lemon, squeezing the juice from each half into a separate tumbler. To the one add a wine-glassful of water, and sufficient sugar to make it palatable. In the other tumbler, beat up the dose of oil with the lemon juice, then add some sugar and a little water; stir this well up to the moment of swallowing, and after taking it, give the patient the previously prepared lemonade. Others recommend that the oil should be mixed with milk or coffee, or, better still, with a small basin of soup. It may be added that one teaspoonful of glycerine and two teaspoonfuls of castor oil make a most effectual dose.

TO APPLY LEECHES.—Thoroughly clean the skin, and smear a little milk or porter over it. Place the leech or leeches in a glass and invert over it. When gorged, they will always drop off. Never place them over a large vein. If more blood is desired, bathe the bites with hot water, or apply hot fomentations for a few minutes. If they bleed too freely, place a small thick pad of lint over them, and press firmly for some time.

TO APPLY A BLISTER.—Blistering fluid may be painted on the part, or a plaster may be employed. The former is cleaner and more simple. The latter should be



bandaged on, not stuck down with adhesive plaster, which would be drawn upon after a time as the blister rose, and cause much pain. It usually takes six to twelve hours for a blister to rise. When risen, the blister may be pricked to let out the fluid, and dressed with some simple ointment, or the thin raised skin may be removed altogether by cutting round its edge with scissors, and then the raw surface dressed, with simple ointment, or, if it be desired to keep the blister open for some time, with savin ointment. If a blister does not rise after twelve hours, a poultice or hot-water dressing will often cause it to do so.

TO GIVE AN ENEMA.—Pass first plenty of hot water through the apparatus, with the object of warming it, and also of seeing that it works properly. The nozzle must be oiled, and introduced into the lower part of the bowel, the patient lying on his left side. Enemas are given with two objects: (1) to relieve the bowels, when not less than  $1\frac{1}{2}$  to 2 pints of liquid must be used; (2) to supply nourishment to the patient, or to relieve diarrhœa, when small injections must be given of 2 to 3 oz.;—a small elastic bottle of that size is best for these cases. When large injections are used, they must be very gradually pumped up, stopping occasionally when they cause straining, till it has passed away. The second class of injections are used small, that they may be retained as long as possible. The following are some of the most commonly used injections:—

(1) Warm soap-suds and water.

Warm gruel very thin, strained through fine muslin to prevent its clogging the instrument.

Castor oil, 2 or 3 oz. added to either of the above.



- (2) Starch injection, 2 oz. of thin starch with 30 drops of laudanum. This is to relieve diarrhœa, and must only be given to a grown-up person.

Nourishing injections must be given under instruction from the doctor. They are now usually mixed with one of the numerous digestive extracts so much in vogue, which causes them to undergo a process of artificial digestion in the lower part of the bowel, and to be more readily taken into the system.

TO GIVE SUPPOSITORIES.—Introduce them with the finger for a short distance into the lower part of the bowel, the patient lying on his left side.

Subcutaneous injections should on no account be given, except after instructions and directions from the medical man.

MEDICINE MEASURES.—One of these should be kept in every house; it is not safe to trust to ordinary spoons.

1 teaspoonful	= 1 drachm, or 60 drops.
1 dessertspoonful	= 2 drachms
1 tablespoonful	= $\frac{1}{2}$ an ounce, or 4 drachms.
2 tablespoonfuls	= 1 ounce.

Keep all poisons in blue *fluted* bottles; they can thus be recognised, even in the dark.

BED RESTS.—Messrs. Hooper & Co., Pall Mall East, supply a useful and inexpensive bed rest, made of galvanised iron or cane, which is strong, light, and portable.

To use this rest the bolster and pillows must be removed, and the rest firmly placed on the mattress. A pillow is then placed over the framework, against



which the patient leans. This rest will be found to answer its purpose quite as well as the more complicated ones.

A chair makes a very efficient bed rest in an emergency. The legs of the chair are to be turned upwards and the seat backwards, so that the upper part of the back of the chair slopes gradually under the back of the patient, who rests against it on pillows.

DRUGS AND APPARATUS THAT MAY BE USEFULLY  
KEPT IN ANY HOUSE.

Higginson's Enema Syringe.	Gutta-percha Tissue.
Forceps, to remove splinters.	Cotton Wool.
Lancet.	Mackintosh.
Graduated Glass Measure.	Strapping.
Lint.	

What is known as soap strapping is preferable; it is much less irritating than the ordinary yellow adhesive strapping, and is the only sort that should be used to a wound.

Epsom Salts.	Sal Volatile.
Castor Oil.	Sulphate of Zinc.
Zinc Ointment.	Linseed Meal.
Vaseline.	Poppy Heads.
Soap Liniment.	Bran.
Compound Camphor	Alum.
Liniment.	Lime Water.
Ipecacuanha Wine.	Lunar Caustic in Holder.
Turpentine.	Sweet Oil.
Laudanum.	
Strong Ammonia (Harts-	
horn).	

} For external use only.



Carbolic Acid (Liquid).	} Useful for disinfecting purposes.
Sanitas (Liquid and Powder).	
Condy's Fluid.	
Chloralum.	
Roll Sulphur.	

All are not absolutely necessary; a selection may be made. Most of their uses will be indicated in future pages.

TO INTRODUCE EYE-DROPS INTO THE EYE.—This must be done with great care and gentleness. Take a quill pen and round off the point; dip it into the bottle containing the lotion, of which it will take up one or two drops. Then draw down the lower lid, and touch the inner red surface of the lid with the tip of the quill; the drops will at once flow over the surface of the lid, which must then be released. A camel's hair brush may be used in the same way. If there is very much discharge, as in the inflamed eyes of children, it is much better to lay the child on its back with the head level, and pour plenty of the lotion into the outer corner of the closed lids; then open both the upper and lower lids, and the lotion will run over the eye, carrying all discharge away with it, and escaping at the inner angle of the eye.

POULTICES.—*Linseed Poultice*.—Scald the basin to be used in its preparation, then put into it the proper quantity of boiling water. Into this sprinkle sufficient linseed meal; and stir constantly with a wooden spoon or spatula till it is of the proper consistence. When mixed, turn it out on a piece of clean rag or tow (muslin, called tiffany, about 2d. a yard, is better than



rag or tow) of the requisite size, and spread it evenly over the surface. Next fold the sides of the muslin neatly into the margin of the poultice, and spread a little vaseline or sweet oil over its surface. If this is done, and too much water has not been added, it will not adhere to the skin on removal, but, to prevent this, some persons prefer to lay a piece of very thin muslin over it. Apply it as warm as it can be borne; cover it with a thin sheet of mackintosh, and apply a bandage, or, if on the body, pin a warm towel round the body to keep it in place. A poultice thus applied ought to keep hot for about four hours, and should then be removed.

*Charcoal Poultice.*—Made by adding two or more tablespoonfuls of finely powdered charcoal to the linseed. It is most valuable in removing the smell from foul wounds.

*Opium Poultice.*—Sprinkle a teaspoonful of laudanum over the surface of the linseed poultice. Used to relieve pain.

*Bread Poultice.*—Put the necessary quantity of stale bread into a basin, and pour over it sufficient boiling water to soak it thoroughly; let it remain for about five minutes with a plate covering the basin, then drain off superfluous water, and place the bread between layers of muslin or soft old linen.

*Jacket Poultice.*—Two large linseed poultices, one to the chest, the other to the back, and kept in place by a towel pinned firmly round the body. Useful in many cases of acute lung disease.

*Mustard Plaster.*—Mix ground mustard with warm water to a thin paste, spread on brown paper or cloth; cover it with thin muslin, and apply it till the surface is



reddened; this ought to be on from twenty to thirty minutes. Mustard leaves are generally used now; they are much cleaner and more elegant, but give rise to more pain, and their effect is less.

*Yeast Poultice.*—One pound of flour or linseed meal mixed with half a pint of brewer's yeast. The mixture to be heated in a jar placed in a saucepan of water over the fire, and carefully stirred to prevent burning. When very hot, it must be spread like other poultices on tow or muslin.

*Bran Poultices.*—Dry heat is often much more comfortable than moist, especially when poultices from their position, as on the face, cannot be everywhere closely applied to the skin. For this purpose bran poultices are the most comfortable ones. They are made by filling muslin bags with bran, and quilting them once or twice, after which they are heated in the oven and applied. Two should be in use at the same time, one in the oven, the other on the patient. Chamomile flowers may be used instead of bran.

In some cases of neuralgia and lumbago greater heat is required; then hot *sand-bags* will be found most serviceable. They also retain the heat a very long time, and by their weight exercise some pressure on the part, which again helps to relieve the pain. Sand-bags are made by filling with sand pieces of ticking sewn up as long and rather narrow bags; they must not be filled too full, or they cannot be so well adjusted to the part.

HOT FOMENTATIONS must be hot and well wrung out. Coarse flannel is the best material. Put a short round towel over an empty basin; place the dry flannel in the towel, and pour over it plenty of boiling water.



Quickly wrap the towel round the flannel, and twist the two ends of the towel (into each of which a wooden roller may be first inserted) in opposite directions, so as to squeeze out all the water. Apply it immediately, and cover it and the adjoining parts with a piece of mackintosh, and with another thick piece of dry flannel, doubled so as to thoroughly overlap the wet flannel on all sides. These fomentations must be changed about every four hours or as soon as they feel cold.

POPPY FOMENTATIONS. — Crush two poppy heads and boil well in two pints of water ; strain, wring out a flannel in the hot liquid, and apply in the same way.

TURPENTINE FOMENTATIONS. — Sprinkle a tablespoonful of turpentine over the surface of the hot flannel prepared as for hot fomentations. Keep it on about twenty minutes, or till the skin is quite red.

LAUDANUM FOMENTATIONS. — Sprinkle in the same way a teaspoonful of laudanum over the surface of the hot flannel. These may be applied continuously like the hot fomentations as long as there is pain, being renewed when cold.

COLD APPLICATIONS. — *Ice-bag.* — Half fill a thin bladder or india-rubber bag with small pieces of ice ; if filled, it does not adapt itself to the part. It must be renewed before the ice is quite melted. Used to allay inflammation in a wounded part.

*Evaporating Lotions.* — Made with vinegar or spirit, in the proportion of a wine-glassful to half a pint. They must not be covered, but left to evaporate quickly, as they thus act by keeping down the temperature of an inflamed part. The bed during their use must be protected by waterproof sheeting. One or two folds of



rag must be laid over the part, and kept constantly wet with the lotion. It is a common mistake to use too many folds of rag; when this is done, the lower layers get quite hot, as their lotion cannot evaporate: they thus keep the part hot instead of cold. Any spirit—as gin or eau de cologne—will answer the purpose. Such lotions are very serviceable in reducing inflammation, but not so efficient as the ice-bag, which should be reserved for extreme cases, as a wounded joint, or an injury to the head, when inflammation of the brain is dreaded.

*Water Dressing.*—Dip a piece of lint of the requisite size in hot water, apply to the part, and cover with a piece of gutta-percha tissue or pink mackintosh *larger* than the lint, so that it will completely overlap it on all sides; bandage it on firmly. Thus applied, the lint ought to keep warm and moist for twenty-four hours, or longer. Its action is that of a mild poultice, and it generally succeeds that dressing on a discharging wound.

*Lotions.*—Applied in the same way, dipping the lint into the lotion, instead of into hot water. The lint soon gets warm. Carbolic acid, sanitas, boracic acid, etc., are used in this way as disinfectants to keep down smell and discharge; sulphate of zinc, alum, nitric acid, etc., as stimulants to indolent, slowly healing wounds. It is always better to use a disinfectant than water dressing alone, as any smell is thus much more surely avoided; boracic acid is the least irritating disinfectant.

*Ointments* must be spread on lint, covered with another piece of dry lint, and bandaged. They are exceedingly varied, and of different uses. Zinc ointment and vaseline are in most common use for ordinary



dressings: the latter, however, seems occasionally to irritate the surrounding sound skin. Iodoform ointment cannot be too highly praised for its usefulness in taking away the smell from foul wounds: it is far more serviceable than the disinfecting lotions, though the latter are more generally used. Some people, however, object to the smell of iodoform, which is a very peculiar one. Iodoform also stains linen permanently.

LINIMENTS.—Pour a little liniment into the palm of the hand, and rub briskly into the part till the hand is dry. In using strong sedative liniments, as aconite or belladonna, or irritating liniments, as croton oil, a little of the liniment must be poured on a small piece of flannel, and then rubbed into the desired part. Too much of these strong preparations must not be used at once, and never without medical advice.

BED-SORES.—Much may be done to avoid bed-sores: by frequent change of position; by great cleanliness, smoothness of the sheets, and dryness; by sponging and powdering with starch powder twice a day; by keeping the bed free from crumbs, etc.; by the skilful arrangement of pillows and timely use of air-cushions or water-pillows; by rubbing the skin over exposed parts with brandy, eau de cologne, or spirit and water, and painting them with collodion, or a lotion composed of equal parts of tincture of catechu and dilute solution of acetate of lead. If the skin becomes red, these remedies must be discontinued, and zinc ointment used with pads so applied as to relieve the pressure on the painful part. Any further stages must be brought under the notice of the medical man.

REPORT FOR DOCTOR.—The nurse should always be able to give the doctor an *exact* report of her patient's



condition since his last visit. For this purpose, she should make notes of the following points on paper—quantity of food: nature, and times at which it was taken; times of administering medicines; temperature (if necessary) at different times; how long he has slept; how often the bowels have been moved, etc. She must also note, in many cases, the nature of the breathing; the expression of the countenance, as to the amount of pain, etc.; whether there was delirium, and of what kind—low and muttering, noisy and excited, etc. Any matter of a peculiar kind from the stomach, bowels, etc., must be saved for the doctor's inspection. These directions will be valuable in almost any serious disease, but for any particular disease she should ask the doctor whether there are any points on which he may desire to be informed.

TO TAKE A PATIENT'S TEMPERATURE.—This is done by an instrument known as a self-registering clinical thermometer. The ordinary temperature of the body is  $98\frac{1}{2}^{\circ}$  Fahrenheit. The index must first be shaken below this, by giving the thermometer a gentle swing or jerk, with the bulb downwards. The bulb is then placed in the patient's mouth or arm-pit, and the arm held closely to the side for five minutes by the watch. The thermometer is then removed, and the temperature read off as the index remains fixed till again shaken. Care must be taken that the bulb touches the skin on each side, and that no clothes intervene whilst it is in the arm-pit. When the temperature is taken in the mouth it is necessary for the lips to be kept well closed. If under the arm, the skin should be carefully wiped before the thermometer is inserted.



## CHAPTER XVI.

### MINOR INJURIES AND AILMENTS.

*First Help in Cases of Accident—Removal of the Injured—  
Bruises—Sprains—Fainting Fits—Epileptic Fits—  
Hysterical Fits—Stroke—Foreign Bodies in Eye—Sty—  
Cold in the Eye—Chilblain—Chapped Hands—Ear-ache  
—In-growing Toe-nail—Boils and Abscesses—Warts—  
Corns—Whitlow—Pediculi—Ringworm—Vaccination  
—Vomiting—Diarrhœa—Trusses—Elastic Stockings.*

FIRST HELP IN CASES OF ACCIDENT.—Carry the patient as gently as possible to the nearest and most convenient place. Carefully guard all wounded parts, and protect them from further injury. Note if there are any wounds, or much bleeding, taking such steps to stop the latter as have already been indicated. A shutter or hurdle is much more pleasant than a jolting cart for his removal, but the men must take care to keep in step. If there is much collapse, give some brandy and water, but not in the reckless manner that is usual. Loosen all the clothes about the neck, especially the collar and necktie. Having reached home, or the place where he is to remain, warm a bed and prepare to get him into it quickly. If the feet are very cold, put hot bottles, or some hot bricks wrapped in flannel, against them. Remove the clothes with the least disturbance possible, especially from any injured part; do not destroy them unnecessarily, but where practic-



able cut up the seams. The boot and stocking in an injury to the foot must usually be sacrificed, and the outer trousers seam slit. If the arm is injured, remove the clothes from the uninjured arm first; it will then be easy to slip them off the other. In the case of an injury to the head, keep the head raised on pillows, and put cold rags to it. Having made the patient comfortable, as far as possible, prepare for the doctor's visit by getting ready for him whatever you think he may require—hot water, old linen, basins, jugs, scissors, lint, etc. Much valuable time will often be thus saved.

REMOVAL OF THE INJURED.—In London, the excellent lectures given by the St. John Ambulance Association enable an increasing number of people every year to understand the principles of first aid to the injured. If a case has to be removed from London by railway, or to a considerable distance, it is desirable to write to the secretary of St. John Ambulance Association, St. John's Gate, Clerkenwell, E.C., for the supply of an ambulance carriage. St. John Ambulance Association will, for a moderate payment, make arrangements for the removal of the patient to any distance, and will send the necessary appliances, bearers, etc. In the case of a street accident in the metropolis, the Hospitals Association (428 Strand, London, W.C.) has now provided a street ambulance service, and any one can obtain a litter by inquiring of any policeman where the nearest station is situated. All the hospitals, railway and fire brigade stations have these litters, which will also be found at the chief cab ranks throughout the metropolis. More injury has frequently been done to the injured by careless removal in cabs, than has



been occasioned by the accident itself. Hence, every one should bear in mind that no injured person ought to be removed except upon one of the Hospitals Association's ambulance carriages. We hope that this system will extend to every large city throughout the country.

It may be well further to give a few simple directions. When a person has to be lifted on to the ambulance, the stretcher should be put in the same straight line as the body of the patient, the foot of the ambulance being next to the head of the patient. Then a couple of persons standing on each side of the patient can easily raise him gently from the ground, so as to enable the stretcher to be slipped beneath him. Before attempting to move the patient, some one should be told off to support the injured part, and to give his whole attention to it. It is not necessary here to give directions as to the carrying of the stretcher, or the marching of the bearers, as these and other important details are dealt with fully by the lecturers on first aid. If no stretcher is available, the crushed limb or injured part should be placed upon a pillow, to which it should be tied by bandages, so as to prevent it from slipping. When a patient is able to walk, he may be assisted by placing his arms round the necks of two others, who can thus render him material aid. A chair is sometimes useful for carrying a patient, but we much prefer interlocked hands. If in lieu of a litter interlocked hands are brought to bear, it is essential that the bearers should keep in step. When the patient is carried upon a litter, however, it is easier and better that the bearers should keep out of step.



**BRUISES.**—These require in the first place rest—without which no wounded part can do well. At the discretion of the doctor, or according to the inclination of the patient, bruises may be treated at first with either hot fomentations or cold evaporating lotions. If on the body, the former must almost necessarily be applied, but if on the limbs, the latter will often be more serviceable. When the inflammation has subsided, and the discoloration is beginning to fade, some stimulating liniment will help to hasten this stage, and equal parts of soap and compound camphor liniments will be found very agreeable, or the old remedy of hartshorn and sweet oil mixed in the proportions of one part of hartshorn, one of water, and two of sweet oil. When beginning to use the injured part, the support of a bandage skilfully applied will be found most serviceable.

**SPRAINS.**—These require much the same treatment as bruises if managed by an amateur. Some persons recommend leeches in bad cases, but they should not be used except by the orders of a surgeon. After the first week, strapping—firmly and evenly applied to the whole of the injured joint—will afford great support and much ease. When the joint is again to be used, the above-mentioned liniments rubbed into the part and a firm bandage afterwards applied will give strength and support to the joint. Sir Erasmus Wilson recommends that in these cases some warm lard should be taken and rubbed into the sprained part for half or three-quarters of an hour; some cotton wool must then be wrapped round the joint, and a light bandage applied. He states that sprains thus treated recover much more rapidly than others.



**FAINTING ATTACKS.**—Caused by an insufficient supply of blood to the brain. Keep the head very low—lower than the body. Give hot brandy and water; put smelling salts, etc., to the nose, and slap the forehead with a cold wet towel, or dash cold water on the face. Open the windows wide. Rub the limbs from below upwards to send the blood to the heart and brain. Give stimulants as soon as the patient can swallow.

**EPILEPTIC FITS.**—These vary very much in degree, and may consist only of loss of consciousness for a few moments, when the patient recovers as suddenly as he became ill, but remembers nothing of the interval. This requires no treatment, except seeing that the patient does not hurt himself. But in what is generally known as an epileptic fit, the patient falls, foams at the mouth, struggles a great deal, becomes blue in the face, and when the fit is over he remains in a dazed stupid state for some time. There is too great a tendency to struggle with such patients, to hold them down and keep them quiet. This is a great mistake; it does far more harm than good. He should, if possible, be placed in the middle of a large bed, and care taken that he does not hurt himself in his struggles, particularly that he does not strike his arms violently against the sides of the bed. If, however, he falls when out of doors, roll up a coat, or put something soft under his head, and control the limbs sufficiently to prevent him from injuring himself, but do no more. Put a cork or something between his teeth to prevent him from biting his tongue. Do not attempt to make him swallow anything. Unfasten his clothes, especially about the neck and chest. Persons subject to these fits should



not be employed in any work in which they are likely to injure themselves on the sudden advent of a fit.

**HYSTERICAL FITS.**—Almost always occur in young girls, and can generally be distinguished from epileptic fits by opening the lids, and touching the ball of the eye. In hysteria this part is sensitive, and the patient will wince, but in epilepsy all sensation is abolished, and the patient will not feel anything at all. Hysterical people, also, never bite their tongue nor hurt themselves. If, however, there is any doubt, it will be safer to treat it as an epileptic fit. In true hysteria a few sharp strokes across the face with a cold wet towel, or pouring some cold water from a height on to the face, will usually cut short the fit, speaking firmly to the patient at the same time. Do not treat such patients harshly, but be very firm with them, and, above all, never commiserate them; this will only make them a great deal worse. As long as sympathetic but unwise friends will rub their limbs, kiss them, and condole with them, so long will the fit last.

**STROKE.**—Caused by arrest of circulation through some portion of the vessels of the brain. The patient usually falls down insensible, and there is found to be paralysis of one side of the body. Lift him into bed, keep the head well raised, and apply cold rags to his head. Be careful about giving him anything, as he may not be able to swallow. Send for a doctor.

**FOREIGN BODIES IN EYE.**—If under the lower lid the body can be easily removed with the corner of a damp handkerchief or towel after drawing down the lid; if under the upper lid, it may sometimes be



removed by rubbing it towards the inner corner of the eye, or by pulling the upper eyelid forward over the lower. If these means fail, place a knitting needle or pencil across the upper part of the lid with one hand, take hold of the eyelashes with the other, and turn the lid inside out over the knitting needle or pencil, which must at the same time be pressed downwards a little. By these means all the under surface of the upper lid may be thoroughly examined. Sometimes a sharp fragment of steel or dust will strike the clear part of the eye itself, and remain embedded there. It is very difficult for an unskilled person even to see these small particles, as they can only be detected in a certain light. If, therefore, there is any suspicion of such an accident, application should be made immediately to a doctor.

STY.—This is a small boil on the eyelid, and is best brought forward as quickly as possible by hot poulticing and fomentations. Directly a yellow point forms on its apex, it should be pricked with a lancet or fine needle, when the matter will escape and there will be at once great relief from pain.

COLD IN THE EYE may be best treated with poppy fomentations applied externally. Unless very severe, bathing with alum lotion (a teaspoonful to a pint of water), a little of the lotion being allowed to run into the eye, is preferable. If it gets worse, or does not speedily recover, application should at once be made to a medical man. It should never be forgotten that all eye cases require great care, for though to the ordinary observer the diseases may appear similar, yet they may be very different, and require very opposite treatment.



CHILBLAIN.—Is an inflammation of a portion of skin, caused by cold and generally occurring on the hands and feet. It is best treated by friction with stimulating liniments, of which compound camphor liniment is one of the best. Many people find great relief from painting chilblains with strong tincture of iodine. When they become what is called broken, they must not be rubbed, but dressed with vaseline and cotton wool or else with stimulating lotions.

CHAPPED HANDS.—Protect them from cold cutting winds, and dry them carefully after washing. A lotion of equal parts of glycerine, spirits of wine, and rose water is very serviceable, and does not make the hands smart so much as glycerine alone. If they are very bad, spermaceti ointment will cause less smarting. These applications should be used freely at night, and old gloves should then be put on till the morning.

EAR-ACHE.—Apply a hot bran poultice, or laudanum fomentations. If these do not relieve the pain, mix one drop of laudanum with two or three drops of sweet oil in a teaspoon; warm them well over a candle, and drop them into the ear; then re-apply the hot dressings. In cases of habitual discharge from the ear, always consult a doctor.

IN-GROWING TOE-NAIL.—Caused by wearing tight boots, or by cutting down the corner of the nail too much. If only just commencing, it may be cured by continuously packing oiled cotton wool under the outer edge of the nail, so as to raise it, and push back the skin that tends to overhang. This side of the nail also may be gradually scraped down with glass till it is so thin



that it yields. More severe cases must go to the medical man.

BOILS AND ABSCESSES must in almost all cases be poulticed, or treated by hot fomentations, which relieve the pain more than anything else. Sometimes when the skin is irritable, a crop of small boils will appear around the part, from the irritation caused by the poultice. A piece of lint, with a hole cut in the centre, should then be thickly covered with zinc ointment, and applied first, with the hole over the centre of the abscess; over this should then be placed the poultice.

WARTS are best treated by touching them with nitric acid repeatedly, at intervals of about a week. Stick caustic leaves a nasty black stain, and is less efficacious. The nitric acid is best applied by dipping a small slip of wood into it (the end of a match answers capitally), and then touching the wart; by this means too much acid is not used at one time.

CORNS.—Remove as far as possible all pressure and friction, by protection with unirritating plaster and easy boots. Keep them cut down assiduously, and in time they may disappear. Iodine paint is often useful. The remedies are legion, but effective ones are still wanting.

WHITLOW.—A very severe inflammation of the fingers or thumbs. Use hot poultices and fomentations. The matter in these cases is generally deeply seated, the skin is remarkably thick, and if left to itself the inflammation will burrow for a long distance—often into the palm of the hand—when it may cause widespread and permanent mischief. These cases, therefore, should always be opened early, and be under the treatment of a medical man.



PEDICULI.—Lice in the head. Best cured by cleanliness, washing with soft soap, and using remedies to kill the animals. Of these remedies the most harmless is stavesacre ointment, which may be obtained at any chemist's. Other lotions are more dangerous, and some of them are poisonous.

RINGWORM.—Iodine paint is very useful when the ringworm is on the head, and, lately, sulphur ointment has been highly spoken of, its advantage being that it is quite harmless. Cut the hair quite short on the patches before applying remedies. Be careful about using separate brushes and combs, towels, etc. When on the body, it is much more easily cured, iodine paint being perhaps the best means. There are many other remedies recommended for this disease, such as carbolic acid or creosote ointment, mercurial ointment, painting with blistering agents, croton oil liniment, etc.; but it is best to keep to the remedies first-named, and if the case does not then yield, to call in further advice.

VACCINATION.—After vaccination no effect is noticed till about the third day, when there is a slight redness. On the fifth to the sixth day a small blister begins to form at each mark. On the eighth day this blister attains its full size, and there is a red ring of inflammation around it. On the tenth to twelfth day this inflamed ring gradually disappears, and the blister dries up. At the end of a fortnight a brown scab is formed, which falls off at the end of the third week. Care should be taken that the places do not get rubbed or irritated. Often there is a good deal of inflammation, and the glands in the arm-pit swell, but these symptoms will almost always disappear without any treatment. Hot



water or poppy fomentations will relieve the pain if it is very severe.

VOMITING.—To relieve an urgent attack of vomiting till help arrives is often valuable time gained, and may prevent mischief. Warm drinks, etc., will usually be immediately rejected, but cold drinks taken in small quantities, and frequently, will tend greatly to allay the irritability of the stomach; effervescing drinks act in the same way. Thus, ice in small particles, iced milk and soda water, or iced brandy and soda water, will help to tide over the difficulty till skilled help can arrive. If the attack obviously depends on an undigested meal, an emetic of mustard and water may cure it at once. A mustard poultice over the stomach is also serviceable in most cases.

DIARRHŒA.—In the diet of diarrhœa, farinaceous foods, as arrowroot, sago, etc., should be taken, and either cold or tepid, not hot. As a rule, brandy may be usefully combined with them. Lime water and milk, or barley water, may be drunk, and rest in bed is advisable. It is impossible to prescribe any medicine without introducing opium or some drug of that character, which should never be used except under medical advice.

TRUSSES.—Are used when a part of the bowel protrudes at a weak part of the walls of the abdominal cavity. It is necessary to be careful in many details as to their application. Thus the rupture, as it is called, always tends to come down more when standing or sitting than when lying, and as the truss is used to keep it in place, and must only be put on when the bowel is quite returned, it must be taken off last thing at night, when the patient is lying down, and replaced in the morning



before rising, after seeing that the bowel is returned. The skin also must be carefully sponged and cleansed every night, and a little starch powder applied. Care must be taken that the truss fits evenly, without pressing particularly on any one point, so as to cause a sore.

ELASTIC STOCKINGS.—Much the same rules apply to these as to trusses. Thus, they must be removed at night when in bed, and put on again in the morning before rising or hanging down the legs at all. It is also advisable to carefully stroke the veins upwards from the foot to the thigh before applying the stockings, and to bathe regularly with cold water.



## CHAPTER XVII.

### INFECTION AND DISINFECTION.

*Zymotic Diseases—General Remarks on Treatment and Nursing—Scarlet Fever—Small-pox—Measles—Enteric or Typhoid Fever—Typhus Fever—After Measures—Disinfection of Premises and Things—Disinfectants—Statutory Provisions.*

THERE are certain diseases which are known to be infectious, that is, able to be communicated from one person to another, either by direct contact, through the medium of the atmosphere, or otherwise. The present remarks will apply to the acute infectious diseases commonly termed zymotic diseases. The following is a list of them:—

Chicken-pox.	Measles.	Scarlatina, or
Cholera.	Membranous	Scarlet Fever.
Diphtheria.	Croup.	Small-pox.
Enteric or Ty-	Puerperal Fever.	Typhus Fever.
phoid Fever.	Pyæmia.	Whooping Cough.
Erysipelas.	Relapsing Fever.	

Considerations of health demand that a person suffering from any one of these diseases should be thoroughly isolated from all other members of the family. Unless removal to a hospital be resorted to a room should be prepared for him, by removing all superfluous hangings, carpets, curtains, pictures, etc.; and, if convenient, two persons should be told off to wait on him, who should not go near any



others. Great attention should be paid to the ventilation of the room; and if care be taken to prevent draughts from blowing directly on the patient, not the least fear need be felt in giving very free ventilation. There should be a little fire in the room to promote free movement of air. In the same way, too, there need be no hesitation in washing a patient daily, with the precautions we have before indicated; in fact, copious ablution, intelligently carried out, is in infectious cases most essential. Perfect cleanliness must be enforced in the sick room; and all slops, foul linen, etc., must, after having some disinfectant poured on them, be immediately removed from the room and disposed of; they must not be left standing about.

A sheet hanging outside the door of the room, and kept wet with carbolic solution, is useful to prevent the spread of the disorder. The bed should be placed in the centre of the room, and, if necessary, there should be a screen arranged so as to keep off any draughts or glare of light. It cannot be enforced too strongly, that there are no means of cutting short these fevers; they run a stated course, and the object in treatment is to nurse the patient carefully through such course, keeping a vigilant watch, and trying to prevent the different complications peculiar to each of them. During the course of the disease, food, if taken, is not digested, and therefore must not be unduly pressed on the patient. Milk and beef-tea will be his almost sole support, combined with stimulants, under the guidance of the doctor. Cold water is generally most earnestly begged, and it may certainly be allowed, if too much is not taken at any one time. The person acting as nurse must be careful not to bend over the



patient and inhale his breath, and also not to handle any of the foul linen and other matters more than is absolutely necessary. A walk in the fresh air once a day is also very desirable for her. Should the patient become delirious, the nurse should not employ strait waistcoats, nor talk to the patient, nor contradict him, and, above all, should not wrestle with him. All these things are quite unnecessary. If the nurse is calm and gentle, and knows how to manage her patient, a little tact is all that is required. She should, however, never lose sight of him for an instant; and all dangerous weapons should be removed. No sponges must be used, and, as far as practicable, everything that can be burnt after use must be so treated, such as poultices, dressings, etc. No woollen garments should be worn in the room, but dresses of cotton, or some material that will wash.

There are certain public duties which ought to be performed in connection with this class of disease, and with these we have dealt at some length in another chapter. Thus in some towns it is compulsory, and in all cases it ought to be the rule, that the medical officer of health or the inspector of nuisances should be immediately made acquainted with the occurrence of any case of infectious disease. One of these officers would then, if necessary, visit the house, and give directions, disinfectants, etc., that would tend to limit the spread of the disease; but it need not be feared that he will interfere with the proper duties of the medical attendant. Again, if a patient has to be removed from one place to another, and there is no proper ambulance for the purpose, notice must be given to the cabman as to the nature of the case, and he must be paid such reasonable sum, in addition to his



fare, as will enable him to disinfect his cab. If he do not do so, he is liable to be fined heavily.

In London, the conveyance knowingly of a case of infectious disease in a cab or other public vehicle is absolutely forbidden under pain of a heavy penalty; and very properly so, seeing that the Metropolitan Asylums Board<sup>1</sup> are prepared to provide at a moment's notice a proper ambulance for conveying infectious patients from one house or place to another. If by inadvertence a metropolitan cab-driver carries a person in an infectious state, he is required to have his cab properly disinfected before again using it, and if he cannot himself have this done he can apply to the local sanitary authority, who are then compelled to carry out the disinfection either at the cost of the cab-driver or free of charge (Public Health (London) Act, 1891).

IN SCARLET FEVER and SMALL-POX, the scales and dusty powder escaping from the skin are highly infectious. To prevent their diffusion throughout the room, it is advisable to smear the body of the patient daily with camphorated oil, or, better still, with carbolic oil (made by adding one part of pure carbolic acid to forty or sixty parts of olive oil). In MEASLES there is a great tendency for bronchitis and other lung complaints to develop. More care must therefore be taken to protect the patient from draughts, and the temperature of the room may be kept a little higher than in the case of scarlatina.

In ENTERIC or TYPHOID FEVER, there are numerous small points to be noted. There is in this disease a great tendency to the formation of bed-sores, which

<sup>1</sup> Apply to the Clerk, Norfolk House, Norfolk Street, Strand, W.C.



must be carefully watched for, and treated as before directed. The sufferer lies usually in a low state of muttering delirium, and never asks for anything, so that liquid food must be given to him constantly, in small quantities, or the mouth will get dry, cracked, and sore, and he will then refuse to take anything. Nasty, brown, foul discharge collects about the teeth and gums, and must be constantly wiped away as before directed. This disease has always accompanying it ulceration of the bowels, so that nothing but liquid, or later semi-liquid food must be given, even after the fever has passed away. If meat or solid food be given too soon, it causes irritation and fresh ulceration over the healed sores, and is a frequent cause of relapse. It is probable that the infection in enteric fever is contained for the most part in the discharges. These should be received into a bed-pan containing some disinfecting powder, should immediately be covered with more of the same powder, should be then taken away directly and buried in a deep hole, away from any house, water-course, etc., or they may be more safely burnt immediately.

**TYPHUS FEVER.**—This is very different from typhoid. It is a great pity that the names are so similar, and, consequently, sometimes confused with each other. More often typhoid is called enteric fever, and it will be well if this name is universally adopted. Typhus fever is exceedingly infectious, and demands free ventilation in its treatment, but it is seldom nursed in a private house.

**AFTER MEASURES.**—When a case of illness from any infectious disease has terminated, the sick room and its contents must be thoroughly disinfected and cleansed. Everything that can be destroyed without much loss should be burnt. The different articles,



clothing, bedding, etc., that remain should be hung on lines about the room, the chimney, windows, doors, and all crevices should be stopped, and about a pound of sulphur should be burnt in the room. This is done by putting the sulphur, broken into small pieces, into an iron vessel, supported by the tongs over a pail of water to prevent the risk of fire, and adding some red-hot coals to it. The room must be immediately closed, and left for a few hours. It is necessary to remember that the fumes from burning sulphur are very poisonous. After this, all doors, windows, etc., must be thrown open, and remain so for some days. All paper should then be stripped from the walls and burnt, the ceiling should be whitewashed, the floor, and all paint, walls, furniture, etc., scrubbed with carbolic soap and water, and the chimney carefully swept. Mattresses and things that cannot well be washed should, if possible, be disinfected by heat—preferably by high-pressure steam—in a proper chamber or disinfecting oven. There ought to be one of these in every large town, where such articles could be efficiently disinfected at a fixed rate, or, as in London, free of charge. All things that are sent to be washed should be boiled for some time, and some carbolic acid should be added to the water. The bedsteads, etc., must be washed with a solution of sulphurous acid, care being taken not to touch the brasswork, which would tarnish at once.

No children should be allowed to attend school from a house where there is infectious disease till they can bring a medical certificate that there is no fear of infection. In case of death, there should be no delay in the burial of the body, and plenty of chloride of lime or carbolic powder should be placed in the coffin.



A few words in conclusion as to the disinfectants to be recommended. These must vary a good deal according to the purpose which they have to fulfil.

To disinfect thoroughly an empty room, nothing can compare with the fumes of burning sulphur, used as already directed. When a patient is lying ill in the room, no disinfectant will do the least good, unless used to such an extent as to be dangerous to the patient. The practice of making the room smell horribly with chlorine from chloride of lime is useless and dangerous also, as chlorine is a most irritating gas. Some sanitas sprayed about the room is the only thing we can then advise; used in that manner it does no good as a disinfectant or germicide, but it has a most pleasant, agreeable smell, and refreshes and purifies the room.

As a pure disinfectant nothing is so good as carbolic acid, either as a liquid or as a powder, for the bed-pan, soiled linen, etc. The great objection to it is its smell. Its use must be advised, but if it is strongly objected to, chloralum, which is without smell, as well as non-poisonous, may be recommended. Permanganate of potash (Condy's fluid) is good, but will stain very much. Chloride of zinc is also good, but is very caustic, unless much diluted.

The following penalties are incurred (outside the Metropolis) under the Public Health Act, 1875, by the exposure of infected persons or things:—

A person suffering from a dangerous infectious disorder, who wilfully exposes himself, without proper precautions against spreading the disorder, in any street, public place, shop, inn, or public conveyance; or entering any such conveyance without previously notifying to the owner, conductor, or driver thereof that he is so suffering: a person in charge of such a patient who



thus exposes him : a person who, without previous disinfection, gives, lends, sells, transmits, or exposes any bedding, clothing, rags, or other things which have been exposed to infection ; is, on conviction, liable to a penalty not exceeding £5 (sec. 126).

No proceedings can, however, be taken against any persons transmitting, with proper precautions, articles to be disinfected.

If a person suffering from any dangerous infectious disorder enters a public conveyance, without previously notifying to the owner or driver that he is so suffering, he is liable, under section 126, in addition to the penalty, to pay the owner and driver the amount of any loss or expense they may suffer in carrying into effect the provisions of the next section (127), which provides that every owner or driver of a public conveyance shall immediately provide for its disinfection after it has, with his knowledge, conveyed any person suffering from a dangerous infectious disorder.

Persons knowingly letting for hire a house, room or part of a house in which any person suffering from a dangerous infectious disorder has been, without having the premises and all articles therein liable to retain infection disinfected to the satisfaction of a legally qualified medical practitioner (testified by certificate), are liable to a penalty not exceeding £20. An innkeeper is to be deemed to let part of a house to any person admitted as a guest (sec. 128).

False answers to inquiries as to the existence of infectious disease in the house are punishable by a fine of £20 (sec. 129).

In addition to these provisions a large proportion of local authorities have adopted the additional powers contained in the Infectious Disease (Prevention) Act, 1890, for ensuring efficient disinfection, for dealing with dairies, prohibiting the sale of infected milk, etc.

The Public Health (London) Act, 1891, contains the sanitary law of the Metropolis ; and its provisions as to infection and disinfection, though framed mainly on the clauses in the Public Health Act of 1875, are much more stringent than those older clauses, and include also the bulk of the provisions of the Infectious Disease (Prevention) Act.



## CHAPTER XVIII.

### SICK-ROOM COOKERY AND FOOD.

*Meat Essences, Soups, Puddings, Jellies, Drinks—Patent Foods—Meat Foods—Farinaceous Foods—Milk Foods—Mean Time of Digestion of Different Articles of Diet.*

**BEEF TEA.**—Cut up two pounds of lean beef, place it in a jar, add a breakfast-cup of cold water, let it stand for one hour, put the jar in a saucepan of water, let it simmer for an hour, then strain.

**RAW BEEF ESSENCE.**—Take half a pound of raw beef free from fat, chop it up fine, pour over it a tea-cupful of soft water, add a pinch of salt, stir and let it stand for three hours; strain, washing the meat with a little additional water. The addition of four or five drops of hydrochloric acid makes the process more rapid. It should be taken cold. The red colour can be disguised by giving it in a coloured claret glass. (This is a most useful preparation, and can sometimes be taken—even by very young children—when the stomach will retain nothing else.)

**RAW MEAT SOUP.**—Very beneficial in convalescence from typhoid fever, or in cases of extreme exhaustion. One pound of raw fillet of beef, free from fat or skin, should be chopped small, and placed in a jar with one pint of water and five drops of hydrochloric acid. Stand this in ice all night, and in the morning put the jar into a pan of water, at 110° F., over a slow or gas



stove, and *keep it two hours at this temperature*. It is then to be strained through a stout cloth until the remaining mass is nearly dry. This may be given in two or three doses in the course of twenty-four hours, or, in extreme cases, a wine-glassful every two or three hours. If the raw taste be objectionable, the beef may be quickly roasted on one side before being chopped.

RESTORATIVE BEEF ESSENCE.—Cut up a pound of lean beef, add a little salt, and put it into an earthen jar with a lid; fasten up the edges with a thick paste, and place in the oven for three or four hours; strain through a coarse sieve, and give two or three tea-spoonfuls at a time.

MUTTON BROTH.—Take about a pound of the lean part of neck of mutton, cut it up small, place it in a saucepan with a pint of cold water, remove the scum as it rises. When this ceases, add a dessert-spoonful of pearl barley, boil for two hours, and strain. It may be flavoured with pepper and salt if agreeable.

CHICKEN BROTH.—Cut up the parts of chicken, immerse in cold water in a saucepan, and boil for two hours, skimming off the fat.

VEAL TEA.—To be made like mutton broth.

PANADA.—Scrape some chicken or veal very finely with a knife, add an equal quantity of stale bread that has been soaked in a little milk and squeezed dry; pound them together in a mortar. It may be cooked, either mixed with veal or chicken broth, or poached in pieces like an egg, and served on mashed potato.

EGG AND BRANDY MIXTURE.—Rub together the yolks of two eggs, add a table-spoonful of sugar, then add two wine-glassfuls of brandy and two of cinnamon water. Given as a stimulant.



OATMEAL PORRIDGE.—Put just enough coarse Scotch oatmeal into a saucepan to cover the bottom of the saucepan, fill it with cold water, then boil it, let it simmer for three or four hours, stirring occasionally; pour it into a basin, and stir in milk to taste.

OATMEAL GRUEL.—Mix one table-spoonful of groats with two of cold water; pour on them one pint of boiling water, stirring all the time; boil for twenty minutes, still stirring; sweeten with sugar, and add sherry or brandy to flavour it if wished. Milk may be used instead of water.

ARROWROOT OR CORN FLOUR.—Take nearly a dessert-spoonful of the former, or rather more than that quantity of corn flour, mix it smoothly with two table-spoonfuls of cold water, then pour on it half a pint of *boiling* water or *boiling* milk. Flavour with sugar, lemon, or nutmeg to taste, and if made with water, sherry or brandy may be added.

SAGO.—Boil a table-spoonful of sago with a breakfast-cupful of milk for twenty minutes. Sweeten and flavour as desired.

BARLEY WATER.—Wash well two ounces of pearl barley; then boil it for twenty minutes with a pint and a half of water in a covered vessel, and strain; sweeten and flavour with lemon peel or lemon juice as desired.

LINSEED TEA.—Pour a pint of boiling water over two table-spoonfuls of bruised linseed in a jug; cover it lightly, and stand it near a fire for three or four hours, then strain. Add sliced lemon or sugar-candy to taste. Some flavour it with liquorice.

LEMONADE.—Cut a lemon in thin slices, place the slices in a jug, and pour over them a pint of boiling water. Leave till cold, then strain; sweeten to taste.



TOAST AND WATER.—Toast a piece of bread thoroughly, put it in a jug, and pour a quart of boiling water over it; cover it, and leave till cold.

WHEY.—Curdle some warm milk with rennet, and strain off the liquid for use.

WHITE WINE WHEY.—Add a wine-glassful of sherry to half a pint of boiling milk, then strain; sweeten according to taste.

TREACLE POSSET.—Pour two table-spoonfuls of treacle into a pint of milk when just *beginning* to boil; let it boil up well, and strain.

RASPBERRY VINEGAR and water, or BLACK CURRANT JELLY mixed with hot water, and allowed to cool, will make a very nice drink for feverish patients.

CALF'S FOOT JELLY.—Clean two calves' feet, cut into pieces, and stew in two quarts of water till it is reduced to one quart. When cold, take off the fat, and separate the jelly from the sediment. To this stock put half a bottle of sherry, a wine-glassful of brandy, three-quarters of a pound of sugar, four lemons (the rinds of two only), the whites of four eggs beaten on a plate into a froth; boil for twenty minutes; leave it about ten minutes to cool a little, and then strain through a flannel bag.

RESTORATIVE JELLY.—Three ounces of isinglass, two ounces of gum-arabic, two ounces of sugar-candy. Put them together into an earthen jar, pour upon them a bottle of sherry, tie the jar up closely, and let it stand all night; then set it in a saucepan of water, and let it simmer till all is dissolved.

AN OMELETTE.—Four eggs, a little parsley, a small piece of shallot, bread crumbs grated very fine to make it hang together. Fry it to a nice pale brown, and



turn one half over the other. Serve with gravy in the dish.

FRENCH OMELETTE.—Take two eggs, beat the yolks and whites separately; put a little pepper with the yolk, then pour three-quarters of a cupful of new milk into the mixture, beat it up well, mix the whites of the eggs with it, and again beat. Put a little butter into the frying-pan, melt it on the fire, pour in the mixture, and keep stirring while frying. It should be fried till it is set.

SAVOURY JELLY.—Take some thin slices of lean veal and ham, and put them into a stewpan with a carrot, turnip, and two or three onions, according to taste; cover this with water, and let it simmer on a slow fire till it is of a deep brown colour; then put to it a quart of very clear broth, some whole pepper, mace, a little isinglass, and salt to taste. Boil it ten minutes, strain it, skim off all the fat, and put to it the whites of three eggs. Turn it several times through a jelly bag till it is perfectly clear.

VEAL SOUP.—A knuckle of veal, two cow heels, twelve pepper corns, a glass of sherry, and two quarts of water. Stew all the ingredients in an earthen jar for six hours. Do not open it till cold; when wanted for use, skim off the fat and strain it. Heat as much as is required.

CUSTARD OR EGG PUDDING.—Break an egg into a tea-cup and sweeten it to taste, beat well together, fill up with milk, mix again, tie something over the cup, and boil for ten minutes in a shallow saucepan.

BATTER PUDDING.—Add a tea-spoonful of flour to the above, and mix with the milk, etc., before boiling.

BLANC MANGE.—To one and a half ounces of isin-



glass put one quart of new milk; boil it, stirring all the time, till the isinglass is dissolved; then add sugar, and any flavouring agent that may be preferred, with a quarter of a pint of cream; stir again over the fire till it boils; strain it; keep stirring till it is cold and begins to get thick, then put it into a mould.

ARROWROOT CREAM.—Beat well the yolks of three eggs; dissolve a large table-spoonful of arrowroot in half a pint of cold water, mix this with the eggs, sweeten with loaf sugar to taste. Next boil the juice and some of the peel of a lemon in a pint of water, pour it boiling on the other ingredients, and stir over the fire till it thickens.

ORANGE JELLY.—Put one and a half ounces of isinglass into a pint of water, let it boil till it is reduced to one half, take the juice of nine oranges, the rind and juice of half a lemon, sweeten it to taste, boil it three or four minutes, then strain through a bag.

CHAMPAGNE, CLARET, OR SHERRY CUP.—A bottle of wine, a bottle of soda water, a small tea-cupful of lump sugar, a few slices of lemon peel, grated nutmeg if desired, and plenty of ice. The sugar should be powdered and mixed with the nutmeg and lemon peel in the cup, and then the wine, soda water, and ice should be added.

#### PATENT FOODS.

The above recipes, applying mostly to common articles of sick-room diet, will doubtless be found serviceable, but there are many patent foods so much in vogue now that some explanation of their uses and modes of action appears necessary to guide the inexperienced nurse in her choice. The most serviceable



of these foods are those which have undergone an artificial process of digestion, in whole or in part, rendering them fit at once to be taken into the body and assimilated, without taxing to any appreciable extent the feeble digestive powers of the invalid. In such an elementary work as the present, it would take too much time, and would involve too much technical detail, to describe the rationale of the processes adopted. It will be more serviceable to divide foods into Meat, Farinaceous, and Milk sub-divisions, and shortly to note under each head those which are mostly in use.

#### MEAT FOODS.

\* *Benger's Peptonised Beef Jelly*.—This also has undergone a similar process. It is in the form of a solidified beef tea.

*Brand's Extract of Beef*.—Sold in tins, in the form of a jelly. Two sorts are sold—one to eat cold as a jelly, the other to make into beef tea. This consists only of the juice extracted by heat, and, like the former, has undergone no process of digestion.

\* *Carrick's Beef Peptonoids*.—"A concentrated powdered extract of beef, partially digested and combined with an equal portion of gluten." The advantages of this preparation are its portable form, its keeping properties, and its nutritious qualities. Its taste is not very pleasant, however, and it should therefore be well seasoned in some way.

\* *Darby's Fluid Meat*.—Here the meat has undergone a process of artificial digestion, rendering it a most nutritious and easily digestible article.

*Liebig's Extract*.—This should be regarded chiefly as a stimulant. Given with wine or brandy, it is useful in extreme cases of prostration.



\* *Valentine's Meat Juice*.—The same remarks apply as in the case of Benger's Peptonised Beef Jelly.

The preparations marked with an asterisk are all highly to be praised, and should be used for invalids in preference to other forms.

#### FARINACEOUS FOODS.

*Allen & Hanbury's Malted Farinaceous Food.*

*Benger's Self-digestive Food.*

*Liebig's Food for Infants*, sometimes called "Savory & Moore's."

These have all undergone much the same process. The food has first been well cooked, and has then undergone an artificial process of digestion, or been mixed with such principles as render it very easily digested. These are the foods that should always be given to children, either at their weaning, or when they are being brought up by hand, and are of such an age as to require something more than milk.

*Mellin's Food*.—This boasts of not being farinaceous, but it belongs to this category. It differs only from the former, in that the farinaceous principle is said to have undergone total digestion, and thus to be fit at once for absorption into the system.

The different Malt Extracts and Maltine may be mentioned as belonging to this class.

#### MILK FOODS.

*Artificial Human Food*.—Made by the Aylesbury Dairy Company, and purports to be identical in composition with human milk.

*Attlis' Swiss Milk Food*.—Condensed Swiss milk, with grains partially digested.



*Condensed Milk*.—Agrees well with some children, but other children cannot take it at all.

*Nestlé's Milk Food*, for infants and invalids.

*Koumiss*.—An effervescing beverage prepared from milk, also by the Aylesbury Dairy Company; some of the principles of the milk are in a partially digested state, rendering it a pleasant and nutritious drink.

The above are all good. The first four are chiefly used for children, and must be varied according to idiosyncrasy and age.

#### MEAN TIME OF DIGESTION OF THE DIFFERENT ARTICLES OF DIET.

The following table, showing the time it requires to digest various articles of food, has been prepared by an American physician, Dr. A. Trego Shertzer of Baltimore. It cannot fail to be of interest to many readers, and the many who suffer from indigestion may find it the most interesting if not the most useful paragraph in the book.

Name of Food.	How Cooked.	H. M.
Rice ... ..	Boiled .....	1
Tripe, soused... ..	Boiled.....	1
Eggs, beaten... ..	Raw.....	1 30
Trout, salmon, fresh	Fried .....	1 30
Soup, barley ... ..	Boiled.....	1 30
Apples, sweet, mellow	Raw.....	1 30
Venison steak ... ..	Broiled.....	1 35
Sago ... ..	Boiled.....	1 45
Tapioca ... ..	Boiled.....	2
Barley... ..	Boiled.....	2
Milk ... ..	Boiled.....	2
Eggs, fresh ... ..	Raw.....	2
Codfish, cured dry ... ..	Boiled.....	2



Name of Food.	How Cooked.	H. M.
Cabbage, with vinegar ... ..	Raw.....	2
Milk ... ..	Raw. ....	2 15.
Eggs, fresh ... ..	Roasted....	2 15.
Gelatine ... ..	Boiled... .	2 30.
Turkey, domestic ... ..	Roasted ..	2 30.
Lamb, fresh ... ..	Broiled.....	2 30.
Hash, meat and vegetables ...	Warmed .....	2 30.
Beans, broad... ..	Boiled.....	2 30.
Cake, sponge... ..	Baked.....	2 30.
Parsnips ... ..	Boiled.....	2 30.
Potatoes ... ..	Baked.....	2 30.
Cabbage ... ..	Raw.....	2 30.
Chicken, full-grown... ..	Fricasseed.....	2 40.
Custard ... ..	Baked .....	2 45.
Beef, salt ... ..	Boiled.....	2 45.
Oysters, fresh ... ..	Raw.....	2 55.
Eggs, fresh ... ..	Soft boiled.....	3
Beef, fresh, lean, rare ... ..	Roasted.....	3
Pork, recently salted ... ..	Stewed.....	3
Mutton, fresh ... ..	Boiled.....	3
Dumpling, apple ... ..	Boiled.....	3
Beefsteak ... ..	Broiled.....	3
Mutton, fresh ... ..	Boiled.....	3
Oysters, fresh ... ..	Roasted.....	3 15.
Pork, recently salted ... ..	Broiled. ....	3 15.
Pork-chops ... ..	Broiled.....	3 15.
Mutton, fresh ... ..	Broiled.....	3 15.
Bread, corn ... ..	Baked.....	3 15.
Oysters, fresh ... ..	Stewed.....	3 30.
Beef, fresh, lean, dry ... ..	Roasted.....	3 30.
Butter... ..	Melted.....	3 30.
Cheese, old strong ... ..	Raw.....	3 30.
Soup, mutton ... ..	Boiled.....	3 30.
Oyster soup ... ..	Boiled.....	3 30.
Bread, wheat, fresh... ..	Baked.....	3 30.
Turnips ... ..	Boiled.....	3 30.
Eggs, fresh ... ..	Hard boiled....	3 30.
Eggs, fresh ... ..	Fried .....	3 30.



Name of Food.	How Cooked.	H. M.
Beets ... ..	Boiled.....	3 45
Salmon, salted ... ..	Boiled.....	4
Beef ... ..	Fried.....	4
Veal, fresh ... ..	Broiled.....	4
Fowls ... ..	Roasted.....	4
Ducks .. ...	Roasted.....	4
Soup, beef, vegetables and bread ...	Boiled.....	4
Soup, marrow-bones ... ..	Boiled.....	4 15
Veal, fresh ... ..	Fried.....	4 30
Ducks, wild ... ..	Roasted.....	4 30
Pork, fat, and lean ... ..	Roasted.....	5 15
Tendon ... ..	Boiled.....	5 30
Suet, beef, fresh ... ..	Boiled.....	5 30







*PART III.*

FULL PARTICULARS (TERMS OF ENTRANCE, HOURS OF  
ATTENDANCE AND ADMISSION) OF ALL INSTITUTIONS  
IN ENGLAND AND WALES FOUNDED FOR THE RELIEF  
OF SICKNESS OR BODILY INFIRMITY.



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## INTRODUCTORY NOTE.

ADMISSION to Hospitals and Benevolent Institutions is in most cases by letter or ticket. This is to be obtained from a subscriber or governor, and is generally to be regarded only as a recommendation of the case to the administrative authority at the Institution. As these recommendations are examined in rotation, a letter should be sent to the Secretary or Manager at the Institution, or to the office named, with the least possible delay, and should be accompanied by whatever certificates may be necessary.

In the column headed "Terms of Admission" will generally be found a note of the certificates required. In many cases the first preliminary is to obtain a form, which will, ordinarily, give the requirements in this respect.

This work does not deal with exclusively Pauper Institutions. A few of those named under the heads of "Blind" and "Deaf and Dumb" are certified by the Local Government Board as fitted for the reception, etc., of pauper children; and as the requirements of that authority are of a high standard, the Board's certificate should satisfy the most exigent.

The charges are given at so much a week, unless otherwise stated.

Baths, Mineral Water.—*See* Hydropathic Establishments.

Baths, Sea Water.—*See* Skin, Diseases of.







## INSTITUTIONS FOR THE BLIND.

Under this heading will be found a variety of institutions, including schools for all classes in life, for boys, girls, and adults, for day scholars and boarders—institutions where assistance can be obtained in sickness, where men and women can be taught various trades, and so enabled to obtain a livelihood, at which resident and non-resident apprentices are taken, and where work may be procured to be done either within the institution or at home.

For the infirm, the aged, and the sick, all kinds of relief are afforded in the various institutions. Thus, the Somers Town Blind Aid Society supplies medicine free to sick members, and allows each threepence a week for a guide; the North London Homes for Aged Christian Blind Men and Women over fifty years of age take care of cases of real need, either without payment or on such small payments as may come easily within the means of the applicants; the Southwark Society grants annuities to the adult blind above forty years of age; and the pension societies of various kinds quartered throughout the country are too numerous to mention in detail. The infirm are taken care of at various institutions, as, for example, that of the Painters' Company, Little Trinity Lane, London, or that of the Cordwainers' Company, Cannon Street, E.C., which grants upwards of one hundred pensions



of £5 to men over forty-five, women over forty, and widows or maidens over thirty.

The social position of the blind is also considered, and every class will find a home suited to its condition. For instance, the London Society (Regent's Park) for Teaching the Blind to Read admits free pupils by election of donors and subscribers, or a better class of pupils on the payment of £20 per annum; the Royal Normal College of Music, Upper Norwood, admits the young of either sex, and of any rank, possessing sufficient ability, and takes private pupils by special arrangement; whilst the Worcester College, for blind sons of gentlemen, takes pupils at as early an age as they can be sent from home, at payments of from £80 to £100 per annum, and prepares them for the universities.

Instruction is also given at the various London School Board centres, which are included in the following table. The centres here given are correct at the present time, but the position and times of meeting necessarily undergo frequent alterations to meet the varying necessities of the scholars. The children attend as a rule the ordinary day schools, but they receive as far as possible special instruction at the centres on the days mentioned in the right hand column. The fee for blind scholars is the same as that in force at the day schools which they attend.

Outside the Metropolis, School Boards have not given much attention to this matter, but under the Elementary Education (Blind and Deaf Children) Act, 1893, it is now the duty of every school authority to provide suitable education for the blind and deaf children, and the Education Department are empowered to make grants towards the education of such children.



In addition to provision for instruction, training, and employment, there is a society at Worcester which provides cheap literature for the blind, and issues works at less than cost price.

Generally it may be stated that the fullest provision is made for the necessities of all classes of people who are afflicted with blindness, though, of course, the requirements vary at different institutions having the same objects; whilst in those which are situated outside the metropolitan area the benefits are not infrequently confined to local cases. Young and old, rich and poor, boys and girls, men and women, aged and infirm, the wholly and the partially blind, have all been thought of by the charitable. In some cases total blindness and sound bodily health are essential to procure admission; in others total blindness is not a *sine quâ non*, and cases of sickness or bodily infirmity receive the first attention. Some provide for the absolutely destitute, and others based upon provident principles assist cases from small loan funds which exist for employés during sickness. At some institutions the payments made include clothing, whilst at others no clothes are provided.

The establishments marked with an asterisk (\*) are certified by the Local Government Board under the Act 25 and 26 Vict. cap. 43.

Town.	Name of institution and exact address.	Terms of admission.
*Bath.....	Institution for Blind and Deaf and Dumb. 8 and 9 Walcot Parade. For Children.	By payment of £12 per annum, and £1 on entrance for clothes. Boys not eligible after 10, nor retained after 13 years of age.
,, .....	Blind School Home. 36 Bathwick Street. For Women.	Managed privately.



Town.	Name of institution and exact address.	Terms of admission.
*Birmingham..	General Institution for the Blind, Edgbaston. For Children. With workshops for adults.	By governor's recommendation and payment of £2 12s. 6d.; or, if resident within 20 miles of Birmingham, £2 2s. a quarter. Applicants must be between 10 and 21 years of age.
Bolton .....	Bolton Schools and Workshops for the Blind. 2 Tipping Street.	At discretion of Committee. Preference given to local cases. Total blindness not necessary in all cases.
Bradford, Yorks	Association for the Blind. North Parade.	Solely for industrial employment of the blind. 80 blind persons employed in addition to 34 who receive monthly pensions of 8s. 8d. and 16s. 8d. each.
*Brighton .....	Asylum for the Instruction of the Blind. Eastern Road.	At discretion of Committee. Must be over 8 years old. Girls remain till 21, boys till 18. £12 per annum. Accommodation for 24 girls and 24 boys.
Bristol .....	Asylum or School of Industry for the Blind. Park Street.	£10 10s. per annum. Qualification, blindness, and recommendation by life member or subscriber. Education and industrial training for between 50 and 60 boys and girls. Age—boys, 9 to 21; girls, 9 to 25.
„ .....	Blind Women's Home. 71 St. Michael's Hill.	At Committee's discretion. Total or almost total blindness is necessary. £13 per annum, quarterly in advance, not including clothing.
Cardiff .....	Institution for the Blind. Glossop Road.	Provides workshops and instruction, and finds employment for men and lads over 14 years of age of good character, and with perfect use of limbs and faculties.
Cheltenham....	Cheltenham and Gloucestershire Home Teaching and Industrial Society for the Blind. 47 Winchcomb Street.	At Committee's discretion. Free. Applicants, if not totally blind, must be unable to gain their living in an ordinary way.
Coggeshall (Essex)	Rashdall's Charity.	Pensions of £5 a year are granted at discretion of trustees, who select the most destitute cases.
*Exeter .....	West of England Institution for the Blind. St. David's Hill.	Payment of £20 per annum (clothes provided), or 5s. per week (clothes not provided). Period of instruction, 6 to 7 years.
Hull .....	Hull Blind Institution.	By election. Provides workshops and teachers at home, and finds employment.
Ipswich .....	Institution for the Relief of the Blind. 8 Northgate Street.	Provides workshops and home instruction.



Town.	Name of institution and exact address.	Terms of admission.
Leeds.....	United Institution for the Blind and the Deaf and Dumb. Albion St.	At Committee's discretion. Adults or learners at workshops free. An entrance fee of 10s. and £9 2s. per annum (if residents of the city of Leeds) or £13 per annum (if strangers) is payable for children who are inmates of school. These remain until able to learn some industrial employment. Total blindness not necessary.
Leicester .....	Association for Promoting the General Welfare of the Blind. 42 Granby St., with which is connected a Cottage Home for four aged, blind women.	Provides instruction and workshops and home teaching for the blind, and sends children to schools. Free. Constant employment at full wages for 27 persons. Others helped in various ways.
Liverpool .....	School for the Indigent Blind. Hardman St.	At discretion of Committee. Age, between 8 and 45. Payment, 4s. 6d. a week, half-yearly in advance, not including clothing. Accommodation for 106.
„ .....	Workshops for the Blind. Cornwallis Street.	Provides workshops, home instruction in reading, and finds employment.
* „ .....	Catholic Blind Asylum. 59 Brunswick Road.	At Committee's discretion. 4s. 6d. a week, and £3 per annum for clothes. Age, from 5 years.
LONDON, N. Barnsbury...	Wellington Road.	London School Board classes. Tuesday and Friday afternoons.
Crouch Hill	North London Homes for Aged Christian Blind Men and Women. 69-77 Hanley Road.	Qualifications: "Over 50, blindness, and real need." Payment according to ability if not destitute. Guarantee required for expenses of funeral. There is also a branch home for younger blind women who, from painful and exceptional circumstances, are disqualified for admission to other institutions.
Holloway ...	Yerbury Road.	London School Board classes. Tuesday morning and Thursday morning and afternoon.
*S o m e r s Town.....	Somers Town Blind Aid Society. Aldenham Board School, Hamden Street.	Members admitted as funds and space permit. Medicine free to sick members. Each member is allowed 3d. a week for a guide.
N.E. Clapton .....	East London Home and School for Indigent Blind Children. Northumberland House, High Road.	Some cases free. Others by payment according to circumstances. No election.



Town.	Name of institution and exact address.	Terms of admission.
<b>N.W.</b>		
Hampstead	London Society for Teaching the Blind to Read, and Training them in Industrial Occupations. Upper Avenue Road.	Free pupils by election of donors and subscribers. Others pay £20 per annum, one term in advance, which may be increased or decreased. Music, £2 2s. a term; in qualified cases, £1 1s. Age, males, 8 to 17; females, 8 to 20. Stay limited to 9 years, or until 21 for males and 24 for females. Day pupils require member's letter. Any age over 7, £1 a term. Receives pupils not totally blind.
Kentish Town.....	Carlton Road.	London School Board classes. Monday afternoon.
Kilburn.....	Home for Blind Children. Goldsmith's Place, Kilburn Priory.	Age between 3 and 8. £8 10s. per annum, quarterly in advance. Clothing, £3 and £4 per annum. Music, £2. Certificates required of health, vaccination and freedom from fits.
„ .....	Kilburn Lane.	London School Board classes. Wednesday morning.
Lisson Grove	Stephen Street.	London School Board classes. Monday morning.
Maida Vale St. John's Wood.....	Blind Female Annuity. Phoenix Home for Blind Women. 44 Alma Sq., Hill Road.	27 pensions of £10. By subscriber's recommendation. Age between 20 and 50. £20 per annum, not including clothing, quarterly in advance. Guarantee of £5 required for removal on death or when required.
<b>W.</b>		
Cambridge Sq., Hyde Park, No. 33 .....	British and Foreign Blind Association.	For diffusing the means of educating and employing the blind.
Hammer-smith .....	Brackenbury Road.	London School Board classes. Friday morning.
Kensington	Kensington Institute. 19 Ball St., High St.	Admission of males to completely fitted workshops is regulated by Committee. Women do chair-caning at home.
Notting Hill	Wornington Road.	London School Board classes. Monday, Wednesday and Friday afternoons.
Saville Row, No. 34 ...	Blind Man's Friend Charity.	Annuities to blind men and women. By election of trustees. Applicants must be under 21, and not in receipt of parish relief; must produce recommendations from five or six householders, medical certificate, and clergyman's certificate of moral character.



Town.	Name of institution and exact address.	Terms of admission.
<b>S.W.</b>		
Battersea ...	Winstanley Road.	London School Board classes. Every morning.
Brixton .....	South London Association for Assisting the Blind.	By subscriber's or donor's letter and election by Committee. Pensions, loans and relief to members granted.
Chelsea .....	Cook's Ground. King's Road.	London School Board classes. Tuesday morning.
Earlsfields...	Waldron Road.	London School Board classes. Tuesday afternoon.
Fulham . ...	North End Road.	London School Board classes. Thursday afternoon.
Wandsworth	Linden Lodge, Wandsworth Common.	Junior Branch of School for Indigent Blind, St. George's Fields, Southwark.
Westminster	Gardner's Trust for the Blind. 1 Poets' Corner.	Provides general and musical instruction and pensions.
<b>S.E.</b>		
Bermondsey	Webb Street.	London School Board classes. Monday afternoon and Friday morning.
"	Rolls Road.	London School Board classes. Tuesday afternoon.
Greenwich...	Workshop for the Blind of Kent. London St. Branch at Tunbridge Wells.	For 17 males between 15 and 40. Total blindness. 5s. a week for teaching in making ship fenders, baskets and chair-caning. The Committee pay pupils of average ability and energy 3s. a week for first six months and afterwards what is earned. A small loan fund exists for employes during sickness.
" ...	Old Woolwich Road.	London School Board classes. Tuesday afternoon.
Kennington	Church Street.	London School Board classes. Tuesday and Thursday mornings.
*Norwood, Upper ...	Royal Normal College and Academy of Music for the Blind. Westow Street.	For the young of either sex and of any rank, possessing sufficient ability. Under 13, £50; over 13, £60 per annum. Clothing extra. Private pupils by special arrangements. In connection with the College there are a technical school for males from 16 to 25, fee, £60 a year; and a preparatory school for children from 5 to 12, fee, £35 per annum. Local committees at Dundee, Edinburgh and Glasgow.
" "	Woodland Road.	London School Board classes. Thursday morning.



Town.	Name of institution and exact address.	Terms of admission.
Old Kent Road .....	Canterbury Road.	London School Board classes. Thursday afternoon.
Peckham ...	Surrey Association for the General Welfare of the Blind. 3 Pelican Buildings.	10s. a week for tuition and food for six months. Total blindness unnecessary.
Plumstead...	Burrage Grove.	London School Board classes. Tuesday morning.
Southwark ..	School for the Indigent Blind. St. George's Fields.	By election in January and July, after approval by Committee. Candidates must be between 7 and 20. Guarantee of removal required. Votes carried over. There are 18 annuities of £4 10s.
„ ...	Society for Granting Annuities to the Poor Adult Blind. St. George's Fields. In connection with the School.	By election of donors and subscribers. Not in receipt of parish relief. Income must be under £10. Annuity, £6. Application must be made through a clergyman, magistrate, or subscriber acquainted with the case.
„ ...	Royal Blind Pension Society. 235 Southwark Bridge Road.	Pension, 10s. to 25s. a month. By election of subscribers and donors. Candidates must be over 21, and have an income of not more than £20 a year if single, or £30 if married. Pensions to 650 people.
Walworth ...	Westmoreland Road.	London School Board classes. Monday morning.
<b>E.</b> Bethnal Green.....	Summerford Street.	London School Board classes. Monday and Wednesday mornings and afternoons and Friday afternoon.
Bow .....	Christian Blind Relief Society. St. Stephen's Vicarage, North Bow.	By subscriber's or donor's letter. Elected in rotation. Applicant's income must not exceed £20 a year, or, if married, £30. Relief, 5s., 10s. and £1 a month.
Bromley.....	High Street.	London School Board classes. Tuesday, Thursday and Friday afternoons.
Homerton...	Berger Road.	London School Board classes. Thursday afternoon.
Hoxton .....	St. John's Road.	London School Board classes. Monday and Thursday mornings.
Poplar .....	Brunswick Road.	London School Board classes. Tuesday, Thursday and Friday mornings.
St. George's in the East	Highway.	London School Board classes. Every morning except Saturday.



Town.	Name of institution and exact address.	Terms of admission.
<b>E.C.</b>		
Aldgate .....	Vestry Office, St. Botolph.	Pensions of £12 to indigent blind of St. Botolph, Aldgate; St. John, Wapping; and St. Paul's, Shadwell. Apply to the Vestry Clerk. Preference to lightermen, their widows and children.
„ .....	Institution for the Relief of the Indigent Blind of the Jewish persuasion. 5 Duke Street.	57 pensions of £20 16s.
Basinghall St., No. 59	Girdlers' Company. (Palyn's Charity.)	Pensions and almshouse for the blind. For particulars apply to the Clerk, at the Hall.
Blackfriars..	Home Teaching Society for the Blind. 31 New Bridge Street.	Teachers (Moon's Type) visit gratuitously from house to house, and lend embossed books free of charge.
Cannon St., No. 7.....	Cordwainers' Company.	110 pensions of £5, 1 pension of £8, and small gifts. Men must be over 45, women over 40, widows or maidens over 30. Applicant must produce certificate of age, special circumstances, honesty, sobriety and morality from six of principal inhabitants of his or her parish. Apply to Clerk for form before Nov. 10.
Clerkenwell	Bowling Green Lane, Farringdon Road.	London School Board classes. Every afternoon except Saturday.
Foster Lane	Goldsmiths' Company.	40 pensions of £20 each for inhabitants of Middlesex, Surrey, Kent, Essex and Herts. Granted at Company's discretion.
Little Trinity Lane, No. 9.....	Painters' Company.	Pensions of £10 a year. By election. Age over 61. Income under £10; born in England; blindness and residence in present parish for three years. Certificates to this effect required from a surgeon, and from minister and churchwardens of parish. Forms only issued from 25th October until 30th November.
Mincing Lane, No. 41 .....	Clothworkers' Company.	967 pensions of £20, £10, or £5. Age over 50. Income under £20. Blindness of three years' duration. Certificates required of age, blindness and circumstances; also marriage if married.



Town.	Name of institution and exact address.	Terms of admission.
<b>E.C.</b> Newgate St.	Christ's Hospital. (Hetherington's Charity.)	About 700 pensions of £10 for persons born and resident in England three years, totally blind, and three years resident in present parish, having been in better position of life, but not having £20 a year of assured income. Elections in Nov. and Feb. Apply at the Hospital for form in Oct. only. Age over 61. £128 11s. distributed every second year in pensions.
Throgmorton St. ...	Drapers' Company. (Jonathan Granger's Charity.)	
<b>W.C.</b> Bedford Row, No. 19 .....	Miss Harley's Charity for the Poor Blind.	Pensions of £20 a year. A friend must undertake to take charge of the applicant. Election by trustees. Apply to the solicitors, Messrs. C. & S. Harrison & Co.
Bedford Row	Princeton Street.	London School Board classes. Every afternoon.
Red Lion Sq., No. 27 .....	Indigent Blind Visiting Society.	Nomination by member. Visits, educates and relieves the blind poor. A Samaritan fund for special relief.
Tottenham Court Rd., No. 258...	Association for Promoting the General Welfare of the Blind.	Free, if elected by Committee, founders and subscribers. Other pupils pay 6s. a week for basket, and 4s. for brush making, which is lessened as progress is made. Pupils board and lodge themselves.
Manchester ...	Henshaw's Blind Asylum.	Provides ordinary instruction in trades and music. Fee, 4s. to 6s. per week. Age from 9 years upwards. Accommodation for 200 (when funds permit).
*Newcastle-on-Tyne ... ..	Royal Victoria Asylum. 89 Northumberland St.	At governors' discretion. Preference given to inhabitants of four northern counties. £15 15s. a year, quarterly in advance. Clothing provided after the first year. Inmates remain 5 or 7 years. Non-resident workers occasionally taught and employed.
, ,	Workshops. 9 Market Street.	Provides workshops and employment. The men are taught and are paid what they earn after three months; the women are paid as soon as they can work.



Town.	Name of institution and exact address.	Terms of admission.
*Norwich... ..	Asylum and School for the Indigent Blind. 132 Magdalen Street.	By subscriber's letter. For the asylum, age over 55. Payment at Committee's discretion from 2s. to 6s. per week. Two free cases. One suit must be possessed on admission and 1 guinea for funeral expenses. For school, age over 10. 5s. a week, or at Committee's discretion. Clothing, two suits.
*Nottingham	Midland Institution for the Blind. Chaucer St.	For children over 7. By governor's letter. Preference given to inhabitants of Notts, Lincoln, Derby, Leicester and Rutland. Total blindness not necessary. 4s. 6d. a week. No clothes provided.
*Plymouth ...	South Devon and Cornwall Institution. North Hill.	At Committee's discretion. Resident inmates paid for (3s. to 5s. a week) by their friends or by the Board of Guardians. Non-residents taught to read gratuitously.
* „ ...	Devonport and Western Counties Association for the Blind. St. Aubyn Street.	At Committee's discretion. 2s. 6d. to 5s. a week. Guarantee required for payment. Age, 15 to 25. Total blindness not necessary. Clothes not provided. Inmates remain till able to provide for themselves.
Preston .....	Industrial Institute for the Blind. Glover Street.	At Committee's discretion. London cases not eligible. Total blindness not necessary. All within a radius of 15 miles from Preston can be admitted.
*Sheffield .....	School for the Blind. Manchester Road, Broomhill.	By payment of £7 to £12 per annum and recommendation by two life governors, etc. Age over 7.
„ .....	Sheffield Institution for the Blind.	Consists of the school in Manchester Road, the workshops in West Street (mentioned below) and Home Missions.
„ .....	Workshops for the Blind. 52 and 55 West Street.	At Committee's discretion. Strictly for Sheffield and district.
*Southsea .....	Hampshire and Isle of Wight School and Home for the Blind. Park Lane.	At discretion of Committee. If residents of Hants, £10 to £12; otherwise, £12 to £15. Age—males, 8 to 21; females, 8 to 24. On leaving they may be employed as journeymen in the adult shop.
Stockport .....	Institution for the Blind, Deaf and Dumb. St. Peter's Gate.	At discretion of Committee. Total blindness not necessary. Those alone eligible who have been resident for two years within three miles of the Institute.



Town.	Name of institution and exact address.	Terms of admission.
Sunderland ...	Sunderland and Durham County Institute for the Blind. 23 Villiers St.	Provides work for blind or partially blind.
Swansea .....	Swansea and South Wales Institute for the Blind. South Hill Place.	At discretion of Committee. Total blindness is necessary. Age, 7 to 40. Adults, 10s. a week; children, 7s.; out-pupils free. In-mates remain 4 to 6 years.
Tunbridge Wells .....	Workshops for the Blind of Kent.	<i>See under GREENWICH.</i>
Wakefield .....	Wakefield Blind Society.	Home visiting by Scripture reader, and supply of literature in embossed type. Help given in cases of need so far as the funds allow.
Woodford, Essex .....	Mrs. Gladstone's Free Convalescent Home.	Free.
Worcester .....	Blind College for Sons of Gentlemen. Powkye.	By application to head-master. Pupils taken at as early an age as they can be sent from home. Juniors under 14, £80; seniors, £100 per annum. Total blindness not necessary. Pupils are prepared for the universities. There are five scholarships from £20 to 50 guineas.
„ .....	Society for Providing Cheap Literature for the Blind. 33 College St.	Issues works in raised type only at less than cost price.
York .....	The York Emmanuel. 21 Coney Street.	For the benefit of ministers of the United Kingdom, their wives and children, suffering from blindness or idiocy. Applications must be authenticated by one justice of peace and two ministers of the neighbourhood, with medical certificate. The annuities are up to £20.
„ .....	Yorkshire School for the Blind. Manor House.	By election of managing Committee. Age between 10 and 16. Candidates must be unable to do more than distinguish light from darkness. Medical certificate required.

## CANCER.

The provision made for the reception of cases of this terrible disease is far too small. The institutions which provide accommodation for cancer patients are situated in London, Leeds, Liverpool, and Manchester,



but the beds available are remarkably few, and a glance at the following list of institutions will convince any one with knowledge of the subject that to provide additional hospital accommodation for cases of cancer is an object worthy of the earnest efforts and liberal support of all who are interested in the alleviation of human suffering in one of its most serious and offensive forms.

Town.	Name of institution and exact address.	Terms of admission.
Leeds .....	Hospital for Skin Diseases, Cancerous and Scrofulous Affections. 24 Park Sq.	By payment according to wages. Necessitous poor free by letter.
Liverpool .....	Hospital for Cancer and Skin Diseases. 3 Myrtle St.	In-patients, free to poor, but paying patients (fee not exceeding one guinea per week) admitted when there is room. 25 beds. Out-patients 1 <i>d.</i> each attendance.
LONDON—	British Home for Incurables. 380 Clapham Rd., S.W.	Cancer patients eligible for pension. <i>See INCURABLES.</i>
„ ..	Cancer Hospital. Brompton, S.W.	Free. No letter required. 105 beds available.
„ ..	London Hospital. Whitechapel, E.	Special department for cancer. No letter required.
„ ..	Middlesex Hospital. Berners St., W.	34 beds specially for cancer. Admission free. No letter required.
„ ..	St. Saviour's Cancer Hospital. Osnaburgh St., Regent's Park, N.W.	By subscriber's letter, and by payment of from 10 <i>s.</i> 6 <i>d.</i> to four guineas a week, the latter entitling patient to bedroom and sitting-room. For women only.
Manchester ...	Hospital for the Skin, Cancer and Scrofula. Hyde Rd., Ardwick.	By letter or payment according to means.

CHEST. *See* CONSUMPTION.

CHILDREN.

The amount of provision made for sick and suffering children is fairly scattered throughout the country, but if the number of hospitals in the metropolis may be



taken as a guide, it would appear that many provincial towns require special provision to be made for the suffering little ones. A child to come within the scope of a children's hospital must be within the age of two and fourteen, though it is unusual to admit boys over ten except in cases of accident. It is customary to require the certificate of the medical officer at the hospital before granting admission, and, when making application for a bed, to forward at the same time a certificate from a medical man as evidence that the applicant is not suffering from infectious or incurable disease. Admission is usually free on application, or by payment of a weekly sum. In some of the hospitals, however, which receive payments from the patients, free admissions are made at the discretion of the medical officers, and here out-patients are admitted without payment, providing they come within the standard of eligibility fixed by the Provident Dispensaries. In those hospitals where the admission is by subscriber's letter, there is usually no payment required. In some cases out-patients are only admitted to treatment when the parents consent to have their cases investigated—with the object of excluding those who earn more than forty shillings per week. Where payments are made, washing is usually treated as an extra. Out-patients are admitted by governor's letter, or by payment of from twopence to one shilling a week, or partly by payment and partly by governor's letter; and in some cases when there are a number of applicants, although free cases are alone received, those which present a governor's letter take precedence of those not so fortified.

Children, and especially sick children, excite uni-



versal sympathy, and it is no doubt in some degree owing to this fact that more than one hospital has been established for the reception of chronic and incurable cases. Such institutions usually exclude cripples not requiring surgical treatment, and cases of epilepsy, unsound mind, or cancer. They do, however, receive children suffering from hip-joint disease, and the preference is frequently given to those cases where surgical treatment is calculated to improve the condition of the patients. In the case of these institutions, it is often necessary to obtain a householder's guarantee for the payment of a small weekly sum, and for the removal of a child under certain circumstances.

In the following list convalescent homes which admit children have been included:—

\* Certified by Local Government Board under 25 and 26 Vict., cap. 43.

Town.	Name of institution and exact address.	Terms of admission.
Ascot .....	London and Ascot Convalescent Hospital.	Children admitted. Girls under 14, 7s. a week; children under 7, 5s. a week.
Birkenhead ...	Wirral Hospital and Dispensary for Sick Children. Woodchurch Rd.	In-patients, free letter may be dispensed with by a medical officer. Out-patients free without letter, but 1d. is charged for each ticket for medicine.
Birmingham ..	Birmingham and Midland Free Hospital for Sick Children.	Free. Out-patients—registration fee of 6d. required except in very necessitous cases.
Blackley, Manchester .....	Clinical Hospital Conv. Home Crab Lane.	Convalescent Branch of Clinical Hospital, Manchester.
Bournemouth	St. Joseph's Convalescent Home. Branksome Wood Road.	Children under 12 admitted. Payment 6s., a week.
Bradford, Yorks	Bradford Children's Hospital.	Free. Certificates from medical man and guarantee from householder required, unless personal application is made. 60 beds.



Town.	Name of institution and exact address.	Terms of admission.
Bramshaw, Lyndhurst...	Bramble Hill Convalescent Home for Children.	For boys under 12 and girls under 15. Free to patients from Belgrave Hospital; otherwise by subscriber's recommendation or 4s. a week. Home closed from December to May.
Brighton .....	Brighton and Hove Lying-in Institute and Hospital and Dispensary for Diseases of Women and Children.	Free by letter. Out-patients—registration fee of 6d. required.
* „ .....	Convalescent Home. The Downlands, Rottingdean.	By payment of 10s. a week. Medical and surgical cases received. Private institution. Special nurse for cases of ophthalmia, scrofula, hip joint, etc.
„ .....	Cottage Conv. Home for Children. 7 College Place, Kemp Town.	By payment of 8s. and 6s. 6d. a week.
„ .....	Home for Invalid Children. 70 Montpelier Road.	By payment of 8s. a week for children under 14; 10s. a week over that age. Boys admitted from 4 to 10; girls, 4 to 17.
„ .....	London and Brighton Female Conv. Home.	Working men's children admitted.
„ .....	Royal Alexandra Hospital for Sick Children.	By governor's letter. 70 beds. Washing 4d. a week. Convalescent and chronic cases of consumption admitted. Convalescents 7s. a week paid in advance. Term: six weeks. Accommodation for patients of a superior class (age from 2 to 12) at 21s. a week.
„ .....	St. John's Home for Conv. and Crippled Children. Kemp Town.	With subscriber's letter free for three weeks; without, 9s. a week.
Bristol .....	Bristol Hospital for Sick Children and Women.	In-patients (age 2 to 12) free. Out, 2 to 12 years old, 6d. first visit, 1½d. each subsequent visit; 12 to 15 years old, 1s. on admission, 3d. each subsequent visit.
Broadstairs.....	St. Mary's Convalescent Home and Orphanage for Poor Children. Stone Road.	For children between 3 and 13 years old. With subscriber's letter free for three weeks; without, 8s. a week.
„ .....	Victoria Convalescent Home for Children.	For in- and out-patients of the Victoria Hospital for Children, Chelsea. With letter, 10s. for four weeks; without, 30s.
Burstead, Essex .....	Cottage Convalescent Home for Children.	For children under 12. Free. Patients chiefly from London Hospital Samaritan Society. Home closed for three weeks in year.



Town.	Name of institution and exact address.	Terms of admission.
Charlton, near Malmesbury, Wilts .....	Cottage Home.	With letter, 2s. 6d. ; without, 4s. a week. For rickety and weakly children under 10 years of age.
Cheltenham ...	Cobourg Society and Dispensary.	Free by subscriber's ticket.
Clewer, Windsor .....	St. Andrew's Hospital for Convalescents and Incurables.	Children under 14 admitted at 7s. a week.
Coatham.....	Convalescent Home and Children's Hospital.	Free by subscriber's letter, or payment of 30s. per month. 180 beds.
Cold Ash, Newbury.....	Children's Cottage Hospital.	With subscriber's letter, 3s. 6d. per week (not exceeding six weeks); with letter from donor of £5, free for six weeks; without letters, 7s. a week. Separate accommodation for those of a higher class who pay more. 20 beds. For children between 3 and 13 years of age suffering from hip or spine disease.
Croydon .....	Convalescent Home.	For children leaving North Eastern Hospital.
„ South	Children's Convalescent Home. Brighton Road.	By subscriber's recommendation and payment of 6s. for three weeks' residence. Age—boys, 3 to 8; girls, 3 to 12.
Darlington .....	Cottage Hospital for Sick Children.	Free on certificate of surgeon. 7 beds.
Derby.....	Derbyshire Hospital for Sick Children.	By governor's letter for in-patients. Age—in, in ordinary cases, 2 to 10; out, under 12. 41 beds.
Eastbourne.....	Homœopathic Convalescent Home. 66 Enys Road.	Children admitted. With letter, 3s. 6d. a week; without, 10s. 6d. a week.
Emsworth .....	St. Faith's Home, Westbourne.	With subscriber's letter, free for four weeks; without, 9s. a week in summer and 6s. a week in winter. Girls over 5, boys between 5 and 10.
Epping .....	Convalescent Cottage. The Plains.	Children between ages of 6 months and 8 years admitted by payment of 3s. 6d. a week.
Felixstowe ...	Convalescent Home.	For boys and girls from Dr. Barnardo's Homes.
Folkestone.....	Conv. Home. Netley Cottage, Claremont Rd.	Children admitted. Under 12, 7s. a week; from St. Giles's, free.
„ .....	George Sturge Convalescent Home.	Branch of Convalescent Cottage at Epping.
Gateshead .....	Children's Hospital. Durham Rd.	By letter and payment—in the case of in-patients of 3d. a week, and of out-patients of 2d. per visit.
Gerrard's Cross, Slough	St. Lawrence's Conv. Home for Children.	By payment of 5s. a week. Age, under 12 years.



Town.	Name of institution and exact address.	Terms of admission.
Gloucester.....	Free Hospital for Children.	Free.
Glynde .....	Children's Conv. Home.	By payment of 2s. 6d. a week.
Gt. Yarmouth	Children's Conv. Home. Marine Parade.	Free on subscriber's recommendation.
Hartshill.....	Special Wards in North Staffordshire Infirmary.	Free to the poor. The contribution of those able to pay is fixed by the Weekly Committee.
Herne Bay ....	The Bird's Nest. Brunswick Square.	Free on subscriber's recommendation. Laundry fee (9d. per week) and railway fare extra.
" .....	The Mother's Seaside Convalescent Home. St. George's Terrace.	Girls admitted between 2 and 14 on payment of 7s. a week.
Kidderminster	Infirmary and Children's Hospital.	By subscriber's letter.
Kingston Hill	Metropolitan Convalescent Institution—Children's Branch. Office: 32 Sackville Street, Piccadilly, W.	Free by letter.
Leeds .....	Hospital for Women and Children.	By letter of subscriber or donor.
" .....	Meanwood Convalescent Home for Children.	By letter for three weeks. For a further three weeks 8s. a week.
Leicester.....	Children's Hospital in connection with the Leicester Infirmary.	Free by letter.
Liverpool .....	Infirmary for Children. Myrtle Street.	By governor's recommendation. Out-patients 1d. each attendance. 80 beds.
Llandudno ....	Cottage Hospital and Male Convalescent Home.	Branch of the Sarah Nicol Memorial Cottage Hospital. Children admitted on payment of 10s. a week.
LONDON—		
Bloomsbury, W.C. ....	Alexandra Hospital for Hip Disease. 18 Queen Square.	By payment of 4s. a week, or with subscriber's letter, free. 81 beds. Seaside Hos. at Bournemouth.
Chelsea, S.W.....	Cheyne Hospital for Sick and Incurable Childn. 46 and 47 Cheyne Walk.	4s. a week on householder's guarantee. Patients with subscriber's letters have precedence. Cases of epilepsy, unsound mind and cancer ineligible. 50 beds.
" .....	Victoria Hospital. Queen's Road.	By subscriber's letter, available for one month. Out-patients, by letter available for a fortnight. Age—boys, 2 to 12; girls, 2 to 16. 84 beds.
Glo'ster St., S.W.....	Belgrave Hospital. 77 and 79 Gloucester St.	Free by subscriber's letter. Age, 3 to 12. 23 beds.



Town.	Name of institution and exact address.	Terms of admission.
LONDON— Gt. Ormond St., W.C.	The Hospital for Sick Children.	By governor's recommendation. Patients without letter must have their cases investigated, and those whose parents earn more than 40s. a week are not as a rule eligible for permanent treatment. 179 beds.
Hackney Rd., N.E.	North Eastern Hospital. Hackney Road.	By subscriber's free ticket, or by payment. In-patients, 2s. 6d.; out, 4d. on admission, and 3d. a week afterwards. No in-patients admitted under 2 years. 55 beds.
Highgate, N.	Cromwell House Convalescent Hospital.	In connection with The Hospital, Great Ormond St. At discretion of medical officer of Great Ormond Street Hospital, where the case must have already been for one week. Free. No letter required. Incurables are admitted at this branch.
Kilburn, N.W. ....	St. Monica's Home (for surgical cases). Bron- desbury Park, N.W.	By application to lady superinten- dent. Medical certificate required, and householder's guarantee for payment of 5s. 6d. a week, and for removal of child. Age— girls, 3 to 17; boys, 3 to 15. Ward for children of upper classes. Payment, one guinea a week.
„ .....	St. Peter's Home. Mor- timer Road.	Children suffering from temporary illness admitted on payment of 5s. 6d. a week.
Maida Vale, W. ....	Hospital and Home for Incurable Children.	Chronic or incurable complaints, under 16 years of age. Small weekly payment. 30 beds. <i>See INCURABLES.</i>
Marylebone Rd., N.W. Paddington Green, W. Shadwell, E.	Samaritan Free Hospital for Women and Childn. Paddington Green Hos- pital for Sick Children. East London Hospital for Children and Dispen- sary for Women.	<i>See WOMEN.</i> Free without letter. 27 beds. Free by letter. 102 beds.
Southwark, S.E. ....	Evelina Hospital. South- wark Bridge Road.	All free, but those with governor's or subscriber's letter take prece- dence in admission. Age—boys, 2 to 10; girls, 2 to 12. Infectious cases not admitted.
Stepney, E.	Her Majesty's Hospital for Waif Children. 13 to 19 Stepney Causeway.	At discretion of hon. director, Dr. Barnardo.



Town.	Name of institution and exact address.	Terms of admission.
LONDON— Sydenham, S.E. ....	Home and Infirmary for Sick Children. Lower Sydenham.	By payment of 7s. 6d. a week, or by subscriber's letter and 2s. 6d. a week. 45 beds, of which 7 are free. Age—boys, 2 to 12; girls, 2 to 14. Unsound mind, epileptic and infectious cases not admitted.
Waterloo Rd., S.E.	Royal Hospital for Children and Women.	By governor's letter. 6d. a week expected. Out-patients, by letter and free. The former have precedence. 1d. each attendance. Children within the visiting district (Lambeth and Blackfriars Bridges and St. George's Circus) and too ill to attend are visited. 51 beds.
Westminster, S.W. ....	Grosvenor Hospital for Women and Children. Vincent Square.	See WOMEN.
Loughborough	Mrs. Parker's Convalescent Home for Children. Broombriggs, Woodhouse Eaves.	By payment of 5s. a week. Age—girls, 3 to 14; boys, 3 to 9. Private home.
Loughton, Essex .....	Convalescent or Permanent Home. Uplands.	Children of the poorer class admitted on payment of 7s. 6d. a week.
Luton .....	Children's Sick and Convalescent Home.	By letter and payment if possible.
Manchester....	Clinical Hospital for Women and Children.	Free, in and out, subject to investigation as to circumstances.
„ .....	General Hospital and Dispensary for Sick Children. Pendlebury and Gartside Street.	Free at discretion of medical officers. 140 beds.
„ .....	St. Mary's Hospital for Women and Children.	By subscriber's recommendation and payment according to means.
„ .....	Southern Hospital. Clifford Street.	Free, subject to investigation as to circumstances. Applicants must be non-paupers, but unable to pay for medical advice.
*Margate, Kent .....	Convalescent Home of the Holy Family. Lawn House, Grosvenor Pl.	For sick and delicate Roman Catholic children. By payment of 8s. per week.
„ .....	Victoria Home for Invalid Children. 2 Church Fields.	For sick children who require for their cure a longer time than can be spared to such cases in a general hospital. Payment, 5s. weekly in advance.



Town.	Name of institution and exact address.	Terms of admission.
Moseley Hall, Worcest'rsh.	Convalescent Home for Children.	By subscriber's letter and 2s. 6d. per week, or free with two letters. Primarily branch of Birmingham and Midland Free Hospital for Sick Children. Other cases, however, received.
Newcastle-on-Tyne .....	Fleming Memorial Hospital for Sick Children.	In-patients, by governor's letter and payment of 3d. a week. Out, by letter and payment of 1d. for each attendance. 63 beds.
Norwich .....	Jenny Lind Infirmary for Sick Children.	By subscriber's letter. Accident and urgent cases free. Age—In-patients, boys, 2 to 10; girls, 2 to 12. Out, birth to 12. 26 beds.
Nottingham ...	Free Hospital for Sick Children.	Free without letter. 33 beds.
Ramsgate.....	Latymer Road Mission Boys' Convalescent Home.	On subscriber's nomination, free. Without, 5s. a week. Age, 6 to 14.
Rhyl.....	Royal Alexandra Children's Hospital and Convalescent Home.	By letter and payment of 5s. a week in advance. Children of professional men 12s. a week and upwards. Boys above 13 years of age not admitted.
St. Anne's-on-Sea .....	Rochdale Children's Convalescent Home.	By payment of 7s. a week if able. Age—boys, 5 to 12; girls, 5 to 16.
St. Leonards	Convalescent Home for Poor Children. West Hill Road.	With subscriber's letter, free for four weeks; without, 30s. a month. Age—boys, 4 to 14; girls, 4 to 16.
Sevenoaks, Kent.....	Hospital for Hip Disease. The Vine.	By subscriber's or donor's letter and payment of 7s. a week to be guaranteed. Available for as long as may be necessary. No convalescents that can with safety be sent elsewhere are admitted.
„ .....	Lady Hillingdon's Home for Sick, Convalescent and Delicate Girls. Wildernesse.	By payment of 2s. 6d. a week. Private institution.
Sheffield.....	Free Hospital for Childn.	Free under 14 years of age.
Shirley .....	Children's Hospital and Dispensary for Women.	By subscriber's letter. For children under 12 years old. 6 beds.
Shooter's Hill	Crole Wyndham Memorial Home for Convalescent Children. Shrewsbury House.	By payment of 5s. a week. Age—girls, 4 to 14; boys, 4 to 10. Private institution.
Skegness, Lincs.....	Countess of Scarboro's Children's Convalescent Home.	For girls of 5 years of age and upwards. By payment of 5s. a week. Private institution.
Solihull, Birmingham ...	Children's Convalescent Home.	Under 15 by payment of 2s. a week; over 15, 5s. a week.



Town.	Name of institution and exact address.	Terms of admission.
Southampton..	The Home of St. Mary and St. John. Rownhams.	Children of the parishioners, 2s. 6d. a week. Other cases, 5s. a week. For women and girls.
Southport.....	North of England Children's Sanatorium. Hawkshead St. South.	With governor's recommendation, 6s. a week; without, 7s. Age—girls, 2 to 16; boys, 2 to 12. Patients admitted with open wounds.
Southsea .....	Home for Sick Children.	Free to children resident in the borough of Portsmouth. Other cases, 6s. per week. 19 beds.
Stratford - on - Avon .....	Nursing Home and Children's Hospital.	By subscriber's recommendation and payment of 2s. 6d. per week.
Totteridge, Herts .....	Cottage Home for Delicate Children.	For girls between 5 and 12. With subscriber's letter, free, or 3s. a week; without, 5s. a week.
Tunbridge Wells.....	Convalescent Home for Children. Hawkenbury Hill.	By payment of 3s. 6d. a week from Oct. to May, or 5s. 6d. a week from May to Oct. With subscriber's letter, 14s. for four weeks. Age—girls, 2 to 16; boys, 2 to 10.
Twyford.....	Buttercups Conv. Home for Children. Hurst.	By payment of 5s. to 7s. a week according to age.
" .....	Waltham St. Lawrence Cottage Convalescent Home for Children.	By payment of 5s. a week.
Walthamstow, Essex .....	Leyton and Walthamstow Hospital Home for Children. Salisbury Road, Walthamstow.	By subscriber's letter. Patients from Leyton and Walthamstow free; others, 5s. a week and upwards. Age—girls, 2 to 14; boys, 2 to 12.
Wellington.....	Children's Convalescent Home.	Free. Girls under 15 received for three months or longer if needful.
Wembley, Sudbury, Middlesex.....	Paddington Cottage Convalescent Home.	For patients at Paddington Green Children's Hospital.
West Kirby, Cheshire.....	Children's Convalescent Home.	With subscriber's letter, 5s. a week for three weeks; without, 7s. a week.
Weston-super-Mare .....	Children's Convalescent Home. Clifton Road.	By payment of 6s. or 7s. a week. Boys over 8 and girls over 12 not admitted.
Weymouth.....	Weymouth Sanatorium.	By subscriber's letter and payment of 7s. per week.
Whitby.....	Seaside Home for Sick Children and Women.	Children are admitted. With subscriber's letter, free; without, 2s. 6d. a week.

CHRONIC. See INCURABLE.



## CONSUMPTION AND DISEASES OF THE CHEST.

With the exception of London, most of the institutions for the relief of these maladies are situated at the sea-side. Some of these institutions refuse to admit advanced cases of consumption, and confine their relief to patients who are likely to receive benefit from hospital treatment. In the majority of institutions, admission is by subscriber's letter, and as there is always a great demand for the beds, such letters are frequently difficult to obtain, and when procured do not secure admission to the hospital for at least two months from the date they are sent in to the secretary. A governor's letter lasts usually from six weeks to four months, and a list of the governors can almost always be obtained by application to the secretary, and enclosing one shilling in stamps. A few homes make a speciality of advanced cases, the applicant forwarding a medical certificate of the exact state of the disease, and paying a weekly sum of ten shillings a week and upwards.

It will be noticed that these hospitals are reserved for different classes of patients, that is, for men and women, women only, for children, for incurable cases, for cases in the first stage of the disease, and so forth. In some instances, the institution is only open during a portion of the year. Payments are frequently taken from the patients; these range from seven and sixpence at the National Sanatorium, Bournemouth, to ten shillings at Ventnor, with a guarantee fee of one pound and upwards, which is usually returned on leaving. Patients must be provided with body linen, slippers, two towels,



knife, fork, and spoon, and make arrangements for the washing of their personal linen. It is probable that no class of institution in this country provides better accommodation than the Consumption Hospitals as a group, and the amount of care and treatment which these cases require necessitates a very considerable expenditure. In the following list Convalescent Homes which specially admit consumption cases are included:—

Town.	Name of institution and exact address.	Terms of admission.
A x b r i d g e, Somerset ...	St. Michael's Home.	Free. Preference given to destitute cases. Only members of Church of England eligible.
Bournemouth	Firs Home for Cases of Advanced Consumption. For men and women.	Certificate of character and medical certificate required. 10s. 6d. a wk. (payment to be guaranteed).
„	Home for Invalid Ladies. St. Mary's.	For ladies of limited means. Payment of one guinea per week.
„	National Sanatorium. Offices, 32 Sackville Street, London, W.	By governor's nomination available for three months; to be then renewed if patient's stay is deemed advisable and payment of 7s. 6d. a week. Washing extra.
Bowdon, Cheshire .....	St. Ann's Home.	Free. In connection with the Manchester Consumption Hospital.
Brighton .....	Royal Alexandra Hospital for Sick Children.	See CHILDREN.
Clewer, Windsor .....	St. Andrew's Hospital for Convalescents and Incurables.	Limited number of incurable consumptive cases admitted on payment of 12s. 6d. to 15s. 6d. a week.
Liverpool .....	Hospital for Consumption and Diseases of the Chest. Mount Pleasant.	With subscriber's letter, 2s. 6d. per week; without, 7s. a week.
LONDON— Brompton, W. ....	Hospital for Consumption and Diseases of the Chest.	By subscriber's letter. 321 beds.
Cavendish Sq., W. ...	Infirmity for Consumption, Diseases of the Chest and Throat. 26 Margaret Street.	By subscriber's letter, available for eight weeks.



Town.	Name of institution and exact address.	Terms of admission.
LONDON—		
Chelsea, S.W. ....	Chelsea Home. 27 Smith St., King's Rd., S.W.	For male patients waiting for admission to the Brompton Hospital. Patients leaving the same and patients having out-letters only are also eligible. By order from the Secretary or a lady of the committee. Protestants only are eligible. Inmates maintain themselves, furnished rooms, house linen and firing only being provided.
City Road, E.C. ....	Royal Hospital for Diseases of the Chest.	By subscriber's letter. 80 beds.
Golden Sq.	Hospital for Diseases of the Throat and Chest.	Necessitous poor free; others by subscriber's letter, or payment according to means.
Hampstead, N.W. ....	North London Hospital for Consumption and Diseases of the Chest. Mount Vernon, N.W.	By subscriber's letter, or payment of 10s. 6d. to one guinea a week. 49 beds.
Pimlico, S.W. ....	South Belgravia Dispensary for Diseases of the Throat, Chest and Ear. 78 Lupus Street.	No information.
Portman Sq., W. ....	Home for Consumptive Females. 57 and 58 Gloucester Place.	By payment of 7s. a week and £1 1s. entrance fee. Guarantee for payment required.
Tottenham Ct. Rd., W. No. 216...	Out-patients' Department of North London Hospital for Consumption. Hampstead.	See above—HAMPSTEAD.
Victoria Pk., E. ....	City of London Hospital for Diseases of the Chest. Office, 24 Finsbury Circus, E.C.	By subscriber's letter, available for six weeks. Infants and young children, as a rule, ineligible. Country patients must send medical certificate of malady, and probable amount of benefit derivable. 164 beds.
Manchester ....	Hospital for Consumption and Diseases of the Throat and Chest. Hardman St., Deansgate.	Free, or payment according to means. 41 beds.
Newcastle-on-Tyne .....	Northern Counties Hospital for Diseases of the Chest. 50 Blakett St.	Free by subscriber's letter for both in-patients (available for three weeks) and out-patients. 5 beds.
St. Leonards...	Winter Home for Consumptive Girls. Ribbsford House, Chapel Park Road.	For female cases over 13 years. Advanced cases, fits and infectious cases ineligible. Medical certificate required. 10s. a week or 30s. a month payable in advance. A limited number half-price. Home open November to May.



Town.	Name of institution and exact address.	Terms of admission.
St. Leonards...	Friedenfels Home for Diseases of the Throat and Chest.	By letter or by payment.
Torquay .....	Mildmay Home for Patients in Advanced Consumption.	With subscriber's letter 7s. a week; without, 10s. 6d. a week, in advance. Guarantee required for weekly payment and funeral expenses.
„ .....	Western Hospital for Patients of Consumptive Tendency.	Patients must be over 15 years of age. With subscriber's letter, 5s. a week; without letter, 10s. a week, payable in advance. Letter available 1st October to 1st June. Hospital closed remainder of year.
Ventnor.....	Royal National Hospital for Consumption. Office, 34 Craven St., Charing Cross, W.C.	By letter available for 10 weeks, and 10s. a week with guarantee fee of £1, returned on leaving. Payments remitted in certain cases. Only incipient cases admitted.

## CONVALESCENT.

There are at the present time Convalescent Homes for all kinds of cases—lying-in, surgical, consumptive, epileptic, fever, scarlet fever, and small-pox, but many, probably the majority of convalescent institutions, are intended for the reception of persons who have been cured of complaints of a non-infectious character, but who require change of air by residence in the country or at the sea-side, and not medical treatment. That is to say, cases requiring active medical treatment, patients who are not convalescent in the ordinary meaning of that term, but who require nursing, medical attendance, and a special dietary, and persons with open sores, or labouring under any form of disease requiring active treatment, are usually inadmissible. Generally it may be said that Convalescent Homes



define convalescence as that stage where disease has ceased, and health has to be restored; and they therefore confine their work to those who are passing from the weary time of languidness and depression which follows upon illness, or who are suffering from the fatigue and exhaustion consequent on long-continued work without rest, and who are enabled by their means to return to work with renewed health and vigour. As a rule the following cases are inadmissible to Convalescent Homes: Persons who are recovering from small-pox, typhus, and scarlet fever, or any other infectious or contagious disease, or who are blind and helpless; persons subject to fits; lunatics; incurable cases; immoral persons; and persons who are suffering from cancer, or any other loathsome disease.

In nearly every instance a certificate is required from the last medical attendant or some other medical man, and it is advisable that the doctor should certify precisely as to the actual state of the patient's health, the nature of the disease, and, in those cases where certain maladies are excluded, that the patient is free from them, and that he or she is likely to benefit by the change. The requirement of a certificate from a clergyman will be met by one from a minister of any of the leading Christian denominations. Certificates of respectability should, if possible, be obtained from some one of social standing, for instance from a magistrate or clergyman, or, failing these, from a householder.

The terms of admission vary considerably, but in the majority of cases some payment, as a rule from 7s. to 10s. a week, is expected from all patients. Many of



the hospitals in the British Isles have established Convalescent Homes for the reception of patients discharged from their own wards, and a very noticeable feature of the last decade has been the great increase in the number of homes devoted either exclusively or in part to children.

Those Convalescent Homes which treat special cases are to be found included under the different groups dealt with in this book. For any further information we would refer our readers to *Burdett's Hospital and Charities Annual*, published by the Scientific Press, 428 Strand, W.C.

COTTAGE HOSPITALS. See SICKNESS IN HOSPITAL.

DEAF AND DUMB.

(For CURABLE DEAFNESS, see under EAR.)

It may be useful to state that Guardians of the Poor throughout the country have certain permissive powers, by which, subject to the sanction of the Local Government Board in each case, they are able to send poor deaf and dumb children, with the consent of the parents, or of the child if over fourteen years of age, to schools fitted for their reception, whether certified by the Local Government Board or not, providing the total payment does not exceed seven shillings per week. The Guardians may also provide and pay for the maintenance and instruction of any adult pauper who is deaf and dumb, by obtaining admission for him to any hospital or institution established for the reception of such persons. It will be seen by a reference to the



following list of institutions that the School Board for London provides education at seventeen centres for deaf and dumb children. No fee is charged for these classes, and application should be made to the Superintendents of Visitors at each centre given below.

On examining the list of institutions it will be noticed that they provide accommodation for the old, for children and adults, and that pensions are also granted under certain conditions. Thus the Society for Promoting the Social and Religious Welfare of the Adult Deaf and Dumb of Liverpool gives relief at the rate of from two to three shillings per week to old people. Day and parlour boarders are received at the Manchester schools, where the payment varies from £9 5s. to £26 5s. per annum, according to the circumstances of the parents. Some institutions relieve approved applicants, and find situations, whilst providing food and shelter for the destitute and homeless cases. Some institutions are entirely free. The early training of children is frequently encouraged, and pupils' school fees are often regulated by the committees in accordance with the circumstances of the cases and the parents' means. In some places, as at Bristol, the pupils are divided into poor, middle, and upper classes, which pay various sums, varying from £15 to £50 per annum, for their maintenance at school. A careful study of the list shows that there are institutions available to meet the requirements of almost all cases which are suffering under this melancholy affliction.



Those marked (\*) are certified by the Local Government Board under the Act 25 and 26 Vic. cap. 43.

### EXPLANATION OF REQUIREMENTS, DISEASES EXCLUDED, ETC.

<i>a.</i> Certificate of deafness required.	<i>k.</i> Weak intellect.
<i>b.</i> Certificate that patient is deaf and dumb.	<i>l.</i> Imbecile.
<i>c.</i> Guarantee for removal when required, or for expenses of burial.	<i>m.</i> Master takes private pupils.
<i>d.</i> Guarantee as to payments.	<i>n.</i> Votes not carried forward.
<i>e.</i> Guarantee as to clothing.	<i>o.</i> Votes carried forward.
<i>f.</i> Fits.	<i>p.</i> London cases excluded.
<i>g.</i> Certificate of vaccination.	<i>q.</i> Inmates leave for summer vacation.
<i>h.</i> Hair cut short.	<i>r.</i> Inmates leave for summer and Christmas.
<i>i.</i> Infectious diseases.	<i>s.</i> Scrofula.

C. For Children.

M. For Men.

W. For Women.

Town.	Name of institution and exact address.	Terms of admission.
* Bath.....	Institution for the Blind and Deaf and Dumb.	<i>See under BLIND.</i>
* Birmingham.. C.	Royal Institution for the Instruction of Deaf and Dumb Children. Edgbaston. Office, 112 Edmund St., B'gham.	By election of governors and payment of £10 or £15, according to locality, or £25 if sent by Board of Guardians. £25 per annum if by payment only. Age, 8 to 13. ( <i>c</i> ) ( <i>d</i> ) ( <i>e</i> ) ( <i>g</i> ) ( <i>h</i> ) ( <i>m</i> ) ( <i>n</i> ) ( <i>r</i> ).
* Boston Spa, Yorks. C.	St. John's Institution for the Deaf and Dumb.	For Roman Catholics. By payment of £20 per annum, quarterly in advance. Some less. £3 for outfit. Age over 7. Stay 6 years. ( <i>g</i> ).
Brighton. C.	Brighton Institution for the Instruction of Deaf and Dumb Children of the Counties of Sussex, Hampshire and Kent. Eastern Road.	By member's recommendation and priority of application. Apply to Secretary for form. Age, 7 to 12. ( <i>b</i> ) ( <i>c</i> ) ( <i>d</i> ) ( <i>e</i> ) ( <i>f</i> ) ( <i>g</i> ) ( <i>h</i> ) ( <i>i</i> ) ( <i>k</i> ) ( <i>m</i> ) ( <i>q</i> ). Payment, £10 per annum, quarterly in advance.
* Bristol .....	Bristol District Institution for the Deaf and Dumb. Tyndall's Park.	Pupils are in three classes. Poor, at £15 per annum; middle class, £25; and an upper class, with separate accommodation, at £50, or as the Committee may decide. Payable quarterly in advance. Applications to be sent in not later than 1st June. Age, 7 to 12. Election by Committee or by poll when the number of applicants exceeds the number of vacancies. ( <i>d</i> ) ( <i>e</i> ).



Town.	Name of institution and exact address.	Terms of admission.
Derby.	C. Midland Deaf and Dumb Institution. Friar Gate.	By election. Age, between 5 and 10.
*Doncaster.	C. Yorkshire Institution for the Deaf and Dumb. Eastfield House. (For Yorkshire children, and upon certain conditions those from Lincs and Notts.)	By election once a year, and subscriber's letter. £9 per annum, ordinary cases; £30 per annum, intermediate class. Age, 7 to 14, remaining till 16. (d) (m) (p), except as to master's pupils (q).
*Exeter.	C.... West of England Institution for the Instruction of Deaf and Dumb Children. (For cases in Devon, Cornwall, Dorset and Somerset; failing these, in other counties.)	By election on recommendation of three governors of candidate's county, and payment of 3s. a week at least, quarterly in advance. Without election, £20 a year. Private pupils taken. Age, 8 to 12. (b) (c) (d) (e) (f) (g) (i) (k). Certificate from applicant's clergyman required as to circumstances. Remain until 16.
*Hull.	C..... Hull, East Yorkshire and Lincolnshire Institution for the Deaf and Dumb. 53 Spring Bank.	By payment, £13 to £20 per annum. Age, 5 to 12, remaining till 15. Non-resident pupils according to circumstances. Guarantees required from guardians. 30 pupils trained in schools.
Leeds.....	United Institution for the Blind and Deaf and Dumb. Albion Street.	<i>See under BLIND.</i>
Liverpool.....	M. W. Liverpool Adult Deaf and Dumb Benevolent Society. Princes Avenue.	Gives relief and holds religious services. Employment found.
,,	C... Liverpool School for the Deaf and Dumb. Oxford Street.	By selection of Committee. Payment for inmates, £12 per annum and £3 for clothing. Instruction only gratis. Intermediate pupils, £25 to £30, with separate rooms, et. (a) (c) (d) (e) (f) (g) (i) (k) (m) (r). Also certificate of health and sight. Age, 7 to 14, remaining till 16.
Llandaff.	C. School for the Deaf and Dumb. (Priority to Welsh and Monmouthshire cases.)	By application to Secretary and payment according to arrangement, or through local Board of Guardians. No letter required. (b) (e) (f) (g) (h) (i) (k).
LONDON, N.	*Pentonville. C. Stainer Homes for Deaf and Dumb Children. 66, 70, 72, 74 and 80 Pentonville Road, and 37 Camberwell Green. Office, 13 Paddington Green, W.	By payment of 7s. a week. (For maintenance of children near schools where special instruction is given on the oral system.) Age, 4 to 14.



Town.	Name of institution and exact address.	Terms of admission.
<b>LONDON, E.</b>		
*Pentonville. C.	The "Hugh Myddelton".	London School Board classes.
" C.	Southampton St., Pentonville Road.	" " "
<b>N.W.</b>		
City Road. C.	Catherine Street.	" " "
Hackney. C.	Morning Lane.	" " "
Stoke Newington. C.	Matthias Road.	" " "
<b>W.</b>		
Fitzroy Sq., No. 11. C.	Association for the Oral Instruction of the Deaf and Dumb. School for Children and Training College for Teachers.	Pupils' school fees are regulated by the Committee according to the circumstances of the case and the parents' means.
Hampstead. C.	Stanhope Street.	London School Board classes.
Maida Vale. C.	Copland Street.	" " "
*Notting Hill	Jews' Deaf and Dumb Home. Walmer Road.	Apply to Committee, who, without election, admit applicant if there is room. Age, over 7. In some instances a small amount is contributed by parents or parish.
Oxford St., No. 419...	Royal Association in aid of the Deaf and Dumb. St. Saviour's Church and Lecture Rooms.	Assistance is given in obtaining employment, as well as relief in necessitous cases, and the early training of children is encouraged. Apply personally at the office between 10 A.M. and 5 P.M.
*Paddington Green. M. W.	Charitable and Provident Society for the Aged and Infirm Deaf and Dumb. Stainer House.	Pensions of £6 per annum for poor persons over 60 and for the infirm, selected by the Committee. Apply to the Secretary for a form. In the provident department an annual contribution of £1 1s. for 20 years qualifies for a pension of £5, which may be increased.
<b>S.W.</b>		
Battersea. C.	Surrey Lane.	London School Board classes.
Chelsea. C.	Park Walk.	" " "
<b>S.E.</b>		
Bermondsey. C.	Farncombe Street.	" " "
Blackfriars. C.	Pocock Street.	" " "
Camberwell. C.	Boundary Lane.	" " "
Deptford. C.	Stanley Street.	" " "



Town.	Name of institution and exact address.	Terms of admission.
LONDON, S.E.		
Grange Rd., No. 171...	Stainer Homes.	See PENTONVILLE, N.
*Old Kent Road.....		See MARGATE.
E.		
Bethnal Green. C.	Turin Street.	London School Board classes.
„ C.	Summerford Street.	„ „ „
Limehouse. C.	Farrance Street.	„ „ „
*Lower Clapton. W.	British Asylum for Deaf and Dumb Females.	Mental, technical and religious education. Home for aged and infirm deaf mutes. By election, free for three years. Age, 10 to 30. By payment, £22 a year and clothing; any age over 10.
Victoria Park Sq., No. 6. C.	Stainer Homes.	See PENTONVILLE, N.
E.C.		
Cannon St., No. 7. M. W.	Cordwainers' Company's Pensions for the Deaf and Dumb.	Applicants must live within 100 miles of London. Age—men over 40, women over 25. Apply to the Clerk at the Hall of the Company.
W.C.		
Drury Lane. C.	Great Wild Street.	London School Board classes.
Manchester ....	Manchester and Salford Adult Deaf and Dumb Benevolent Association. 70 Quay St., Deansgate.	Free. Relieves approved appli- cants and finds situations. Temporary shelter is given to destitute and homeless cases.
*Manchester, Old Trafford. C.	Manchester Schools for the Deaf and Dumb.	By election or nomination by Branch Association, and pay- ment from £9 2s. to £26 5s per annum, according to circum- stances, quarterly in advance. Some are admitted by payment alone, and parlour boarders are received. Age, 7 to 12. Stay, 7 years. (c) (d) (e) (g) (o) and medical certificate.
*Margate. C.	Asylum for the Support and Education of Indi- gent Deaf and Dumb Children. Offices, 93 Cannon Street, E.C.	By election of subscribers or pre- sentation, or by payment of £30 per annum. Also at Old Kent Road. Age, 7 to 10. (b) (c) (g) (k) (l).



Town.	Name of institution and exact address.	Terms of admission.
*Newcastle-on-Tyne .....	Northern Counties Institution for the Deaf and Dumb. Moor Edge.	By letter and payment of £13 per annum quarterly in advance. Some less. Those who can pay more are expected to do so. Age, 7 to 12. (g) (h) (m) (q).
Stockport .....	Institution for the Blind, Deaf and Dumb. St. Peter's Gate.	See BLIND.
*Swansea .....	Cambrian Institution for the Deaf and Dumb. Heathfield.	By election of the Committee or by payment of 7s. a week and upwards according to circumstances. Parlour boarders, £40 per annum and upwards. Stay, 8 years. (a) (c) (d) (e) (f) (g) (i) (k) (n) (r).

DEAFNESS, TEMPORARY. See EAR.

### DEFORMITIES OF BODY.

(INCLUDING CRIPPLES, AND DISEASES OF THE FOOT AND OF THE SPINE.)

Under this head cripples, club foot, and spinal complaints are included. It may be said at once that there is a sad deficiency in this department, and that charitable persons who desire to benefit their fellow-countrymen cannot do better than promote the establishment of institutions for the relief and reception of this class of suffering. Wales has no institution which affords relief to cripples, and with the exception of Birmingham, Hull, and London the country is practically unprovided with institutions for the reception of special and orthopædic cases and cripples.

Town.	Name of institution and exact address.	Terms of admission.
Birmingham...	Royal Orthopædic and Spinal Hospital. New-hall Street.	Out-patients free. In-patients and instruments by letters. In-patient tickets last two weeks; out, six weeks.



Town.	Name of institution and exact address.	Terms of admission.
Hull .....	Hull, East Riding, and North Lincolnshire Orthopædic Hospital.	By letter.
LONDON— Edgware Rd., W.	Moore St. Home for Crippled and Orphan Boys. 9 and 10 Moore St. Office, 17 Queen St., Edgware Rd.	Apply to the Matron or to the Hon. Secretary. A few cases free. General payment, £15 a year. Age, 8 to 13. Boys must be able to get about on crutches and dress themselves. Cases with open sores or unlikely to qualify for a trade ineligible.
Holborn, E.C.	City Orthopædic Hospital. 26 and 27 Hatton Garden.	For club foot, contractions, or distortions of the limbs, curvatures of the spine, etc. Free, no letter required.
Holloway, N.	Kingsdown Orphanage. Pemberton Rd., Upper Holloway, N.; 8 Tremlett Grove; and at Broadstairs.	No special interest needed. Spinal complaints, paralysis, cripples, and consumptives taken. No limit of age.
Kensington, W.	National Industrial Home for Crippled Boys. Wright's Lane.	£10 per ann. for three years and payment for single outfit of £6 16s. 4d. Age, 13 to 18. Must have use of hands, and be neither blind nor deaf and dumb. Any necessary instruments must be supplied.
Marylebone Rd., No. 17A.	Cripples' Home and Industrial School (for Girls).	£15 12s. per annum. Age, over 12. Any necessary instruments must be supplied. Cripples must have free use of their eyes and hands. Convalescent Home at St. Leonards.
Oxford St., No. 297. W.	Royal Orthopædic Hospital.	By letter.
Portland St., Great, No. 234. W.	National Orthopædic Hospital.	Out-patients free. In-patients, in order of application, on payment, under 12, 7s. 6d. a week, over 12, 10s. 6d.
Putney Heath, S.W.	Royal Hospital for Incurables. West Hill.	See INCURABLES.
Regent's Park, N.W.	Cripples' Nursery. 15 Park Place, Clarence Gate.	£14 a year, quarterly in advance, with £1 for clothing. Age, 3 to 12. Convalescent Home at Margate.
West Smithfield, E.C.	St. Bartholomew's Hospital.	Special beds. Free without letter.
Margate.....	10 Sea View Terrace. Seaside Branch of Cripples' Nursery, Regent's Park.	See REGENT'S PARK.



## DENTAL.

In addition to the institutions mentioned below, which make a speciality of dental cases, most of the large general hospitals have a department for the treatment of such patients.

Town.	Name of institution and exact address.	Terms of admission.
Birmingham ...	Birmingham Dental Hospital. 71 Newhall St.	Children under 10 free; over 10 years of age registration fee 6 <i>d.</i> , which frees for one month for all treatment except gold filling or anæsthetic treatment, for which subscriber's letter or fee of 2 <i>s.</i> is required.
Brighton .....	Brighton, Hove and Preston Dental Hospital. 116 Queen's Road.	Free except for operations, when letter is required.
Liverpool .....	Liverpool Dental Hospital.	Free except for operations, when letter is required.
LONDON—		
Great Portland St., No. 149.	National Dental Hospital.	Free to the necessitous poor and urgent cases, others by subscriber's letter.
Leicester Sq.	Dental Hospital of London.	Free to the poor, together with any operative assistance that may be immediately necessary. For special operation, a letter must be obtained.
Manchester. ...	Victoria Dental Hospital. 16 Devonshire St., All Saints.	Advice free. For special treatment governor's recommendation required.

DIPSOMANIA. *See* INEBRIATES.

DISPENSARIES. *See* SICKNESS AT HOME.

DRUNKENNESS. *See* INEBRIATES.

EAR AND THROAT, DISEASES OF.

It has been found impossible to group all Hospitals which relieve this class of disease under the above heading, because most of the London and the larger



provincial General Hospitals have special departments, at which attendance on out-patients is given on certain stated days, as publicly notified at the hospital gates, while in addition, several of the Consumption Hospitals also treat diseases of the throat. It will be seen, on reference to the various institutions included in the subjoined list, that the plan adopted is usually to invite the patient to pay something for his treatment, the amount being regulated by the means of the patient.

Town.	Name of institution and exact address.	Terms of admission.
Birmingham...	Birmingham and Midland Ear and Throat Hospital. 109 Edmund Street.	Free by letter, or by payment of a registration fee of 3s. 6d. No in-patient department at present.
Bradford, Yorks	Bradford Eye and Ear Hospital.	By letter. Free to the poorest. Others: out, 1s. first visit; 6d. afterwards; in, cost of board. Private patients admitted. Terms fixed by Committee.
Brighton .....	Brighton, Hove and Sussex Throat and Ear Dispensary. 23 Queen's Road.	By governor's letter, free; by subscriber's letter, 5s. a month.
Cardiff .....	Cardiff Eye and Ear Hospital.	No information.
Hereford .....	Victoria Eye and Ear Hospital.	Free by subscriber's letter. In-patients, two recommendations; out-patients, one.
Liverpool .....	Liverpool Eye and Ear Infirmary. Myrtle St.	By letter, except in case of urgency or accident. In-patients from Liverpool and neighbourhood free. Others pay 8s. 6d. a week for board. Out-patients pay 1d. weekly for each medicine supplied.
" .....	St. Paul's Eye and Ear Hospital. 6 St. Paul's Square.	Free to the very poor both in and out. Otherwise, in-patients, 2s. to 21s. a week; out, 6d. first visit, 1d. each subsequent visit. Something is also asked for medicine. No letter required.
LONDON— City Road, E.C. No. 317 .....	Municipal Throat and Ear Infirmary.	Out-patients only. Free by letter or on small weekly or monthly subscription according to patient's own statement.



Town.	Name of institution and exact address.	Terms of admission.
LONDON—		
Golden Sq., W. ....	Hospital for Diseases of the Throat.	Free by letter, or by payment.
Gray's Inn Rd., W.C.	Central London Throat and Ear Hospital.	In-patients pay according to means. Maximum, 14s. a week. One-third free. Three free letters are sent annually to <i>every</i> minister in the metropolis, and to others in the provinces on application. Out-patients free, but those who are able are expected to pay something.
Gt. Portland Street, W. No. 204... Pimlico, S.W. ....	London Throat Hospital for Diseases of the Throat, Nose and Ear. South Belgravia Dispensary for Diseases of the Throat, Chest and Ear. 74A Lupus Street.	Free, or by payment according to means.
Soho, W.C.	Royal Ear Hospital. Frith Street.	No information.
Tottenham Court Rd., W.C. ....	Metropolitan Ear and Throat Infirmary. 25 Howland Street.	By subscriber's letter. Free to necessitous poor. Patients are expected to contribute according to means.
Manchester ...	Ear Institution. 25 Byrom Street.	Free to the poor at medical officer's discretion, or by letter available for six weeks to two months; attendance and medicine.
Newcastle-on-Tyne .....	Hospital for Diseases of the Throat and Ear. 1 Clayton Street East.	Free by letter. No in-patients.
Sheffield .....	Sheffield and South Yorkshire Ear, Throat and Skin Hospital. Holly Street.	No letter required. Patients expected to make a payment according to their means.
Shrewsbury, Salop.	Eye, Ear, and Throat Hospital for Shropshire and Wales.	<i>See SKIN.</i>
Southampton.	Eye and Ear Hospital. Oxford Street.	Free by subscriber's letter. In-patients are taken for 3 months.
Tunbridge Wells.	Eye and Ear Hospital. Pantiles.	Free. Ear patients Monday and Thursday. Eye patients Tuesday and Friday. Closed from 1st August to 14th September.
		By subscriber's letter. Out-patients without letter 1s. a visit.

EPILEPSY. *See* PARALYSIS.



## EYE, DISEASES OF.

Ophthalmic hospitals or institutions for the treatment of diseases of the eye are very numerous, and they are regarded by the medical profession as legitimate, because special treatment and care are necessary in such cases. The eye hospital is probably the oldest special hospital established in this country; and this is no doubt largely due to the fact that the eye is so delicate that, to treat the diseases which affect it effectually, special skill and practice are necessary. At the older institutions it is usual to admit patients on the production of a governor's letter, but in the more recent ones it will be found that a graduated scale of payment regulates the admission. To this class of cases also the large general hospitals devote as a rule a special department.

Town.	Name of institution and exact address.	Terms of admission.
Bath .....	Eye Infirmary. 1 Belvedere.	In-patients by governor's letter, and those from outside the borough of Bath must produce a letter signed by a subscriber "resident in or connected with the applicant's own parish," or "by an authorised officer of a subscribing parish or union". Out-patients free without letter.
Birmingham ...	Birmingham and Midland Eye Hospital. Temple Row.	<i>See</i> EAR.
Bradford .....	Bradford Eye and Ear Hospital.	Free by letter. Urgent and accident cases without letter.
Brighton.....	Sussex Eye Hospital.	In-patients free by letter from two-guinea subscriber, but if the letter be obtained from a life governor (qualified before 1854), a payment of 2s. 6d. a week also is required. Guarantee of removal required. Out-patients free by letter from half-guinea subscriber.



Town.	Name of institution and exact address.	Terms of admission.
Brighton, Rottingdean.	The Downlands.	<i>See</i> CHILDREN.
Bristol .....	Dispensary for the Cure of Complaints of the Eye. 17 Orchard Street.	Free without letter, both in- (operation cases) and out-patients. In-cases not requiring operations are admitted at 9s. 6d. a week.
"	Bristol Eye Hospital. Lower Maudlin Street.	In-patients by letter free, or by payment of 10s. a week in advance. Out-patients, no recommendation required.
Cardiff .....	Cardiff Eye and Ear Hospital.	<i>See</i> EAR.
Chatham .....	St. Bartholomew's Hospital, Special Department.	Free by letter. Urgent cases at discretion of medical officer without letter.
Devonport ...	Royal Albert Hospital and Eye Infirmary.	Free by letter, or by payment according to circumstances.
Exeter .....	West of England Eye Infirmary.	Free by letter.
Gloucester.....	Gloucester General Infirmary and Gloucestershire Eye Institution.	To the eye department in-patients are received free by letter, or on weekly payment, to be fixed by the Board, but urgent and operation cases and the very poor are taken in free without letter. Out-patients free without letter.
Hartshill .....	North Staffordshire Infirmary and Eye Hospital.	Free by letter.
Hereford .....	Victoria Eye and Ear Hospital.	<i>See</i> EAR.
Liverpool .....	Liverpool Eye and Ear Infirmary. Myrtle Street.	<i>See</i> EAR.
"	St. Paul's Eye and Ear Hospital. 6 St. Paul's Square.	<i>See</i> EAR.
LONDON— Borough, S.E.	Guy's Hospital.	Special ophthalmic wards. Free without letter.
Charing Cross, W.C.	Royal Westminster Ophthalmic Hospital. 19 King William Street.	Free for both in- and out-patients. No letter required. Country cases requiring operation must previously be notified to the Secretary by a clergyman or other responsible person.
Gray's Inn Road, W.C.	Central London Ophthalmic Hospital.	In-patients, by governor's letter and payment of not less than 1s. a day. Out-patients, 2d. per visit.



Town.	Name of institution and exact address.	Terms of admission.
LONDON— Marylebone Rd., Nos. 153 and 155.	Western Ophthalmic Hospital.	In-patients free for one month by letter from subscriber or the district Charity Organisation office; otherwise must pay for diet weekly in advance (maximum, 10s. 6d.). Out-patients free, or if able must pay 6d. or more at each attendance.
Moorfields, E.C.	Royal London Ophthalmic Hospital.	In-patients by letter or at medical officer's discretion. Out-patients free.
St. George's Circus, E.	Royal Eye Hospital or Royal South London Ophthalmic Hospital.	Free or by letter.
Smithfield, West, E.C.	St. Bartholomew's Hospital.	Special beds. Free, without letter.
Whitechapel, E.	London Hospital.	Special department. No letter required.
Maidstone.....	Kent County Ophthalmic Hospital.	Free, in and out.
Manchester.....	Royal Eye Hospital.	Letter not indispensable. Out-patients free.
Newcastle-on- Tyne .. .. .	Northumberland, Durham and Newcastle Eye Infirmary. St. Mary's Place.	Free without letter, and by payment.
Norwich .....	Norfolk and Norwich Eye Infirmary. Pottergate Street.	By subscriber's letter, except in urgent cases.
Nottingham ...	Nottingham and Midland Eye Infirmary.	By letter and 1s. 6d. a day. 4 free beds for the destitute. Out-patients by letter, or registration fee of 1s., and 2d. a week for medicine.
Oxford .....	Oxford Eye Hospital. 22 Wellington Square.	In-patients—Adults, 12s. a week; children, 8s. a week. Out-patients pay for medicine.
Plymouth .....	Royal Eye Infirmary.	By subscriber's letter and 9d. a day. On letter from non-subscriber, 1s. a day. Admission days are Tuesday, Thursday and Saturday, but urgent and accident cases are admitted at any time.
Shrewsbury ...	Eye, Ear and Throat Hospital for Shropshire and Wales.	See EAR.
Southampton	Eye and Ear Hospital. Oxford Street.	See EAR.
Sunderland ...	Sunderland and North Durham Eye Infirmary.	Free in and out on payment of 6d. for three months.
Swansea.....	General and Eye Hospital.	By subscriber's letter.
Taunton .....	Taunton Eye Infirmary.	Free by letter.



Town.	Name of institution and exact address.	Terms of admission.
Tunbridge Wells .....	Eye and Ear Hospital. Pantiles.	See EAR.
Weymouth ...	Weymouth and Dorset County Royal Eye Infirmary.	Free by subscriber's letter.
Wolverhampton.....	Wolverhampton Eye Infirmary. Chapel Ash.	Free by letter.
Worcester.....	Worcester Ophthalmic Hospital.	Free by letter, but this is not always insisted on.

### FEVER. See INFECTIOUS DISEASES.

### FISTULA, WITH PILES AND DISEASES OF THE RECTUM.

Town.	Name of institution and exact address.	Terms of admission.
Liverpool .....	Hospital for Fistula, etc. 28 Daulby Street.	No information.
LONDON— City Road, E.C. ....	St. Mark's Hospital for Fistula and other Diseases of the Rectum.	No letter required, but those with one have precedence.
Vauxhall Bridge Rd., S.W. No. 278 .....	Gordon Hospital for Fistula and other Diseases of the Rectum.	Free, or by payment of two guineas a week or less according to means. Private room, three guineas.
Whitechapel, E.....	London Hospital.	Special department for piles and fistula. By letter.

### FOOT, DISEASES OF. See DEFORMITIES.

### FOREIGNERS.

Town.	Name of institution and exact address.	Terms of admission.
Holyhead .....	Stanley Sailors' Hospital.	By letter of recommendation or payment of 2s. a day.
LONDON— Dalston, E. ....	German Hospital. Dalston Lane and Ritson Road, Dalston.	Free to Germans and those speaking German. Others by letter.
East and West India Dock, E.	East and West India Dock Dispensary.	Branch of Seamen's Hospital.



Town.	Name of institution and exact address.	Terms of admission.
LONDON—		
Goodmans-fields, E.	Eastern Dispensary.	Branch of the German Hospital.
Gt. Portland Street, W. No. 157...	Western Dispensary.	Branch of the German Hospital.
Gravesend, S.E. ....	Gravesend Dispensary.	Branch of Seamen's Hospital.
Greenwich, S.E. ....	Seamen's Hospital.	For seamen of all nations. Free.
Mile End Road, E. No. 251...	Spanish and Portuguese Jews' Hospital.	For the relief of the sick poor belonging to the Spanish and Portuguese congregation.
Queen's Sq., W.C. No. 41 .....	Italian Hospital.	Free to all, but Italians have preference.
Royal Victoria and Albert Docks, E.	Royal Victoria and Albert Dock Hospital.	Branch of Seamen's Hospital.
Shaftesbury Avenue, W.C. ....	French Hospital and Dispensary.	For all foreigners speaking French. No letter required.
Soho, W. ...	Westminster Dispensary. 9 Gerard Street.	Coloured persons treated without letter.
Ramsgate .....	Seamen's Infirmary and General Hospital.	Sailors of all nations admitted on payment of 2s. a day; or if subjects of Prussia, Hamburg, Lubeck and Bremen, 1s. 6d. a day. Guarantee for payment required.

## GENTLEWOMEN.

For institutions where ladies may receive active treatment, *see under* PAY HOSPITALS.

Town.	Name of institution and exact address.	Terms of admission.
Bognor .....	Merchant Taylors' Co. Convalescent Home for Ladies.	Free by letter. Forms of application to be obtained at the Hall of the Company, Threadneedle St., E.C.
Bournemouth	Home for Invalid Ladies. St. Mary's, Dean Park.	One guinea a week. <i>See</i> CONSUMPTION.
Brighton .....	Home of Rest for Invalid Gentlewomen. 10 College Terrace.	From 10s. to 16s. a week.



Town.	Name of institution and exact address.	Terms of admission.
Brighton .....	Invalid and Convalescent Gentlewomen's Home. 67 Dyke Road.	From 15s. to 25s. a week.
" .....	Ladies' Convalescent Home. 5 Norton Rd.	From 15s. to one guinea a week.
" .....	London and Brighton Convalescent Home and House of Rest for Females. Engedi House, Eastern Road.	Ladies by special arrangement.
" .....	London and Brighton Female Conv. Home.	8s. weekly.
Buxton .....	House of Rest. Hartington House.	Principally for ladies suffering from rheumatism. From 12s. 6d. to 15s. 6d. a week.
Cobham, Surrey.	Ye Olde Church Stile Home of Rest.	13 ladies taken from 16s. to 21s. per week.
Cullercoats, nr. Newcastle-on-Tyne.....	Holiday Home of Rest for Ladies.	Bedroom from 5s. to 10s. per week. Board by arrangement.
Folkestone ...	Ladies' Home. 9 Connaught Road.	15s. a week.
Hastings .....	Home for Invalid Gentlewomen. Catharine House, 57 Church Rd.	From 17s. 6d. to 21s. weekly. Guarantee for these charges required.
LONDON—		
Bayswater, W. ....	Miss Sheppard's Annuitants' Homes. 27 Ossington Street.	By election by Committee. Each annuitant must be possessed of an income of £25.
Brompton Rd., S.W. No. 251...	Working Ladies' Guild.	Apply to Secretary.
Chelsea, S.W. ....	Ladies' Work Society. 31 Sloane Street.	Apply to Manager.
Hammer-smith, W.	Miss Sheppard's Annuitants' Homes.	See BAYSWATER.
Harley St., W. No. 90 .....	Establishment for Gentlewomen during temporary illness.	One to two guineas per week.
Kensington, W. ....	Miss Sheppard's Annuitants' Homes.	See BAYSWATER.
Kilburn, N.W.....	St. Peter's Home and Sisterhood. Mortimer Road.	Apply to the Mother Superior.
Leadenhall St., E.C.	Medical Aid Society. 2 East India Avenue.	By subscriber's letter available for two months.
Lupus St., S.W. No. 9 .....	Home Hospital for Ladies.	See PAY HOSPITALS.
New Wandsworth, S.W.	Royal Homes for Ladies. 104 and 108 St. John's Hill, 29 Spencer Road, and 31 Park Road.	By election of Committee. Applicants must be over 50 years of age, Protestants, and in possession of not less than £20 and not more than £50 per annum.



Town.	Name of institution and exact address.	Terms of admission.
LONDON—		
St. John's Wd., N.W.	Ladies' Home. 53 Abbey Road.	By subscriber's letter and payment of from £30 to £40 per annum.
Whetstone, N. ....	Woodside Home.	For the infirm and incurable. From £7 to £15 per quarter.
Wimbledon, S.W. ....	Royal Homes for Ladies. 24 Homefield Road.	Wimbledon Branch Home. <i>See</i> NEW WANDSWORTH.
Scarborough	Yorkshire Convalescent Home for Ladies. St. Martin's Lodge, South Cliff.	By payment of 15s. a week. Closed during May.
Southport .....	Home for Gentlewomen. 42 Park Road.	From 8s. to 15s. per week.
„ .....	Governesses' Convalescent Home for the North of England. 28 Alexandra Road.	By letter of recommendation and payment of 12s. a week.
Torquay ....	Erith House Institution for Invalid Ladies of Limited Means.	By payment according to means.

GOUT. *See* HYDROPATHIC ESTABLISHMENTS.

### HEART, DISEASES OF.

Town.	Name of institution and exact address.	Terms of admission.
LONDON—		
Soho Sq., W. No. 32 .....	National Hospital for Diseases of the Heart and Paralysis.	By letter free, or to poor without letter if they cannot obtain one. A limited number of cases admitted without letter on payment of 10s. a week. Stay limited to two months unless specially recommended.

### HIP, DISEASES OF.

Town.	Name of institution and exact address.	Terms of admission.
Brighton .....	Convalescent Home. The Downlands, Rottingdean.	<i>See</i> CHILDREN.
London .....	Alexandra Hospital. Bloomsbury.	„ „
Sevenoaks.....	Hospital for Children with Hip Disease. The Vine.	„ „
Shooter's Hill, Kent .....	“Crole Wyndham” Memorial Home.	„ „



HOSPITALS, GENERAL. *See* SICKNESS IN HOSPITAL.

### HYDROPATHIC ESTABLISHMENTS.

The following list does not include nearly all the hydropathic establishments, but only those concerning which information is available. The more expensive institutions are not given, because they partake of the nature of private hotels, and are conducted with the view of securing an income to their proprietors. The following list contains the names of those institutions to which poor people are admitted. The payments vary from ten to fourteen shillings per week.

Town.	Name of institution and exact address.	Terms of admission.
Bath.....	Bellott's Mineral Water Hospital. Bean Street.	Free. Patients have lodging, fire, light, medical attendance and medicine, and 2s. 4d. a week, beyond which they must provide their own board and towels.
„ .....	Royal Mineral Water Hospital.	Free. Medical certificate required, and certificate of poverty to be signed by parish clergyman and two Poor Law Guardians. £3 must be deposited to meet expenses in case of death. Stay, about six weeks.
Buxton .....	Devonshire Hospital and Buxton Bath Charity. For rheumatism, gout, etc.	By letter, and certificate as to inability to pay. Free for three weeks to both in- and out-patients. After that in-patients must pay 14s. a week.
„ .....	House of Rest or Convalescent Home. Hartington House.	For governesses and ladies of limited means suffering from rheumatism, etc. By payment of 12s. 6d. to 15s. 6d. a week.
Droitwich.....	St. John's Brine Baths Hospital for poor patients. For rheumatic gout and neuralgic affections.	By letter, available for two weeks, and payment of 5s. a week. Other patients, when beds are available, admitted on payment of 22s. a week in advance.
Harrogate .....	Royal Bath Hospital.	Free by subscriber's letter. Length of stay, two or three weeks. Medical certificate of suitability required. Closed from Nov. to April.



Town.	Name of institution and exact address.	Terms of admission.
Horncastle ....	Woodhall Spa.	10s. a week. Extreme cases free by letter.
Ilkley .....	Ilkley Hospital.	Free for three weeks by subscriber's letter. Afterwards by further letter or 7s. a week.
Leamington ...	Warneford Hospital.	By governor's letter.
Scarborough...	Royal Northern Sea Bathing Infirmary.	By subscriber's letter and payment of 5s. a week. Chiefly for convalescent patients. Open from May to December.

## IDIOTS AND IMBECILES.

Poor Law Guardians may provide for any idiot or imbecile, being a pauper, by sending such a case to an institution or asylum maintained out of the county rates, or otherwise. The Metropolitan Asylums Board make special provision at Caterham, Darenth, and Leavesden for adult paupers who are idiots or imbeciles, and at Darenth for children also. The first step to take in such cases is to communicate with the relieving officer, through whom application must be made in the first instance to the Guardians. It will be seen that the institutions enumerated below provide accommodation for those above the pauper class. Thus, there is an institution at Chilcompton, near Bath, for young ladies whose friends can pay 120 guineas per annum. At Lancaster various classes are admitted, some by election and others on payment, the rates varying from £26 5s. to £210 inclusive. Here, and in the majority of institutions, confirmed epileptics are ineligible, and various other cases are also inadmissible.

The London School Board have provided eight centres for the instruction of feeble-minded children. No fee is charged. The children have to be nominated



by the head teachers of the Elementary Schools as intellectually weak, and are then examined by the Board's Medical Officer and the Superintendent of the Schools for Special Instruction.

\* Registered under the Idiots Act, 1886.

Town.	Name of institution and exact address.	Terms of admission.
*Birmingham	Midland Counties Idiot Asylum. Knowle.	Cases from counties of Leicester, Salop, Stafford, Warwick and Worcester by election and payment of £10 per annum, or payment alone of £30 per annum and £7 10s. for clothing; other cases, £60 per annum and £15 for clothes. There are higher rates with special privileges. Confirmed epileptics ineligible. Accommodation for 30 males and 30 females.
Caterham .....	Caterham Asylum.	For adult imbeciles. Managed by Metropolitan Asylums Board.
*Chilcompton, near Bath ...	Downside Lodge.	For 7 young ladies. 120 guineas per annum.
*Colchester ...	Eastern Counties Asylum for Idiots and Imbeciles. Essex Hall.	Cases from Essex, Suffolk, Norfolk and Cambridgeshire may be admitted by election. Payment cases from any locality, £60 per annum.
Dartford .....	Darenth Asylum.	For adult imbeciles. Managed by the Metropolitan Asylums Board.
„ .....	Darenth Schools.	For imbecile children. Managed by the Metropolitan Asylums Board.
*Earlswood, Surrey .....	Asylum for Idiots. Office, 36 King William St., E.C.	By election free, or by payment. Those who have means are admitted only on payment regulated in each case by the Committee. Guarantee required for payment half-yearly in advance, and for removal when required.
*Exeter .....	Western Counties Idiot Asylum, Starcross.	5s. a week and upwards. Those paying under 10s. must be under 16 years of age, and belong to Dorset, Somerset, Devon or Cornwall. Those paying over 12s. have special privileges. Epileptics, insane and deaf mutes ineligible. Accommodation for 200, of whom not more than 120 must be of either sex.



Town.	Name of institution and exact address.	Terms of admission.
*Hampston Wick, Midd.	Normansfield. Dr. Down's Licensed House.	<i>See</i> LUNATICS, "LICENSED HOUSES."
Knowle .....	Midland Counties Asylum.	<i>See</i> BIRMINGHAM.
*Lancaster ..	Royal Albert Asylum for Idiots.	By election for those unable to pay the lowest charge; others pay from £26 5s. to £210 per annum inclusive. Those paying below £63 and the free must be from Lancashire, Yorkshire, Cheshire, Westmoreland, Cumberland, Durham, or Northumberland. Epileptic, paralytic, insane, incurably hydrocephalic, blind and deaf persons ineligible.
LONDON—		
Bethnal Gr., E.....	Newcastle Street.	London School Board classes for Special Instruction.
Chelsea, S.W. ....	Park Walk.	" " "
City Road, E.C. ....	Bath Street.	" " "
Hackney, N.	Summerford Street.	" " "
Peckham, S.E. ....	Bellenden Road.	" " "
Pentonville, E.C. ....	Hugh Myddelton.	" " "
Southwark, S.E. ....	Pocock Street.	" " "
Walworth, S.E. ....	East Street.	" " "
*Starcross, Dev.	Western Counties Idiot Asylum.	<i>See</i> EXETER.
Watford.....	Leavesden Asylum.	For adult imbeciles. Managed by the Metropolitan Asylums Board.
York .....	York Emmanuel.	<i>See</i> BLIND.

## INCURABLE AND CHRONIC CASES.

There are probably no institutions which confer greater blessings upon humanity than those which provide for the reception and maintenance of incurable cases. Unfortunately under the existing system admission is, as a rule, only obtainable by election: that is to say, before any case, however urgent, can be admitted, a very considerable number of votes must be



obtained from the governors who support these charities, in order to secure the admission of the candidate to the benefits which the institution affords. The result of this system is that the friends have to incur much expenditure in postage, in printing, in canvassing, and in other ways, and that almost necessarily in consequence the sufferings of the incurable case are increased. It not unfrequently happens that owing to the very serious delay which is entailed by this system, through the undue proportion between the applicants and the vacancies, patients die before admission to the institutions can be procured for them. Such a state of affairs calls for immediate investigation by the subscribers to these institutions, and a better, a wiser, and more humane system should without delay be adopted.

The provision made in this country for the reception of chronic cases is remarkably small and inadequate, so much so that the whole accommodation amounts to far too little if the necessary requirements of incurable and chronic invalids are to be adequately met.

NOTE.—The letters affixed to the names of places in the first column signify that the particular institution takes B. boys; G. girls; C. children; L. ladies; W. women. The institutions without a defining letter are general.

#### REQUIREMENTS, DISEASES EXCLUDED, ETC.

<i>a.</i> Medical certificate.	<i>i.</i> Infectious diseases.
<i>b.</i> Certificate of character.	<i>k.</i> Consumption.
<i>c.</i> Guarantee for payment.	<i>l.</i> Advanced consumption.
<i>d.</i> „ „ clothing.	<i>m.</i> Mental cases.
<i>e.</i> „ „ removal.	<i>n.</i> Blind.
<i>f.</i> Fits.	<i>o.</i> Able to maintain themselves.
<i>g.</i> Cancer.	<i>p.</i> Intemperate.
<i>h.</i> Open sores.	



Town.	Name of institution and exact address.	Terms of admission.
Ascot, Bracknell, Berks...	London and Ascot Convalescent Hospital.	Incurable cases admitted. <i>See</i> CHILDREN.
Birmingham...	Jaffray Suburban Hospital.	By recommendation from Birmingham General Hospital.
Carlisle .....	Home for Incurables for the Border Counties. Strathclyde House.	By letter from a subscriber and certificate of respectability and guarantee of removal from two persons acquainted with the applicant, and for those able to do so a payment of 7s., 10s. 6d., or 14s. a week.
Clewer, near Windsor ...	St. Andrew's Convalescent Hospital.	A few chronic cases are admitted. <i>See</i> CONSUMPTION.
Cold Ash, Newbury. C. ...	Children's Cottage Hospital.	<i>See</i> CHILDREN.
Ditchingham, nr. Bungay, Suffolk .....	All Hallows Hospital.	Incurable cases are admitted. 5s. to 10s. a week.
Harrogate ...	Yorkshire Home for Chronic and Incurable Cases.	No information.
Leamington ...	Midland Counties Home and Hospital for Chronic and Incurable Diseases.	Paying patients require letters from two governors, and pay not less than 10s. 6d. according to their means, the amount being fixed by the management. Free patients and candidates for pensions of £20 a year require three letters, and are admitted by election in October. Two guarantees required for payment. Insane, etc., epileptics and cancer cases ineligible as in-patients, but the two latter classes are eligible for pensions.
<b>LONDON, N.</b>		
Highbury Park. W.	Home for Confirmed Invalids. 36 Aubert Park.	By payment of 10s. a week and upwards. (b) (c) (d) (e) (k) (m).
Highgate. C.	Cromwell House.	<i>See</i> CHILDREN.
Whetstone. W.	Home for Incurable and Infirm Women. Woodside.	By payment of £28 to £60 per annum.
<b>N.E.</b>		
Victoria Pk. Rd. Nos. 49-51 .....	Home and Hospital for Jewish Incurables.	Patients admitted solely on their own merits.
<b>N.W.</b>		
Hampstead	North London Hospital for Consumption and Diseases of the Chest. Mount Vernon.	A small allowance (2s. 6d. to 6s. a week) is made to the most deserving cases discharged incurable.



Town.	Name of institution and exact address.	Terms of admission.
<b>LONDON—</b>		
<b>N.W.</b>		
Kilburn. C.	St. Monica's Home.	Chronic complaints admitted. <i>See</i> CHILDREN.
" L. W. C.	St. Peter's Home and Sisterhood. Mortimer Road.	Incurables admitted. 8s. a week.
Marylebone Road, No. 236. W.G.	St. Marylebone Home for Incurables.	At discretion of Committee. Small weekly payment required. (a) (c) (e) (f) (g) (h) (k) (m) (n).
St. John's Wood. W.	St. Cyprian's Home for Incurables. 4 North Bank.	By payment of 10s. a week. Age, under 40. (a) (c) (e).
<b>W.</b>		
Hammer-smith .....	Nazareth House.	Free, except an entrance fee for bedding expenses. Age, men over 70, women over 60. Children over 1, and must be destitute, incurable or deserted.
Maida Vale, No. 2. C.	Hospital and Home for Incurable Children.	By letter, priority of application, and payment of not less than 5s. a week as may be fixed by Committee. Age, infancy to 16. (a) (c) (e) (i).
Margaret St. No. 82. W. C.	All Saints' Home for Incurables.	£16 a year quarterly in advance. Worked by the Sisters of All Saints' Home, 82 Margaret Street.
<b>S.W.</b>		
Chelsea. C.	Cheyne Hospital for Sick and Incurable Children.	<i>See</i> CHILDREN.
Clapham ...	British Home for Incurables. 380 Clapham Road.	By election of subscribers. Patients must be over 35 years of age. Pensions of £20 a year are granted. (e) (o).
Putney .....	Royal Hospital for Incurables. West Hill, Putney Heath.	Free by election. Age, over 20. Pensions of £20 a year. (a) (m) (o).
Westminster	Westminster Hospital. Broad Sanctuary.	An "Incurables Fund" exists for the maintenance of incurables.
<b>W.C.</b>		
Bloomsbury	National Hospital for the Paralysed and Epileptic.	80 pensions of £10 to £22 10s. By election of governors and subscribers in June.
Ormond St., Gt. No. 50. W. C.	Hospital of St. John of Jerusalem and St. Elizabeth of Hungary.	By selection of Committee. Free. No out-patients. (b)



Town.	Name of institution and exact address.	Terms of admission.
Loughborough, Leic. W....	Herrick's Trust.	Pension of £20 a year for widows and single women born or resident five years in Leicester. On recommendation of two householders and clergyman of applicant's parish. Appointment rests with Mrs. S. P. Herrick, Beau Manor Park.
Manchester ...	Northern Counties Hospital and Home for Incurables. Home—Mauldeth, Heaton Mersey; Branch Home for Females, Walmersley House, nr. Bury. Out-patients—Ardwick Gr.	In-patients (Mauldeth Hall), free by election of subscribers in May and November, or on payment of not less than 21s. a week. Patients under 16 not eligible. Out-patients free without letter.
Newcastle.....	Hospital for Incurables.	No information.
Reading, W.L.	Helena Nursing Home. Brownlow Road.	Apply to the Lady in Charge. Patients expected to pay a small sum monthly in advance according to means. Single bedrooms extra. (i) (m).
Sherburn, near Durham.....	Christ's Hospital.	For residents in the diocese of Durham. By election.
Torquay .....	St. Barnabas Home for Incurables. Brockett Hall.	By payment of 10s. a week. (a) (b) (e).

## INEBRIATES.

This class of sufferers—for there can be no question that they suffer, and that they deserve sympathy and succour—has attracted a large amount of public attention during the last quarter of a century. Several Bills dealing with the subject had been brought forward, but nothing had been done until 1879, when the Habitual Drunkards Act was passed, and cleared the way for the establishment of Retreats, into which such cases could be received. The duration of the Act was, however, limited to ten years; and in 1888 a further Act was passed, modifying and giving permanency to that of 1879.



These two Acts—the Habitual Drunkards Act, 1879, and the Inebriates Act, 1888—provide that a licence to keep a Retreat for inebriates may be issued to one or more persons for a period not exceeding thirteen months, one at least of the persons licensed to reside in the Retreat and to be responsible for its management. A duly qualified medical man shall be employed as a medical attendant, or the licensee if on the Medical Register may himself act. The licensee has power to appoint a deputy for not more than six weeks in any year. In order to obtain admission under the Acts to such a Retreat the patient must make application in writing to the licensee in the following terms: “I, the undersigned, hereby request you to receive me as a patient in your Retreat at in accordance with the above Act; and I undertake to remain therein for at least” [not exceeding twelve months] “unless sooner discharged, and to conform to the regulations for the time being in force in the Retreat.”

This application must be accompanied by a statutory declaration by two persons to the effect that the applicant is an habitual drunkard within the meaning of the Acts. The Acts define an habitual drunkard as “a person who, not being amenable to jurisdiction in lunacy, is notwithstanding, by reason of habitual intemperate drinking of intoxicating liquor, at times dangerous to himself or herself or to others, or incapable of managing himself or herself, or his or her affairs.”

The patient's signature to the application must be attested by two justices of the peace, who have to satisfy themselves that the applicant is an habitual



drunkard as defined above, and to explain to him the effect of his application for admission. This is, briefly, that the applicant shall not be entitled to leave the Retreat till the expiration of the term mentioned in his application (such term not to exceed twelve calendar months) unless discharged—(1) by order of a justice upon the request in writing of the licensee, (2) by order of the Secretary of State either on the recommendation of the Inspector of Retreats or at his own discretion, or (3) by order of a judge on the report of any person or persons directed by him to visit and examine the patient. Wilful neglect of or refusal to conform to the rules of the Retreat renders the patient liable to a penalty not exceeding £5, or to imprisonment for seven days. Should a patient escape, a warrant for his apprehension may at any time before the expiration of his prescribed period of detention be issued by a magistrate having jurisdiction either where the patient is found or where the Retreat is situated.

Unfortunately, the Legislature has not yet made it compulsory that habitual drunkards shall be placed under treatment; and at the same time it has safeguarded the admission of patients with so many conditions that it is not surprising to find that only eight Retreats are at the present time licensed, and that at the majority of the licensed Retreats most of the patients are admitted by private treaty without taking advantage of the Acts.

Below we give a list of the licensed Retreats, and a few unlicensed homes for women. In addition to these there are a large number of unlicensed Retreats for the reception of private cases, the terms varying from two to five guineas.



# RETREATS LICENSED UNDER THE INEBRIATES ACTS, 1879 AND 1888.

(m) male.

(f) female.

Place.	Name and address of institution.	Terms of admission.
Bristol .....	Kingswood Park.	From £2 2s. to £5 5s. a week, quarterly in advance (m).
Chiswick, Middlesex .....	St. Veronica's Retreat. Burlington Lane.	By payment of a weekly fee. A few cases taken free (f).
Manchester ....	The Grove. Fallowfield.	A few cases free. Others from 2s. 6d. to 1 guinea a week (f).
Rickmansworth, Herts.	Dalrymple Home.	From 2 guineas to 3½ guineas a week (m).
Twickenham, Middlesex ...	Highshot House. St. Margaret's.	From 2½ to 5 guineas a week (m).
Walsall, Staffs.	Old Park Hall.	First class—from 2½ to 4 guineas a week for not less than 12 weeks. Second class—35s. a week, payable quarterly in advance, and services in house and grounds to be rendered daily (m) (f).
Walsall .....	Daisy Bank.	From 2½ guineas a week. Entrance fee, 2 guineas (f).
Westgate-on-Sea, Kent ....	Tower House Retreat and Sanatorium, Limited.	Apply to Dr. A. F. Street (m) (f).

## UNLICENSED RETREATS.

Place.	Name and address of institution.	Terms of admission.
Belfont, near Feltham, Middlesex ...	Spelthorne Sanatorium.	Ladies, 1 to 2 guineas; patients doing needlework only, 1 guinea; doing house and laundry work, 10s. 6d.; washers, 5s. a week, payable monthly in advance. Medical certificate and undertaking from householder for removal required. Not received for less than 12 months. Prison, workhouse, or penitentiary cases ineligible (f).
Hounslow .....	West Holme Retreat. Staines Road.	From 12s. 6d. to 30s. a week. Patients at the lower rates are expected to help in the house. Not received for less than 12 months (f).



Place.	Name and address of institution.	Terms of admission.
Huddersfield...	High Flatts Sanatorium. Denby Dale.	In connection with the British Women's Temperance Association. Patients doing needlework, 10s. a week ; doing cleaning and cooking, 7s. 6d. (limited number) ; washers, 5s. a week, payable monthly or quarterly in advance. Not received for less than 12 months ( <i>f</i> ).
LONDON— Sydenham, S.E.....	Inebriate Home for Women. The Tor, Silverdale.	In connection with the British Women's Temperance Association. From 5s. to 2 guineas a week ( <i>f</i> ).

### INFECTIOUS DISEASES AND ISOLATION HOSPITALS.

Infectious diseases are defined in the Infectious Disease (Notification) Act, 1889, and the Public Health (London) Act, 1891, as "small-pox, cholera, diphtheria, membranous croup, erysipelas, the disease known as scarlatina or scarlet fever, and the fevers known by any of the following names : typhus, typhoid, enteric, relapsing, continued or puerperal". Measles and whooping cough are also serious infectious diseases.

As a patient suffering from an infectious disease is a grave danger to the community, if adequate precautions be not taken to prevent the spread of the infection, the occurrence of such a case involves considerations of public health which do not apply to other diseases. A large proportion of the epidemics of infectious diseases have been, and are, due to the neglect of simple precautions in connection with the earliest cases. Formerly the disregard of these precautions was perhaps largely due to ignorance of their vital importance, but the subtleties of contagion have in recent years come to be so fully understood that ignorance can now seldom



be pleaded, except where the first case has been so trivial or ill-defined as to have escaped recognition of its infectious nature until irreparable mischief has been done. Notwithstanding these facts, it must be confessed with sorrow that, although in the presence of sickness many of the finest and tenderest traits of the human nature are evoked to relieve and cure the sufferings of the actually sick, yet gross selfishness sometimes asserts itself, the presence of infection is concealed, elementary precautions are neglected, the disease germs spread, and a disastrous epidemic follows with all its attendant mortality and misery, and the heavy burdens which it casts, not only on the resources of the well-to-do, but on the rates, which have to bear the cost of relieving the necessities of those who are ruined or pauperised when the bread-winners are stricken down.

Owing to this very general neglect of our duty to our neighbour, it has been necessary for Parliament to intervene, and enact various restrictive measures in the interests of the community, with the object of restraining or punishing the careless or selfish, and of thwarting, as far as possible, the spread of disease. Penalties have, therefore, been prescribed for the wilful exposure of infected persons or things, and sanitary authorities have been constituted throughout the country for the protection of the public health, ample powers being given them for seeing, amongst other matters, that proper precautions are taken to prevent the spread of infection, and to provide and maintain in readiness, at the cost of the rates, hospital accommodation for the isolation and proper treatment of infectious cases. The need for securing to the local authorities and their officers prompt information of cases of infectious disease has also recently come to



be very generally recognised, and, as regards the metropolis, the Public Health (London) Act, 1891, has made the immediate notification of infectious disease to the local health officer compulsory; whilst, outside London, any sanitary authority can, by the adoption of the Infectious Disease (Notification) Act, 1889, acquire similar powers. The result is, that at the present time as regards 26,000,000 out of the 29,000,000 inhabitants in England and Wales, householders and medical men in attendance on infectious cases are obliged, under penalty, to notify immediately the existence of each case to the local medical officer of health. This system was at first condemned by short-sighted sticklers for the "sanctity of the home" and the "liberty of the subject"; but as in practice it works without friction or offence, and has undoubtedly been of great assistance both as an educational measure and as an actual aid in protecting the public health, all opposition to it has practically vanished. It cannot be too clearly understood that where the medical attendant says a patient can be safely treated in his own home, and that all proper precautions against the spread of the disease will be taken, no interference with the patient will be attempted. The local authority will intervene only when something vitally important is neglected, or when the patient has not proper lodging or accommodation. But isolation of the patient is essential, and as this can seldom be secured in the average dwelling, it is very desirable from every point of view—from that of the patient, from that of the patient's family and friends, and from that of the community of which he is a member—that he should be promptly removed to the nearest isolation hospital, unless his removal is



quite impracticable and unless there is ample provision for his proper treatment in his own home. By such removal the chances of his recovery will be greatly increased, the risks to his family will be lessened, and the danger to the community will be removed.

It may perhaps be well here to say a word of caution to those who are inclined to treat with contempt slight cases of infectious sickness. Such a case is often—indeed generally—quite as infectious as one having more severe symptoms, and if it come in contact with a susceptible subject it may give rise to a severe form of the disease. From the public health point of view, therefore, mild cases require as great watchfulness and careful isolation as do more pronounced cases. Especially does this apply to school attendance. Parents are often very thoughtless and selfish in sending their children to school, either whilst suffering from a mild attack of scarlatina or whooping cough or measles, or whilst recovering from one of those disorders, regardless of the fearful consequences to the other scholars, many of whom will almost certainly contract the disease and possibly die of it. Numberless epidemics have been, and are, caused in this way.

In London the Metropolitan Asylums Board is the public hospital-providing authority for infectious diseases. Originally that Board was simply a poor-law authority, but recent legislation has removed the taint of pauper association as regards the isolation and treatment of infectious diseases, and its excellently organised and repletely fitted hospitals and ambulance service are now freely open to, and very extensively used by, all classes of Londoners. The chief office in Norfolk Street, Strand, is in telephonic communication with all the



hospitals and ambulance stations, and the administration is so complete that, within a few minutes after the receipt there of a telegram to the effect that a patient requires removal to a hospital, a properly equipped ambulance and a nurse will be actually on their way to the house of the patient. The position of these hospitals will be seen from the following list. It is of special interest and importance to point out that small-pox patients are no longer isolated in such of the hospitals as are within London, but are taken by the river-ambulance to the Hospital Ships moored at Long Reach, in the Thames, off Greenhithe. As small-pox has been shown to spread through the air for a considerable distance around hospitals, this arrangement is a great improvement on the old plan, and seems in practice to have been very effective.

The London Fever Hospital, which has nothing to do with the Metropolitan Asylums Board, is one of the most deserving and worst supported of metropolitan hospitals; yet it has conferred an amount of benefit upon the inhabitants of London which few are aware of. It has been extensively resorted to by those who prefer to pay for their maintenance and treatment. Many members of the medical profession have themselves been inmates of it, or have sent their children or members of their families to it when suffering from infectious disease, and the unanimous verdict is that the provision made is in all respects excellent and could scarcely be improved.

In the provinces great progress has during the last few years been made in the provision of isolation hospitals by local sanitary authorities. The following list does not profess to be absolutely complete, but it shows



that a very large proportion of the more important towns and also of the rural districts have made some provision of this kind. To neglect or delay to provide such an effective local defence against infectious disease is a very short-sighted policy, especially in the case of urban communities and health resorts. There are some authorities, as there are some individuals, who refuse to learn from the experience of others, but prefer to postpone taking precautions until they themselves are visited by a sudden outbreak of disease which they are unable to meet and which therefore will probably cripple their immediate resources and possibly injure their trade and reputation. This policy is in the end one of "penny wise and pound foolish."

The question of payment for maintenance in a hospital provided by a sanitary authority is one of importance. From the following table it will be seen that in a large proportion of instances no charge is made upon patients, and undoubtedly that is for obvious reasons the proper system. The isolation hospital is a public safeguard, provided and maintained at the cost of the ratepayers, and for their united benefit as a community. Moreover, it is essential to its complete usefulness to encourage the poorer, badly housed and overcrowded classes to promptly and voluntarily avail themselves of its advantages; but this result cannot be obtained if there looms in the distance a claim for payment of some indefinite amount, which, however moderate in itself, would be a great tax on the resources of a family already crippled by illness. The system of free admission to the sanitary hospitals is gaining in favour, and already it is by law in force in the metropolis as regards the hospitals of the Metropolitan Asylums Board (section 80 of Public Health (London) Act, 1891).



There is a popular feeling in some quarters that the infectious hospitals provided throughout the country are for paupers, that their arrangements are such as to render it impossible for the more decent folk to seek admission within their walls, and that if people do enter them their cases will be neglected and their lives endangered. This is altogether a fallacy. In some instances, no doubt, where the hospital has been hastily provided or extemporised in the presence of an epidemic, the accommodation is by no means all that could be wished, but in those cases where the hospital has been properly provided beforehand in the light of the experience of recent years, the building, the nursing and the other arrangements are, as a rule, in every respect excellent. It would be a useful and desirable departure if the sanitary authorities were everywhere to take the opportunity from time to time, when the hospitals devoted to the reception of infectious cases are empty, to throw them open to the public and to invite all classes to visit and inspect them in order to learn something of their arrangement and of the accommodation which they provide. This would tend to lessen popular prejudice, diminish the labours at present thrown upon the medical officers of health, increase confidence in the local administration, and create a desire in the public mind to minimise the risks of infection by using the means of isolation provided.

The provision of institutions for the reception of persons convalescing from infectious disease is also a want which is often very severely felt. At present very little provision of this kind has been made, but it is much to be desired that those who are interested in the matter should combine with the object of promoting such a truly humane and philanthropic scheme.



S.A. signifies Sanitary Authority; R. Rural; U. Urban; P. Port; M.A.B. Metropolitan Asylums Board; M.O. Medical Officer; J. Joint Hospital Board.

Sanitary District and Site of Hospital.	Authority.	Charge weekly, unless otherwise stated.
Aberdare, U. (Hirwain Common) .....	U.S.A.	No charge. Paupers only have been admitted.
Aberystwith, U. ....	U.S.A.	No charge.
Accrington, U. (Tent Hosp.)	U.S.A.	
Alcester, R. ....	R.S.A.	2s. 6d. to 10s. Remitted to very poor.
Allerton, U. ....	Served by Bradford Boro' Hospital.	
Alnwick and Canongate, U.	U.S.A.	No fixed rate. Patients pay according to their means.
Altrincham, U. (Lloyd St.)	U.S.A.	No charge for poor persons; others, 5s. to 21s. per week.
Altrincham, R. (Tent Hosp.)	R.S.A.	No charge.
Ambleside, U. (Wansfell)...	U.S.A.	No charge. Patients maintain themselves.
Amersham, R. (Chesham)...	R.S.A.	No charge.
Andover, U. (Farm House near Andover) .....	U.S.A.	No charge. Patients maintain themselves.
Arnold, U. (Arnold) .....	U.S.A.	No charge.
Ashby-de-la-Zouch, R. (Swannington).....	R.S.A.	No fixed charge.
Ashby-de-la-Zouch, U. (Upper Packington Road)	U.S.A.	No charge.
Ashford, U. (Warren Lane, Ashford) .....	U.S.A.	No charge.
Ashby Woulds, U. ....	U.S.A.	
Ashton-in-Makerfield, U.	U.S.A.	No charge, except that Guardians pay for pauper patients.
Ashton-under-Lyne, R. ....	Agreement with Oldham Corporation.	
Ashton-under-Lyne, U. ....	U.S.A.	No charge for ratepayers.
Aspull, U. ....	Served by Wigan Hospital.	
Astley Bridge, U. ....	Served by Hospital of Bolton, R.S.A.	
Aston Manor, U. (Witton Common) .....	U.S.A.	A graduated weekly payment for cases of scarlet fever. Small-pox cases free.
Aston, R. ....		The Aston Rural Sanitary Authority pay the Aston Manor Local Board 30s. per week for each patient sent in from the rural district.
Atherstone, R. (Mancetter)	R.S.A.	No charge.
Auckland, R. ....	R.S.A.	See BISHOP AUCKLAND, U.
Audenshaw, U. ....	Served by Hyde Hospital.....	



Sanitary District and Site of Hospital.	Authority.	Charge weekly, unless otherwise stated.
Aylesbury, U. (Old Stoke Rd.)	U.S.A.	No charge.
Bacup, U. ....	Served by Todmorden Urban Hospital.	
Baildon, U. ....	Served by Shipley Hospital.	
Banbury, U. ....	U.S.A.	No charge.
Barnard Castle, U. (Har- more Road) ....	U.S.A.	No charge.
Barnsley, U. and R. ("Ken- dray Hospital," Maesbro' Hill, Ardsley) ....	Combination.	No charge to patients, but Rural Authority pay 10s. for each of their patients.
Barrow-in-Furness, U. ....	U.S.A.	Ordinary patients, 25s.; pauper patients, 25s. for adults, 15s. for children, paid by Guardians.
Barry and Cadoxton, U. ....	U.S.A.	No charge.
Basingstoke, U. ....	U.S.A.	Adults, 15s.; children, 12s. 6d.
Bath, U. (Claverton) ....	U.S.A.	Ordinary patients, 2s. 6d. to 21s.; first class patients not exceeding 3 guineas. Patients from rural dis- tricts, 15s.
Bath, R. ....	Served by the Bath Urban Hospital.	
Batley, U. (Howden Clough)	U.S.A.	No charge except for out- side cases.
Beaumaris, P. ....	Joint Board.	Not fixed.
Menai Bridge, U. (Menai Straits, off Pinnon) ....		
Bedford, U. ....	Served by Fever Hospital of Bed- ford Infirmary.	If patient can afford it, 30s. a week; otherwise no charge.
Bedford, R. ....	"	
Bedlington, U. (Cambois) ...	U.S.A.	
Berkhampstead, R. (Aldbury)	R.S.A.	No charge.
Berwick-upon-Tweed, U. (1, Berwick-upon-Tweed; 2, Etal Road, Tweed- mouth) ....	U.S.A.	No charge.
Bexley, U. ....	U.S.A.	From 15s. to £3 3s.
Bicester, R. (near Work- house) ....	R.S.A.	According to circumstances of each patient.
Bideford, U. ....	U.S.A.	
Biggleswade, R. (Potton Road, Biggleswade) ....	R.S.A.	No fixed charge. Poor people free.
Billericay, R. ....	R.S.A.	No fixed charge. Poor free.
Bilston, U. (Bilston) ....	U.S.A.	No fixed charge.
Bingham, R. (Workhouse Garden) ....	R.S.A.	
Birkdale, U. (Swire Road, Birkdale) ....	U.S.A.	Servants 3s., others 4s. per day. Guardians pay 3s. 6d. per day for paupers.



Sanitary District and Site of Hospital.	Authority.	Charge weekly, unless otherwise stated.
Birkenhead, U. (Livingstone Street) .....	U.S.A.	No charge except for patients received from neighbouring authorities.
Birmingham, U. (Lodge Rd.)	U.S.A.	No charge.
Bishop Auckland, U. (South Church Lane) .....	U.S.A.	Actual cost of maintenance. (Serves also Auckland, Rural.)
Bishop Stortford, U. (Halingbury Road) .....	U.S.A.	25s. per week, or according to patient's means.
Blackpool, U. ....	U.S.A.	No charge, except that Guardians pay 15s. for pauper patients.
Blyth River, P., and South Blyth, U. (Blyth) .....	P.S.A.	4s. 6d. per day.
Bodmin, U. (Priors Barn Gate) .....	U.S.A.	
Bolton, U. (Rumworth).....	U.S.A.	Residents free; others have been charged a guinea a week.
Bolton, R. (Hulton Lane, Rumworth) .....	R.S.A.	"
Bootle, U. (Linacre Lane)	U.S.A.	A charge is seldom made.
Boston, R., P. and U. (Skirbeck).....	Combination.	No charge, but private patients pay for their own board, medical attendance and nursing.
Bourn, R. (Maud Lane).....	R.S.A.	No fixed charge.
Bournemouth, U. ....	U.S.A.	2s. 6d. to 2 guineas; some free.
Bowdon, U. ....	Served by Altrincham Hospital.	
Bradford (Yorks), U.....	U.S.A.	General wards free. Private wards, 4s. per diem.
Braintree, R. (Lanham's Green, Cressing) .....	R.S.A.	
Brandon and Byshottles, U. (Between Brandon Village and Brandon Colliery) ...	U.S.A.	No charge.
Bredbury and Romiley, U.	Arrangement with Hyde U.S.A.	£2 2s. and £3 3s.
Brentford, U. (Clayponds Road).....	U.S.A.	No fixed rate.
Bridgnorth, U.....	U.S.A.	Patients who can pay are charged actual cost of maintenance, 5s. a week for accommodation and 5s. for nursing.
Bridgwater, U. (Great Western Dock) .....	U.S.A.	No charge.
Brighouse, J. (Clifton) .....	Joint Board.	No charge. (Serves Brighouse, Hipperholme, and Southowram, U.S.A., and Halifax, R.S.A.)



Sanitary District and Site of Hospital.	Authority.	Charge weekly, unless otherwise stated.
Brighton, U. (The Downs)	U.S.A.	General wards, no charge. Poor Law cases, £1 1s. per week. Private patients, £2 2s. per week.
Bristol, P. (Avonmouth) ...	P.S.A.	Not exceeding £1 1s. except for cases from vessels bound for Gloucester, for which higher charges are made.
Bristol, U. (Marsh Bridge, St. Philip's Marsh) .....	U.S.A.	Not exceeding £1, but rarely enforced.
Broadstairs and St. Peter's, U. (Northwood, near Ramsgate) .....	In combination. See THANET.	Adults, £1 1s.; children, 10s. 6d. (New hospital in course of erection.)
Bromley and Beckenham, J. (Skym Corner, Bromley Common) .....	Joint Board.	10s. 6d. for private patients. (Serves Bromley, R., Bromley, U., and Beckenham, U.S.A.)
Bromsgrove, U. ....	Served by King's Norton Hospital.	
Burnley, J. ....	Joint Board.	(New hospital in course of erection.)
Burslem, U. (Bradwell).....	In combination with Tunstall, U., and Wolstanton and Burslem, R. ....	Patients under 14 years, 1s. 9d. per day; two or more patients from same family, 1s. 3d. per day; patients over 14, 2s. per day; medical attendance in each case, £1 1s.
Burton-upon-Trent, R. (Church Gresley, near Swadlincote).....	R.S.A.	For small-pox only; £2 2s. per week.
Burton-upon-Trent, U. ....	U.S.A.	£2.
Bury, U. ....	U.S.A.	No charge.
Bury St. Edmunds (Out Southgate) .....	U.S.A.	Charges vary.
Buxton, U. ....	U.S.A.	10s. 6d. to 21s. Private wards 42s.
Caistor, R. (Hospital Tent)	R.S.A.	
Calne, R. and U. (Northfields, Calne) .....	Combination.	Labouring classes, free: in other cases, adults, 10s; children, 5s. per week.
Calverley, J. (Woodhall Road).....	Joint Board.	Various. (Serves Calverley, Cleckheaton, Hunworth, North Bierley, and Tong, U.S.A.)
Cambridge, U. ....	U.S.A.	50s. to 2s. 6d. according to circumstances.
Cardiff, P. ....	P.S.A.	No charge.
(1, Flat Holme Island; 2, Docks Hosp.).....		£1 10s. for each patient.
Cardiff, U. ....	U.S.A.	No charge.
Cardiff, R. ....	Arrangement with Cardiff Corporation.	



Sanitary District and Site of Hospital.	Authority.	Charge weekly, unless otherwise stated.
Carlisle, U. .... } Carlisle, R. .... }	Served by Crozier Lodge Fever Hospital.	A few free beds. For others by subscriber's letter, 8s. 9d. or 5s. 3d. according to age unless sent in free by Urban or Rural Sanitary Authority. Private room, 10s. 6d.
Carmarthen, U. ....	U.S.A.	No charge.
Carnarvon, U. ....	U.S.A.	One guinea.
Castleford, U. ....	U.S.A.	No charge.
Castleton-by-Rochdale, U.	Agreement with Rochdale Corporation.	
Catherington, R. (Horndean Hill) .....	R.S.A.	
Chatham, U. ....	<i>See under</i> ROCHESTER and CHATHAM.	
Charlton Kings, U. .... } Cheltenham, R. .... } Cheltenham, U. .... }	Arrangement with authorities of Delancey Hospital, Leckhampton.	3s. 6d. a day. General Hospital charges 2s. a day for typhoid cases. Private wards, 4 guineas.
Chepstow, U. (on the river bank) .....	U.S.A.	
Chepstow, P. ....	P.S.A.	
Chertsey, R. (near the Workhouse) .....	R.S.A.	No charge when patient's house is of less annual value than £50.
Chester, P. (Mostyn) .....	P.S.A.	
Chester, U. (near the General Infirmary) ..	U.S.A.	14s., if able to pay.
Chesterfield, R. (Morton) ...	R.S.A.	No charge.
Chesterfield, U. (Spital Lane)	U.S.A.	No charge.
Chester-le-Street, R. ....	R.S.A.	(Iron Hospital for 20 patients.)
Chesterton, U. ....	Arrangement with the Cambridge U.S.A.	
Chichester, U. ....	U.S.A.	No charge.
Cirencester, R. (Chester-ton) .....	Joint Committee.	Guardians pay for paupers 5s. per week. Private patients pay according to their means.
Cirencester, U. ....		
Clay Cross, U. (Woodthorpe)	U.S.A.	
Cleator Moor, U. ....	In combination. <i>See</i> WHITEHAVEN, Rural.	
Colchester, P. (Floating Hospital) .....	P.S.A.	No charge.
Colchester, U. (Mile End, Colchester) ...	U.S.A.	1 guinea.
Colne and Marsden, U. (Lane Head, Laneshaw Bridge) .....	U.S.A.	No charge.



Sanitary District and Site of Hospital.	Authority.	Charge weekly, unless otherwise stated.
Consett, U. ....	See LANCHESTER.	
Coventry, U. (Stony Stanton Road). ....	U.S.A.	No charge. Weekly payment by Rural Sanitary Authority for cases sent from Rural Districts to the hospital of the Urban Authority.
Coventry, R. ....		
Cramlington, U. (Cramlington) ....	U.S.A.	
Crewe, U. ....	U.S.A.	No charge.
Crompton, U. ....	Agreement with Oldham, U.	
Darlaston (Darlaston Green)	U.S.A.	
Darlington, R. ....	Agreement with Darlington, U.S.A. }	Patients from borough, free; from elsewhere, 30s. Private ward, 2 guineas.
Darlington, U. ....	U.S.A.	
Dartford, U. ....	Served by M.A.B. See LONDON.	
Darwen, U. (Bull Hill) ....	U.S.A.	No charge.
Daventry, U. ....	U.S.A.	No charge.
Daventry, R. ....	Agreement with Daventry, U.S.A.	
Denton and Haughton, U. ...	Served by Hyde Hospital.	
Derby, U. (Little Chester)	U.S.A.	No charge.
Devizes, U. (St. James's Parish) ....	U.S.A.	1s. to 1 guinea.
Devonport, U. (Higher Swillery) ....	U.S.A.	1s. 6d. to 2s. 6d. per day, if not too poor.
Dewsbury, U. ....	U.S.A.	Patients resident in the borough, free. Patients from outside borough, 4s. 6d. per day.
Doncaster, U. (Warmworth) ....	U.S.A.	No charge.
Doncaster, R. (Denaby) ....	R.S.A.	No charge.
Dover, U. ....	U.S.A.	12s. and upwards.
Dover, R. ....	Dr. Astley's Hosp.	The Sanitary Authorities pay for the patients there.
Droitwich, R. (Doecker Hospital) ....	R.S.A.	No charge.
Dudley, U. (Blowers Green Road) ...	U.S.A.	Charges vary.
Ealing, U. ....	U.S.A.	
Easington, R. ...	R.S.A.	No charge.
East Ashford, R. (near the Workhouse, Willesboro')	R.S.A.	According to the means of the patients.
Eastbourne, U. (side of the Downs) ....	U.S.A.	5s. to £2 2s.
East Retford, U. (Clarbrough) ....	U.S.A.	Patients maintain themselves.
Ebbw Vale, U. ....	U.S.A.	No charge.
Eccles, U. ....	Served by Salford Hospital.	



Sanitary District and Site of Hospital.	Authority.	Charge weekly, unless otherwise stated.
Egremont, U. ....	In combination. <i>See</i> WHITE-HAVEN, Rural.	
Elham, R. (near the Workhouse, Lyminge).....	R.S.A.	No charge.
Enfield, U. (Lincoln Road)	U.S.A.	No charge for cases arising in the district.
Epping, R. (Rood Street) ...	R.S.A.	£4 4s. if able to pay.
Epsom, R. (Cheam Common)	R.S.A.	No charge.
Eton, U. (Bell Farm, Eton Wick).....	U.S.A.	No charge.
Evesham, U. and R. (Benge-worth) .....	Joint Board.	2s. 6d. to 10s.
Exeter, U. and P. (Pinhoe)	U.S.A.	Artisans free. Other rate-payers, 12s. 6d.
Exmouth, U. ....	Agreement with Exeter Corporation.	
Failsworth, U. ....	Served by Monsall Hospital, Manchester.	
Falmouth and Truro, P. (near the Swanpool).....	P.S.A.	Actual cost of maintenance.
Fareham, R. (Fareham).....	R.S.A.	Patients are charged according to their means.
Faversham, U. (Kennaways)	U.S.A.	No charge.
Faversham, R. (Beacon Hill)	R.S.A.	No charge.
Featherstone, U. ....	U.S.A.	No charge.
Finchley, U. (Finchley Common). ....	U.S.A.	As a rule, no charge; £1 per week in exceptional cases.
Flint, U. (Castle Terrace)...	U.S.A.	No charge.
Folkestone, U. (East Cliff)	P.S.A.	Visitors, 1 guinea. Rate-payers up to 3 years, 2s.; to 10 years, 3s.; and above 10 years, 5s. 6d. per week.
Fowey, P. (on the shore of the creek).....	U.S.A.	No charge.
Frome, U. ....	U.S.A.	10s.
Gainsborough, U. and R. ...	U.S.A.	Charges vary between 5s. and £2, according to rating and age of patients.
Garston, U. ....	U.S.A.	1s. a day; not enforced in cases of poverty.
Gateshead, U. (Sheriff Hill)	U.S.A.	Pauper cases, £1 5s., paid by Board of Guardians. Private patients according to means, from 7s.
Gillingham, U. (Beacon Close) .....	U.S.A.	No charge.
Glossop, R. and U. (Gamesley) .....	Combination.	10s. if patient is able to pay.
Gloucester, U. (Stroud Road)	U.S.A.	5s. to £2 2s. Usually free.
Goole, U. and R. ....	U.S.A.	3s. a day in some cases.



Sanitary District and Site of Hospital.	Authority.	Charge weekly, unless otherwise stated.
Gorton, U. ....	Served by Monsall Hospital, Manchester.	
Gravesend, U. (Cobham)...	U.S.A.	According to the patient's means.
Great Crosby, U. ....	Agreement with Bootle Corporation.	
Great Yarmouth, U. (Escourt Road) .....	U.S.A.	2s. per day if able to pay.
Greetland, U. (Marton Green) .....	U.S.A.	No charge.
Grimsby, U. ....	U.S.A.	No charge.
Guildford, R. and U., and Godalming, U. (Stoke next Guildford).....	R.S.A.	
Halifax, R. (Clifton) .....	Brighouse, J. H. B.	No charge.
Halifax, U. (Stoney Royd)	U.S.A.	No charge.
Halstead, R. (Cottage Hospital, Castle Hedingham)	R.S.A.	According to means of patients, but usually free.
Halstead, U. (Cottage Hospital, Halstead).....	U.S.A.	Ditto.
Hampton, U. (Red Lion Lane, Tolworth, Long Ditton).....	Agreement with Kingston, R.S.A.	
Handsworth, U. (Stafford)	Agreement with West Bromwich Corporation.	
Hanley, Stoke and Fenton, J. (Bucknall, near Stoke-upon-Trent) .....	Joint Board.	Patients under 14 years of age, 1s. 4d. per day; 14 or upwards, 1s. 9d. per day; medical attendance, £1 1s. per case.
Hartlepool, P., R. and U., and West Hartlepool, U.	Port, Rural and U.S.A.'s.	Cost of maintenance, etc.
Harwich, U. (Dovercourt)	U.S.A.	Actual cost of food.
Harwich, P. (Harwich Harbour).....	P.S.A.	No charge.
Haslingden, U. ....	U.S.A.	No charge.
Hastings, R. and U. ....	U.S.A.	No charge unless a separate room is required.
Havant, R. and U. ....	Joint Board.	
Haverhill, U. (Puddlebrook)	U.S.A.	No charge.
Heath Town, U. ....	Agreement with Wolverhampton Corporation.	
Heaton Norris, U. ....	Agreement with Stockport Corporation.	
Hebburn, U. ....	U.S.A.	No charge.
Hebden Bridge, U. (Sour Hall, near Todmorden)...	U.S.A.	No charge.
Hemel Hempstead, R. (Workhouse Garden).....	R.S.A.	Charges vary between 1s. and 14s., according to patient's means.



Sanitary District and Site of Hospital.	Authority.	Charge weekly, unless otherwise stated.
Hendon, U. (Renter's Lane)	U.S.A.	No charge.
Henley, R. ....	R.S.A.	No charge to working classes, but pay-wards are attached.
Hereford, U. and R. (Tupsley).....	Combination.	No charge.
Heston and Isleworth, U.	U.S.A.	£1 1s. for adults; 10s. 6d. for children. (New Fever Hospital being built.)
Hollingbourn, R. (Harps Wood) .....	R.S.A.	No charge.
Holyhead, U. ....	Served by Stanley Hospital on Salt Island.	
Hoole, U. ....	Served by Chester Fever Hospital.	
Horncastle, U. ....	U.S.A.	According to means of patients.
Hornsey, U. (Coppetts Road, Muswell Hill) .....	U.S.A.	Under 14 years of age, 5s.; over 14 years, 10s.
Houghton-le-Spring, U. ....	Arrangement with Sunderland Corporation.	Adults, 30s.; children, 20s.
Hove, U. (Portslade)....	U.S.A.	2s. 6d. to £5 5s.
Hoylandswaine, U. ....	Served by Kendray Hospital, Barnsley.	
Huddersfield, U. (1, Birkby; 2, Mill Hill).....	U.S.A.	No charge.
Hull, U. (1, Sanatorium; 2, Garrison Side Hospital)	U.S.A.	Non-ratepayers, 3s. per day.
Huntingdon, U. ....	U.S.A.	No charge.
Hurst, U. ....	Arrangement with Corporation of Ashton - under - Lyne.	
Huyton-with-Roby, U. ....	Arrangement with Prescott R.S.A.	
Hyde, U. ....	U.S.A.	Actual cost of maintenance.
Hythe, U. ....	U.S.A.	No charge.
Ilfracombe, U. ....	U.S.A.	No fixed charge.
Ilkeston, U. ....	U.S.A.	3s. per diem.
Ilkley, U. ....	U.S.A.	No fixed scale; non-ratepayers charged according to circumstances.
Ince-in-Makerfield, U. ....	U.S.A.	No charge.
Ipswich, U. and P. ....	U.S.A.	10s. for those that can afford it.
Jarrow, U. ....	U.S.A.	No charge.
Kendal, U. and R. ....	Combined.	According to circumstances.
Kenilworth, U. ....	In combination with Warwick.	
Kettering, U. (Rockingham Road).....	U.S.A.	7s. 6d. for children; 10s. for adults admitted from houses rated at £12 and upwards.



Sanitary District and Site of Hospital.	Authority.	Charge weekly, unless otherwise stated.
Kidderminster, U. and R. (Stourport Road).....	U.S.A.	Ratepayers, 10s.; others, 15s.
King's Lynn, U. and P. ...	U.S.A. and P.S.A.	2s. per day if obtainable.
King's Norton, R. (West Heath) .....	R.S.A.	10s. 6d. to 42s. (Serves also Bromsgrove, U. and R.)
Kingston, Surrey, R. (Tolworth, Long Ditton) .....	R.S.A.	Charges vary according to the rateable value of the patients' residences.
Kirkleatham, U.....	U.S.A.	Ratepayers free; others £2 2s. per week.
Lancaster, R. (Carnforth)...	R.S.A.	No fixed charge.
Lancaster, U.....	U.S.A.	No charge.
Lanchester, R.....	J.H.B.	10s.
Consett, U.....		
Leadgate, U.....		
Benfieldside, U.....		
Leamington, U.....	Served by Warwick Joint Hospital.	
Leckhampton, U.....	Served by Delancey Hospital.	
Leeds, U. (1, Beckett Street; 2, Stoney Rock, Burmantofts; 3, Manston Hall)...	U.S.A.	No charge.
Leek, U. ....	U.S.A.	
Lees, U.....	Arrangement with Oldham Corporation.	
Leicester, U. (Freakes Ground) .....	U.S.A.	£1 11s. 6d. for patients from outside the borough. Others free.
Leighton Buzzard, R. (near the Workhouse) .....	R.S.A.	According to patient's means.
Lewes, R. and U. (Waldlands Park Estate) .....	Combined.	No fixed charge.
Leyton, U.....	U.S.A.	No charge.
Lichfield, U. and R.....	Combined.	No charge.
Lincoln, U. ....	U.S.A.	No charge.
Litherland, U.....	Arrangement with Bootle Corporation.	
Liverpool, U. (1, North Hospital; 2, South; 3, Temporary) .....	U.S.A.	1st class, 42s.; 2nd class, 21s.; 3rd class, 10s.
Llandudno, U. ....	U.S.A.	Charge one guinea.
Llanelly, U. (Doecker Movable Hospital).....	U.S.A.	
Llanelly, R. (The Burrows, Pembrey) .....	R.S.A.	No charge.
LONDON—		
Denton, near Gravesend	P.S.A.	3s. per diem.
South - Eastern (Deptford) .....	M.A.B.	Free.
South - Western (Stockwell) .....		



Sanitary District and Site of Hospital.	Authority.	Charge weekly, unless otherwise stated.
<b>LONDON—</b>		
Western (Fulham).....	M.A.B.	Free.
North-Western (Haverstock Hill) .....		
Eastern (Homerton).....		
North-Eastern (Tottenham, N.).....		
Fountain Hospital (Tooting).....		
Northern (Winchmore Hill — Convalescent Fever).....		
Gore Farm (Darenth, Kent — Convalescent Small-pox cases).....		
Hospital Ships, moored in Thames at Long Reach, Dartford, for Small-pox .....		
Highgate Hill.....	Small-pox and Vaccination Hospital.	Free on a 5 guinea letter ; on a 1 guinea letter, £3 3s. ; without letter, £4 4s. on admission.
Islington .....	London Fever Hospital, Liverpool Road.	For non-paupers. Scarlet fever, typhoid and diphtheria are mostly treated. £2 2s. for whole period in hospital. Private rooms, £3 3s. a week. An ambulance will be sent for the patient on application to "resident medical officer," stating nature of fever.
Loughborough, U.....	U.S.A.	No charge.
Louth, U. (London Road)	U.S.A.	No charge.
Lowestoft, P.....	P.S.A.	
Lowestoft, U.....	U.S.A.	Private cases, actual cost incurred. Other cases, 2 guineas for six weeks. Charges not fixed.
Luton, U. (Corporation Farm, Kempton Road)...	U.S.A.	
Lyme Regis, U. (at the harbour) .....	U.S.A.	Primarily for cholera.
Lytham, U. ....	U.S.A.	No charge.
Macclesfield, U. ....	U.S.A.	2s. 6d. and 3s. per day.
Maesteg, U. (Neath Road)	U.S.A.	
Maidenhead, U. ....	U.S.A.	No charge.
Maidstone U. (Fant Lane)	U.S.A.	No charge.
Manchester, U.....	Served by Monsall Hospital. (N.B. —This hospital serves also Failsworth, Gorton, Heaton Norris,	No charge.



Sanitary District and Site of Hospital.	Authority.	Charge weekly, unless otherwise stated.
	Moss Side, Prestwich, and several other districts in the vicinity of Manchester.)	
Mansfield, R. (Tibshelf).....	R.S.A.	
Mansfield, U. (Brick Kiln Lane) .....	U.S.A.	2s. 6d. to 30s.
March, U. (Gale Drove)...	U.S.A.	Actual cost of maintenance.
Margate, U. (Northwood, near Ramsgate) .....	Combination. <i>See</i> THANET.	Adults, £1 1s.; children, 10s. 6d.
Market Harborough, U.....	Served by Leicester Fever Hospital.	
Marlborough, U. (Blowhorn Street) .....	U.S.A.	Patients pay if they can afford it.
Menai Bridge, U.....	<i>See under</i> BEAUMARIS.	
Merthyr Tydfil, R. (Penybank, Vochriw).....	R.S.A.	No charge.
Merthyr Tydfil, U. (Dowlais).....	U.S.A.	
Methley, U. (Methley Junction) .....	U.S.A.	No charge.
Middlesbrough, U. (Linthorpe) .....	U.S.A.	No charge except in case of paupers, for whom the Guardians pay 5s. per day.
Middleton, U.....	Arrangement with Rochdale Corporation.	2s. 6d. a day for poor patients, 30s. a week for others.
Milford, P. (Coombs, near Milford Haven) .....	P.S.A.	Actual cost.
Millom, U. (Borwick Rails)	U.S.A.	No charge.
Monk Bretton, U.....	Served by Kendray Hospital, Barnsley.	
Mossley, U. ....	U.S.A.	No charge.
Moss Side, U.....	Arrangement with Monsall Hospital, Manchester.	3s. per day.
Mountain Ash, U. (Gwern Ifor Farm).....	U.S.A.	No charge.
Newcastle-under-Lyme, U. (Cemetery Road).....	U.S.A.	No charge.
Newcastle-upon-Tyne, U. (1, Walker Gate; 2, Town Moor) .....	U.S.A.	£2 2s. in private wards; 2s. a day in general wards children half-price.
Newhaven, R. ....	R.S.A.	No fixed charge.
Newhaven, U.....	U.S.A.	No charge.
Newmarket, R. and U. ....	R.S.A.	Actual cost.
Newport, P.....	P.S.A.	25s.
Newport (Salop), U. and R. (Marsh Lane) .....	Combination.	No charge.



Sanitary District and Site of Hospital.	Authority.	Charge weekly, unless otherwise stated.
Newton-in-Makerfield, U....	Agreement with Warrington Corporation.	
Normanby, U.....	Agreement with Middlesbrough Corporation.	
Normanton, U. ....	U.S.A.	Patients under 16 years, 1s. 6d. per day; others, 2s. per day.
Northallerton, U. and R....		Hospital under Board of Management, who charge the Local Board and Guardians 25s. for each patient respectively.
Northampton, U. (Kings-thorpe) .....	U.S.A.	No charge.
North Bierley, J. (Oaken-shaw Road, Cleckheaton)	Joint Board.	No charge.
Norwich, U.....	U.S.A.	No charge.
Nottingham, U. ....	U.S.A.	Charges vary, but usually no charge is made.
Oldham, U. (Westhulme)...	U.S.A.	No charge to borough patients; others £2 2s. per week. New hospital about to be erected.
Ormesby, U.....	Agreement with Middlesbrough Corporation.	
Orsett, R. (Little Thurrock)	R.S.A.	25s.
Ossett, U. (Storr Hill) .....	U.S.A.	No charge.
Otley, U. ....	U.S.A.	
Oxford, U. (Grandpont) ...	U.S.A.	10s. 6d. to £3 3s.
Padstow, P. (Quarry, St. Breock) .....	P.S.A.	No rates fixed.
Pateley Bridge, R. ....	R.S.A.	No charge.
Pemberton, U. (Billinge Road).....	U.S.A.	No charge.
Pembroke, U. (Jacob's Pill, Pembroke Dock).....	U.S.A.	No charge.
Penrith, U. and R. (Fair Hill) .....	Combination.	14s. and medical officer's fee; usually not enforced.
Penzance, U. and R. (Rose-vean Road). ....	U.S.A.	No charge unless patient is able to pay.
Peterborough, U. and R....	U.S.A.	No charge.
Petworth, R. (Petworth) ...	R.S.A.	Actual cost of maintenance, but usually free.
Plomesgate, R. (Whistle-crafts, Wickham Market)	R.S.A.	
Plymouth, P. (H.M.S. "Pique," moored in Jennycliff Bay).....	P.S.A.	21s.
Poole, R. (Alderney).....	R.S.A.	No rate fixed.
Poole, U. and R.....	U.S.A.	Actual cost.



Sanitary District and Site of Hospital.	Authority.	Charge weekly, unless otherwise stated.
Prescot, R. and U.....	In combination.	3s. per day when able to pay.
Prestwich, U.....	Served by Monsall Hospital, Manchester.	
Radcliffe, U.....	Served by Monsall Hospital, Manchester.	
Radstock, U. (Westfield)...	U.S.A.	No charge.
Rainford, U. (Moss Nook)	U.S.A.	No charge.
Ramsbottom, U. ....	Arrangement with Bury Corporation.	
Ramsgate, U. ....	In combination with Broadstairs and Margate. <i>See</i> THANET.	
Ravensthorpe, U. ....	Served by Dewsbury, U.S.A.	Charges vary.
Rawmarsh, U.....	U.S.A.	No charge.
Reading, U.....	U.S.A.	None for Small-pox; other charges vary.
Reigate, R. (Horley).....	R.S.A.	2s. 6d., 5s., 10s. or 21s., according to patient's means.
Ripon, R. } .....	R.S.A.	Corporation cases, 1s. 6d.; others, full cost.
Ripon, U. }		
Rochdale, U. (Castleton-by-Rochdale) .....	U.S.A.	Pauper patients, 25s. paid by Guardians; 1s. or 1s. 6d. per day for others.
Rochester, U., and Chatham, U. (Delce Lane, Rochester)	Joint Board.	No charge.
Rochford, R. ....	R.S.A.	No fixed charge.
Rotherham, U. ....	U.S.A.	No charge.
Rowley Regis, U. ....	U.S.A.	Total cost when patients do not belong to the district; otherwise no charge.
Royton, U. ....	Arrangement with Oldham Corporation.	No charge.
Rugby, U.....	U.S.A.	Cost paid in some cases.
Runcorn, U. (Runcorn Hill)	U.S.A.	4s. to 20s.
Ryde, U. ....	U.S.A.	Varies according to circumstances of patient.
Saddleworth, R. ....	R.S.A.	No charge.
Saffron Walden, R. and U.	Combined.	No charge.
St. George, U.....	U.S.A.	10s. if patient can afford it.
St. Helens (Lancs), U. (Peasley Cross) .....	U.S.A.	No charge. Patients provide their own medical attendant.
St. Thomas, U.....	U.S.A.	Vary from time to time.
Sale, U.....	Served by Monsall Hospital, Manchester.	
Salford, U. ....	U.S.A.	Borough patients free; private wards, £3 3s.



Sanitary District and Site of Hospital.	Authority.	Charge weekly, unless otherwise stated.
Scarborough, U. (1, Governor's House, Old Borough Gaol; 2, Cemetery Road; 3, Newby Lane) .....	U.S.A.	Charges vary according to patient's means.
Seaford, U. (The Downs)...	U.S.A.	No charge.
Seaham Harbour, U. ....	U.S.A.	15s.
Seisdon, R. (Kinver) .....	R.S.A.	No charge.
Settle, R. (Giggleswick).....	R.S.A.	No charge.
Sevenoaks, U. (Oak Lane)	U.S.A.	No charge. Patients find their own food and medical attendant.
Shaftesbury, R. (Shaston St. James).....	R.S.A.	No charge.
Sheffield, U. (1, Winter Street; 2, Lodge Moor)...	U.S.A.	No charge.
Shipley, U. (Stonyridge Lane) .....	U.S.A.	Residents free; non-residents, 5s. 6d. per day.
Sidmouth, U. ....	U.S.A.	No charge.
Sittingbourne and Milton, J. (Keycot Hill, Bobbing) ...	Joint Board.	No charge.
Sleaford, U. (Hut Hospital)	U.S.A.	No charge.
Smethwick, U. (Holly Lane) .....	U.S.A.	No charge.
Solihull, R. (Coventry Road)	R.S.A.	No charge.
Southall-Norwood, U. (Kingston Lane) .....	See UXBRIDGE, J.H.B.	
Southampton, U. (West Quay) .....	U.S.A.	No charge for residents in the borough; non-residents, 2 guineas per week.
South Blyth, U. (Cottage Hospital) .....	U.S.A.	4s. 6d. per day.
Southend-on-Sea, U. (Prittlewell) .....	U.S.A.	Charges vary according to patient's means.
Southport, U. (North Meols) .....	U.S.A.	Poor people, free; others, 3s. 6d. per diem.
South Shields, R. and U. (The Deans).....	U.S.A.	No charge.
Southwick, U. ....	Agreement with Sunderland Corporation.	
Sowerby, U. (Mirey Lane)	U.S.A.	No charge.
Stafford, R. (Kingston Hill)	R.S.A.	No charge.
Stafford, U. ....	U.S.A.	No charge; private patients requiring separate ward, 21s. per week.
Stalybridge, U. ....	Agreement with Hyde Corporation.	
Stamford, U. (All Saints) ...		Arrangement with Governors of Stamford, Rutland and General Infirmary. Charge 1 guinea.



Sanitary District and Site of Hospital.	Authority.	Charge weekly, unless otherwise stated.
Stanmore, Middlesex.....	The Mary Wardell Convalescent Home for Scarlet Fever, Brockley Hill.	1st class, £3 3s. a week; 2nd class, 15s. a week; children under 12, 10s. a week.
Stevenage, U. (Sishes Cottage Hospital).....	U.S.A.	No charge.
Stocksbridge, U.....	U.S.A.	Charges according to patient's means. £2 2s.
Stockton, U. (Durham Road)	U.S.A.	No charge.
Stourbridge, R. ....	R.S.A.	No charge.
Stratford-on-Avon, U. and R.	U.S.A.	No charge.
Sudbury, U.....	U.S.A.	No charge.
Sunderland, U. and R. (New Hospital; Old Hospital)	U.S.A.	Charges vary. In private wards, 2 guineas.
Surbiton, U.....	Agreement with Kingston, R.S.A.	
Sutton Coldfield, U. ....	Agreement with Aston, Manor, U.S.A.	
Sutton (Surrey), U. (Bushey Road).....	U.S.A.	15s. for adults; children, 10s., when patients able to pay.
Swansea, R., U. and P.....	U.S.A.	18s.; paupers, 12s. M.O.H. has discretion to reduce or remit payment.
Swinton, U. (Rockingham Pottery).....	U.S.A.	No charge.
Swinton and Pendlebury, U.	Served by Monsall Hospital, Manchester.	
Tamworth.....	J.H.B.	Serves Tamworth, U. and R.
Taunton, R. and U. (Cheddon Road).....	Combination.	Adults, £1 1s.; children, 10s. 6d.
Tees River, P.....	P.S.A.	12s. 6d. a week chargeable to ships.
Teignmouth, P. and U. (Bishopsteignton).....	Combined.	Cost of maintenance and nurse's charge.
Tenbury, R. (Workhouse Garden).....	R.S.A.	No rate fixed.
Tenby, U.....	U.S.A.	No rate fixed.
Thame, U. ....	U.S.A.	Actual cost of maintenance.
Thanet, R. (Northwood) ...	Joint Board.	Adults, £1 1s.; children, 10s. 6d. (Serves Thanet, R., Broadstairs, Margate, and Ramsgate, U.)
Thornton, U.; Clayton, U.; Wilsden, U. (Back Lane, Thornton).....	Joint Board.	Actual cost of patients paid by each authority.
Tipton, U. (Horseley Road)	U.S.A.	Other patients than pauper, 18s.
Todmorden, U. (Sour Hall)	U.S.A.	No charge. (Serves also Hebden Bridge, U.)



Sanitary District and Site of Hospital.	Authority.	Charge weekly, unless otherwise stated.
Tonbridge, R. (Pembury)...	R.S.A.	10s.
Tonbridge, U. (Vauxhall Lane) .....	U.S.A.	Charges vary from 7s. to 21s.
Torquay, U. (Newton Road)	U.S.A.	Labouring classes, free; servants, 1 to 2 gs.; others, 1 to 3 gs. Private wards.
Totnes, U. (Rotherfield) ...	U.S.A.	
Toxteth Park, U. (Smith-down Road) .....	U.S.A.	16s. to those able to pay.
Tring, U. (Aldbury) .....	Arrangement with Berkhamstead, R.S.A.	
Truro, U. ....	U.S.A.	No charge.
Tunbridge Wells, U. ....	U.S.A.	7s. to £1 1s. Charge remitted in cases of poor.
Tunstall, U. ....	Agreement with Wolstanton and Burslem, R.S.A.	
Twickenham, U. (Mereway)	U.S.A.	Actual expenses incurred.
Tynemouth, U. (Percy Sq.)	U.S.A.	3s. per day except to very poor.
Tyne River, P. (Jarrow Slake, Floating Hospital)	P.S.A.	2s. per day.
Uppingham, R. (Iron Hospital) ..	R.S.A.	No charge fixed.
Uxbridge, J. (Kingston Lane) .....	Joint Board.	No charge. (Serves Uxbridge, R. and U., and Southall-Norwood, U.)
Wakefield, R. (Lawns Lane, Carrgate, Stanley-cum-Wrenthorpe) .....	R.S.A.	General wards—adults, 10s., children, 7s. 6d.; Private wards—adults, £2 2s., children, £1 1s.
Wakefield, U. (Park Lodge Lane) .....	U.S.A.	1s. 6d. a day for adults, 1s. a day for children. Medical attendance and stimulants extra.
Walker, U. ....	Agreement with Newcastle Corporation.	
Wallasey, U. (Mill Lane, Poulton-cum-Seacombe)	U.S.A.	Charges vary between 5s. and £2 2s.
Wallsend, U., Willington Quay, U. and Howden, U.	J.H.B.	
Walsall, U. (Hospital Street)	U.S.A.	Adults, 5s.; children, 2s. 6d. Pauper cases, adults, £1; children, 10s.
Walton-le-Dale, U. ....	U.S.A.	No charge.
Walton - on - the - Hill, U. (Priory Road) .....	U.S.A.	Charges vary between 5s. and £2 2s.
Warminster, U. (Warminster Common) .....	U.S.A.	Charges vary. Labouring classes free; others earning £1 a week and upwards, 2s. 6d. a week. Persons in a better position pay for their own maintenance.



Sanitary District and Site of Hospital.	Authority.	Charge weekly, unless otherwise stated.
Warrington, U. (Aitken St.)	U.S.A.	No charge.
Warwick, J. (Heathcote) ...	Joint Board. (Serves Warwick, U. and R., and Leamington, U.)	Private patients, 28s. Paupers received from Warwick Union at 26s. per week.
Watford, R. and U. (Sewage Farm).....	Combined.	3s. to 10s.
Wednesbury, U. (Crankhall Lane).....	U.S.A.	No charge.
Wellingborough, U. ....	U.S.A.	No charge.
Wells (Somerset), U.....	U.S.A.	No charge.
Wells (Norfolk), U. and P.	U.S.A. and P.S.A.	No charge.
West Ashford, R. (Westwell)	R.S.A.	3d. to 1s. per day; children half-price.
West Bromwich, U. ....	U.S.A.	No charge.
West Derby, R. (Kirkby)...	R.S.A.	£2 2s.
West Ham, U. (Plaistow)...	U.S.A.	No charge. (New hospitals about to be erected.)
Weston-super-Mare, U. ....	U.S.A.	2s. 6d. to 15s., according to social position of patients.
Weymouth, P., R. and U.	Combination.	10s. 6d. for use of ward, and cost of food.
Wheatenurst, R. (Workhouse, Estington).....	R.S.A.	No fixed charge.
Whitby, U. ....	U.S.A.	No charge.
Whitehaven, J. (Hensingham) .....	Joint Board (combined with Cleator Moor, Egremont, Arlecdon and Frizington, and Harrington).	Paupers, £1 by Guardians.
Whitehaven, U. ....	U.S.A.	Paupers, £1 by Guardians.
Widnes, U., and Aspull, U. (Crow Wood Lane).....	U.S.A.'s.	No charge except for paupers.
Wigan, U. ....	U.S.A.	No charge.
Wilsden, U.....	See THORNTON, J. H. B.	
Wimbledon, U. ....	U.S.A.	Charges vary according to value of patient's house.
Winchester, U. ....	U.S.A.	Poor people free. Ratepayers from 5s. to £1 1s. per week.
Wirral, .....	Joint Board.	No charge. (Serves Bromborough, Higher and Lower Bebington, Neston and Parkgate, and Hoylake and West Kirby U.S.A.'s.)
Wisbech, R. } .....	Combined.	According to the circumstances of the patient.
Wisbech, U. } .....		
Walsoken, U. } .....		
Withington .....	Served by Monsall Hosp., Manch't'r.	
Wolstanton and Burslem, R. (Bradwell) ...	R.S.A.	Charges vary from 1s. 3d. to 2s. a day. Medical attendance in each case, £1 1s.



Sanitary District and Site of Hospital.	Authority.	Charge weekly, unless otherwise stated.
Wolverhampton, U. ....	U.S.A.	No charge.
Wombwell, U. ....	Agreement with Barnsley, U.S.A.	
Woodbridge, R. (Pest House) .....	R.S.A.	No charge.
Worcester, U. ....	U.S.A.	No charge, except in special cases.
Workington, P. (Merchants Quay) .....	P.S.A.	
Workington, U. (Ellerbeck)	U.S.A.	No fixed charge except for paupers.
Worsborough, U. ....	Agreement with Barnsley, U.S.A.	
Wortley, R. (near Workhouse) .....	R.S.A.	
Wrexham, R. and U. ....	Combination.	7s. to 10s. 6d., according to circumstances.
York, U. (York and Shensall Road) .....	U.S.A.	15s. Special cases admitted free.
Ystradyfodwg, U. ....	U.S.A.	No charge.

## LOCK HOSPITALS.

Town.	Name of institution and exact address.	Terms of admission.
Birmingham...	Birmingham and Midland Skin and Lock Hospital.	See SKIN.
Bristol .....	Old Park Lock Hospital for Women. Old Park Hill, St. Michael's.	Free.
Liverpool .....	Royal Infirmary and Lock Hospital. Brownlow Street.	By payment of 7s. a week.
„ .....	Seamen's Dispensary for Venereal Diseases. 9 Custom House Arcade.	No information.
LONDON—		
Harrow Rd., W. ....	London Lock Hospital and Asylum. (Female Hospital and Asylum. Harrow Road, W.)	By governor's letter. All cases received except those of relapse into vice.
Soho, W. ...	(Male Hospital and Out-patient Department, 91 Dean Street, Soho, W.)	
West Smithfield, E.C.	St. Bartholomew's Hospital. Special Ward.	Free without letter.
Manchester ...	Manchester and Salford Lock Hospital. Duke Street.	Free by letter. In and out.
Portsmouth ...	Royal Portsmouth, Portsmouth and Gosport Hospital. Special Lock Wards.	These wards are under arrangement with the Admiralty.



## MENTAL CASES AND LUNATICS.

It will be noticed in the following list that the institutions for the reception of lunatics are divided into County Asylums, Borough Asylums, Licensed Houses, and Public Hospitals, to which might be added Unlicensed Houses. County and borough asylums are provided mainly for the reception of pauper lunatics. They are erected in accordance with the 53 Vic. cap. v., s. 238, by which the justices of every county or borough are required to provide the necessary accommodation out of the rates for the reception of pauper lunatics. Into these institutions paying patients are frequently admitted when there is room, the payments varying—according to the arrangements made by the medical superintendent with the relatives—from fourteen shillings to one guinea per week. The usual charge made to the various unions for the reception of pauper cases averages about half a guinea per week. When the accommodation provided in a county or borough asylum is almost exhausted, it is usual to give notice for the removal of the paying patients to make room for the pauper cases. This practice, which is forced upon the Visiting Committees and justices whenever there is pressure upon their accommodation, has brought to light the grave necessity of some provision being made throughout the country for the care of middle-class patients. There are numerous cases in which the friends of patients rather above the pauper class would be glad to pay a somewhat higher rate than is charged at the pauper asylums were there any institutions adapted to the purpose, at which they would receive additional advantages by a higher payment. At the present time middle-class patients have often to



be admitted to the county and borough asylums through the Poor Law Guardians, and, consequently, they pay the same amount as the Guardians pay for pauper patients and receive the same treatment. The result is, that such patients occupy the space designed for pauper patients, and compel the justices to materially enlarge the buildings under their charge. It is evident, therefore, that for the sake of the patients and of the ratepayers it is desirable that steps should be taken without delay to establish middle-class institutions for the reception of those cases able to pay a higher rate than that charged by the county asylums to the unions for pauper cases.

An unlicensed house is one in which only one patient can be boarded at a time, and, as its name implies, the law does not make it compulsory that a licence shall be procured by the owner of such an establishment, provided only one lunatic is confined therein, but the commissioners in lunacy have now power to allow two or more lunatics to be treated in an unlicensed house. Licensed houses are private asylums maintained by private individuals, at their own risk and for their own profit. Registered hospitals and public institutions often partake of a charitable character, wherein patients suffering from mental disease are usually admitted for treatment. Admission to the county asylum is customarily obtained through the instrumentality of the relieving officer. The certificates in such cases must be signed by the relieving officer and by a justice of the peace, accompanied by one medical certificate. In the case of private patients the petition should be signed by the nearest relative or by some one who must give reasons why the relative did not sign, and be accompanied by two medical certificates to the effect that after personal examination the patient is considered



to be "a lunatic, idiot, or person of unsound mind." The petition and medical certificates are taken to a justice of the peace specially appointed under the Act, and the justice may grant the order of admission either after having seen the patient or not having seen him. In the case of licensed houses, full particulars may be ascertained on application to the medical superintendent. The terms and conditions of admission vary so considerably at these establishments that no attempt has been made to give particulars of them. In county and borough asylums, as before stated, admission is obtainable through the instrumentality of the Board of Guardians, unless the patient be a private one, in which case the process is the same as for admission to a licensed house. The conditions regulating the admission to public hospitals for lunatics will be found set out in the following list, so far as they could be ascertained, but the usual petition, medical certificates and justice's order must be obtained.

## COUNTY ASYLUMS.

County.	Place, and medical superintendent or medical officer.
Anglesea .....	<i>See</i> Denbigh.
Beds, Herts, and Hunts.	Stotfold, Baldock. Dr. E. Swain.
Berks. ....	Moulsford, near Wallingford. Dr. W. A. Murdoch.
Brecon .....	<i>See</i> Monmouth.
Bucks. ....	Stone, near Aylesbury. Dr. John Humphry.
Cambridge and Isle of Ely .....	Fulbourn. Dr. E. C. Rogers.
Cardigan .....	<i>See</i> Carmarthen.
Carmarthen, Cardigan, Pembroke, and Haverfordwest .....	Carmarthen. Dr. G. J. Hearder.
Carnarvon .....	<i>See</i> Denbigh.
Chester .....	Upton Chester. Dr. J. H. Davidson.
" .....	Parkside, near Macclesfield. Dr. T. S. Sheldon.
Cornwall .....	Bodmin. Dr. R. Adams.
Cumberland and Westmoreland .....	Near Carlisle. Dr. J. A. Campbell.
Denbigh, Anglesea, Carnarvon, Flint, and Merioneth .....	Denbigh. Dr. L. F. Cox.



County.	Place, and medical superintendent or medical officer.
Derby .....	Mickleover, near Derby. Dr. J. M. Lindsay.
Devon .....	Exminster. Dr. G. J. S. Saunders.
Dorset .....	Near Dorchester. Dr. P. W. Macdonald.
Durham .....	Sedgefield, near Ferryhill. Dr. R. Smith.
Essex .....	Brentwood. Dr. G. Amsden.
Flint .....	<i>See</i> Denbigh.
Glamorgan ..	Bridgend. Dr. H. T. Pringle.
Gloucester .....	Gloucester. Dr. F. H. Craddock.
Hants, and Isle of Wight	Knowle, near Fareham. Dr. T. B. Worthington.
Hereford Co. and City ...	Burghill, Hereford. Dr. T. A. Chapman.
Herts. ....	<i>See</i> Beds.
Hunts.....	<i>See</i> Beds.
Isle of Ely .....	<i>See</i> Cambridge.
Isle of Wight .....	<i>See</i> Hants.
Kent.....	Barming Heath, near Maidstone. Dr. F. P. Davies.
" .....	Chartham, Canterbury. Dr. Fitzgerald.
Lancaster.....	Lancaster Moor. Dr. D. M. Cassidy.
" .....	Prestwich, near Manchester. Dr. H. R. Ley.
" .....	Rainhill, near Prescott. Dr. J. Wigglesworth.
" .....	Whittingham. Dr. J. A. Wallis.
Leicester and Rutland ...	Leicester. Dr. W. H. Higgins.
Lincoln.....	Bracebridge, near Lincoln. Dr. J. W. Marsh.
Merioneth .....	<i>See</i> Denbigh.
London .....	Banstead. Dr. T. C. Shaw.
" .....	Cane Hill, Purley. Dr. J. M. Moody.
" .....	Colney Hatch. Dr. W. J. Seward.
" .....	Hanwell. Drs. R. R. Alexander, J. P. Richards.
Middlesex .....	Wandsworth. Dr. H. G. Hill.
Monmouth, Brecon, and Radnor.....	Abergavenny. Dr. J. Glendinning.
Montgomery .....	<i>See</i> Salop.
Norfolk.....	Thorpe, near Norwich. Dr. D. G. Thomson.
Northampton .....	Berrywood, Northampton. Dr. R. Greene.
Northumberland .....	Cottingwood, nr. Morpeth. Dr. T. W. McDowall.
Notts. ....	Nottingham. Dr. A. Aplin.
Oxford .....	Littlemore, near Oxford. Dr. R. H. H. Sankey.
Pembroke .....	<i>See</i> Carmarthen.
Radnor .....	<i>See</i> Monmouth.
Rutland .....	<i>See</i> Leicester.
Salop and Montgomery.	Bicton, near Shrewsbury. Dr. A. Strange.
Somerset .....	Wells. Dr. A. L. Wade.
Stafford .....	Stafford. Dr. J. W. S. Christie.
" .....	Burntwood, near Lichfield. Dr. J. B. Spence.
Suffolk .....	Melton, near Woodbridge. Dr. W. Eager.
Surrey .....	Brookwood, near Woking. Dr. J. E. Barton.
Sussex .....	Hayward's Heath. Dr. C. E. Saunders.
Warwick .....	Hatton, near Warwick. Dr. A. Miller.
Westmoreland .....	<i>See</i> Cumberland.
Wilts.....	Near Devizes. Dr. J. I. Bowes.
Worcester Co. and City.	Powick, near Worcester. Dr. E. M. Cooke.
York, E. Riding.....	Beverley. Dr. M. D. Macleod.
" N. " .....	Clifton, near York. Dr. J. T. Hingston.
" W. " .....	Menston, Leeds. Dr. J. G. M'Dowall.
" " " .....	Wadsley, near Sheffield. Dr. W. S. Kay.
" " " .....	Wakefield. Dr. W. B. Lewis.



## BOROUGH ASYLUMS.

County.	Place, and medical superintendent or medical officer.
Birmingham .....	Birmingham, Winson Green. Dr. E. B. Whitcombe
" .....	Rubery Hill. Dr. A. C. Suffern.
Bristol .....	Stapleton. Dr. H. A. Benham.
Cambridge Borough .....	See Cambridge County.
Derby .....	Rowditch, Derby. Dr. S. R. Macphail.
Exeter .....	Digbys, Heavitree. Dr. R. L. Rutherford.
Haverfordwest .....	See Carmarthen County.
Hereford, City .....	See Hereford County.
Hull .....	Hull. Dr. J. Merson.
Ipswich .....	Ipswich. Dr. E. L. Rowe.
Leicester .....	Humberstone. Dr. J. E. M. Finch.
London City .....	Stone, near Dartford. Dr. E. W. White.
Newcastle-on-Tyne .....	Coxlodge, Gosforth. Dr. J. T. Callcott.
Norwich .....	Hellesdon. Dr. W. Harris.
Nottingham .....	Mapperley Hill. Dr. E. Powell.
Oxford City .....	See Oxford County.
Plymouth .....	Blackadon, Ivybridge. Dr. A. N. Davis.
Portsmouth .....	Milton, Portsmouth. Dr. W. C. Bland.
Worcester .....	See Worcester County.

## LICENSED HOUSES.

Explanation of class and sex of patients received.

(a) Pauper cases.

(c) Males.

(b) Private cases.

(d) Females.

Place.	Name of house and of licensee.
Alton, Hants .....	Westbrook House. Miss E. Burnett and Mr. T. B. Twined. (b) (c) (d).
Barnoldswick, near Ben- tham, W. Riding. ....	Greta Bank. Mrs. Parker and Miss D. Davidson. (b) (c) (d).
Bath Easton, Somerset...	Bailbrook House. Dr. L. A. Weatherley. (b) (c) (d).
Beckenham, Kent .....	Springcroft. Mrs. Stilwell. (b) (c) (d).
Bedford, Beds .....	Bishopstone House. Dr. W. S. Craig and Mrs. Craig. (b) (d).
" .....	Springfield House. Dr. D. Bower and Miss Norton. (b) (c) (d).
Box, near Chippenham, Wilts .....	Kingsdown House. Mrs. Nash and Dr. H. C. MacBryan. (b) (c) (d).
Bristol, Gloucestershire...	Northwoods, Winterbourne, near Bristol. Dr. R. Eager and Mr. T. G. Seymour. (b) (c) (d).
" Somersetshire .....	Brislington House, near Bristol. Drs. C. H. and B. B. Fox. (b) (c) (d).
Briton Ferry, Glamorgan	Vernon House. C. Pegge. (b) (c) (d).



Place.	Name of house and of licensee.
Burgess Hill, Sussex.....	St. George's Retreat, Ditchling. Miss Eccles, etc. (b) (c) (d).
Burnley, Lancashire.....	Marsden Hall. Mrs. Bennett. (b) (c) (d).
Buxton, Derbyshire.....	Wye House. Dr. F. K. Dickson. (b) (c) (d).
Catton, Norfolk.....	See Norwich.
Chilcompton, Somerset...	See IDIOTS.
Chiswick, Middlesex.....	See London.
Church Stretton, Salop ..	Grove House, All Stretton. Mrs. M'Lintock. (b) (d).
" " " " " " " " " "	Stretton House. Mrs. and W. C. Hyslop. (b) (c).
Darlington, Durham.....	Dinsdale Park. Dr. J. W. Eastwood. (b) (c) (d).
Epsom, Surrey.....	Church Street. Dr. W. C. Daniel. (b) (d).
Exeter, Devon.....	Court Hall, Kenton. W. Mules. (b) (d).
Fairford, Gloucester.....	Fairford House. D. Iles and Mrs. K. J. Iles. (b) (c) (d).
" " " " " " " " " "	The Croft House. Mrs. E. M. Iles. (b) (d).
Gateshead, Durham.....	Dunston Lodge, near Gateshead. W. Garbutt and W. H. Garbutt. (b) (c) (d).
Goudhurst, Kent.....	Tattlebury House. J. S. Newington. (b) (c) (d).
Harpندن.....	See St. Albans.
Hayes, Middlesex.....	See London.
Henley in Arden, War- wick.....	Glendossill and Hurst House. Dr. and Mrs. Agar. (b) (c) (d).
Hillingdon, Middlesex...	See London.
Hollington, Sussex.....	Ashbrooke Hall. Mrs. Hitch and Miss E. G. Adams. (b) (d).
Isleworth, Middlesex.....	See London.
Kenton, Devon.....	See Exeter.
Kimberworth, near Rotherham, W. Riding.	The Grange. Dr. and Mrs. Clapham. (b) (d).
Kingston-on-Thames....	Canbury House. W. H. Roots. (b) (c) (d).
Kingswinford, near Dudley, Stafford.....	Ashwood House. Drs. H. G. Peacock and J. F. G. Pietersen. (b) (c) (d).
Leyton, Essex.....	See London.
Liverpool, Lancashire...	Tue Brook Villa, near Liverpool. Drs. Geo. Duffus and H. Sumner. (b) (c) (d).
LONDON—	
Bethnal Green.....	Bethnal House, Cambridge Road. Dr. J. K. Will. (a) (b) (c) (d).
Bow.....	Grove Hall, Fairfield Road, E. Drs. E. H. Byas and W. J. Mickle. (a) (b) (c) (d).
Camberwell.....	Camberwell House. Drs. J. H. Paul and F. Schofield. (a) (b) (c) (d).
Catford.....	Flower House, South End. Dr. C. A. Mercier. (b) (c).
Chiswick.....	Manor House. Dr. and Mrs. Tuke, etc. (b) (c) (d).
Clapton, Upper.....	Brooke House. Drs. H. T. Monro and J. O. Adams. (b) (c) (d).
Finsbury Park.....	Northumberland House. Drs. A. H. Stocker and S. Simpson. (b) (c) (d).
Fulham.....	Munster House. Dr. G. F. Blandford, etc. (b) (c).
" " " " " " " " " "	Peterborough House. Mrs. Hill, etc. (b) (d).



Place.	Name of house and of licensee.
LONDON—	
Hammersmith.....	Homelea, Weltje Road. Mrs. E. A. Buck. (b) (d).
" .....	Otto House, North End. Dr. H. Sutherland, etc. (b) (d).
Hampton Wick.....	Normansfield Training Institute for feeble-minded children and youths. Dr. J. Langdon Down. (c) (d).
Hayes.....	Hayes Park. Mr. and Mrs. Benbow and Dr. H. F. Winslow. (b) (d).
" .....	Woodend House. Dr. H. Stilwell and Miss A. E. Goss. (b) (d).
Hendon .....	Hendon Grove. Dr. and Mrs. Hicks. (b) (d).
Hillingdon.....	Moorcroft House. Dr. H. Stilwell, etc. (b) (c).
Hoxton.....	Hoxton House. Drs. J. F. Hill, J. W. Carter, J. F. Woods. (a) (b) (c) (d).
Isleworth .....	Wyke House. Mrs. S. J. Willett, etc. (b) (c) (d).
Leyton .....	Great House. Mrs. Davey. (b) (d).
Notting Hill.....	24 Royal Crescent. Dr. H. C. Smith. (b) (d).
Nunhead.....	Silverton House, 24 Linden Grove. Mrs. A. G. Preston. (b) (d).
Peckham .....	Peckham House. Drs. A. H. Stocker and J. Warnock. (a) (b) (c) (d).
Roehampton.. ..	The Priory. Drs. W. Wood, W. E. R. Wood, etc. (b) (c) (d).
Southall .....	Vine Cottage, Norwood Green. Mrs. Chalk and Mrs. Oliver. (b) (d).
" .....	Featherstone Hall. Miss H. E. E. Dixon. (b) (d).
" .....	The Shrubbery. Miss Rosser. (b) (d).
Sunbury.....	Halliford House. Major F. J. M. Mason, etc. (b) (c) (d).
Tooting Common .....	Newlands House, Tooting Beck Road. Dr. H. Sutherland, etc. (b) (c).
Teddington.....	Goudhurst, Stanley Road. Dr. R. A. Clarke. (b) (d).
Wandsworth.....	The Huguenots, East Hill. Miss M. Leech. (b) (d).
Maidstone, Kent.....	West Malling Place. Dr. J. Adam and Mrs. Adam. (b) (c) (d).
Market Lavington, near Devizes, Wilts.....	Fiddington House. Dr. and Mrs. Charles Hitchcock. (b) (c) (d).
Newton-le-Willows, Lancashire .....	Haydock Lodge. E. H. Beaman and Dr. C. T. Street. (a) (b) (c) (d).
Norwich .....	Heigham Hall, near Norwich. Mrs. C. J. Watson and A. Mottram. (b) (c) (d).
" .....	The Grove, Catton. T. J. C. Rackham. (b) (c) (d).
Plympton, Devon .....	Plympton House. Dr. and Mrs. Aldridge. (b) (c) (d).
Preston.....	Shaftesbury House, Formby. Dr. S. A. Gill. (b) (c) (d).
Prestwich, Lancashire ...	Overdale, Oatwood. Dr. J. Holmes. (b) (c) (d).
Rotherham, W. Riding...	See Kimberworth.
St. Alban's, Herts .....	Harpenden Hall. A. McLean. (b) (d).
Salisbury, Wilts .....	Fisherton House. W. C. and Dr. Finch. (a) (b) (c) (d).
" .....	Laverstock House. J. Haynes and J. Manning. (b) (c) (d).
Sandown, Isle of Wight	The Briars. Mrs. Steward and Miss S. E. Griffiths. (b) (d).



Place.	Name of house and of licensee.
Sculcoates, E. Riding ...	Craven Street Retreat. J. Brown. (b) (d).
Shrewsbury .....	Boreatton Park. Dr. W. R. O. Sankey. (b) (c) (d).
Southall .....	See London.
Sunbury .....	See London.
Surbiton .....	Sutherland Home. Dr. R. Collum and A. T. Collum. (b) (d).
Sutton, Surrey.....	Chalk Pit House. F. D. Atkins. (b) (d).
Tamworth, Stafford .....	Moat House. J. F. Woody and E. Hollins, jun. (b) (d).
Ticehurst, Sussex .....	Ticehurst Asylum. Drs. H. F. H. and A. S. L. Newington. (b) (c) (d).
" " .....	Myskyns. Dr. A. B. Barton.
Tunbridge, Kent .....	Redlands, Hadlow. Dr. and Mrs. Harmer. (b) (c) (d).
Whitchurch, Salop .....	St. Mary's House. Drs. S. T. and C. H. Gwynn. (b) (d).
Winchelsea, Sussex .....	Periteau House. Mrs. Skinner. (b) (d).
Witham, Essex .....	Witham. T. M. Tomkin. (b) (c) (d).
York .....	Lawrence House. Dr. G. I. Swanson. (b) (c) (d).

## PUBLIC HOSPITALS FOR LUNATICS.

Place.	Medical superintendent.	Terms of admission.
Bootham, York	York Lunatic Hospital. Dr. C. K. Hitchcock.	By payment of 2 guineas a week.
Broadmoor, Berks.....	State Criminal Asylum. Dr. Nicolson.	Government institution.
Cheadle, Ches.	Manchester Royal Lunatic Hospital. G. W. Mould.	By payment of 1 to 8 guineas a week.
Exeter .....	Wonford House. Dr. Deas.	£2 7s. a week or upwards, according to means and requirements. Reduced or remitted in deserving cases.
Gloucester.....	Barnwood House, near Glouc. Dr. J. G. Soutar.	From 2 guineas a week, reducible in special cases.
Headington, Oxon.....	Warneford Asylum, Headington Hill. Dr. J. B. Ward.	2 guineas a week and upwards, but in certain cases a reduction is made, to obtain which the committee must be petitioned. Quarterly in advance.
Lincoln .....	Lincoln Lunatic Hospital, The Lawn. Dr. A. P. Russell.	30s. a week and upwards to 5 guineas. This is sometimes reduced when the patient's friends, after special application, show the rate cannot be afforded.



Place.	Medical superintendent.	Terms of admission.
LONDON—		
Old Street, E.C. ....	St. Luke's Hospital. Dr. G. Mickley.	At committee's discretion. Free, or by payment of 14s., 21s. or 30s. a week. Chronic cases, 21s.
Lambeth Rd., S.E.	Bethlem Hospital. Dr. R. Percy Smith.	Free to persons of humble circum- stances of the educated classes where insanity is of less than 12 months' duration and presumably curable; a few by payment of 2 guineas a week. Epileptics not admitted. Convalescent Branch at Witley.
Manchester ...	Manchester Royal Luna- tic Hospital.	See Cheadle.
Northampton	St. Andrew's Hospital. J. Bayley.	Two classes, 25s. or 42s. a week and upwards, quarterly in ad- vance, clothing not included. The rates may be reduced if the patient's friends prove they can- not afford so much.
Norwich .....	Bethel Hospital. Dr. J. Fielding.	Citizens of Norwich free. Others from 20s. a week.
Nottingham ...	Lunatic Hospital. The Coppice. Dr. W. B. Tate.	£2 a week quarterly in advance; rates however may be reduced to meet circumstances of case.
Southampton...	Royal Military Hospital, Netley.	Soldiers only.
Stafford .....	Charitable Institution for the Insane, Coton Hill, near Stafford. Dr. R. W. Hewson.	By order or by payment.
VirginiaWater, Surrey .....	Holloway Sanatorium, St. Ann's Heath. Dr. S. Rees Philipps.	By payment. One-fourth of the patients are admitted at 25s. a week or under, but only patients from the educated classes are eligible at this reduced rate.
Warneford, Oxon.....	Warneford Asylum.	See Headington.
Yarmouth .....	Royal Naval Hospital. Dr. T. Browne.	For Navy only.
York .....	The Retreat. Dr. R. Baker.	By payment of £2 2s. to £7 7s. a week, quarterly in advance.
" .....	York Lunatic Hospital.	See Bootham.

## LYING-IN.

It will be noticed that a large proportion of the institutions, the names of which are given below, provide relief to patients at their own homes, and do



not receive midwifery cases into the hospitals. Experience has proved that it is far better to employ medical men and midwives to attend patients at their own homes, and not to treat these cases in hospital buildings. It is now generally admitted to be best to afford this branch of medical assistance through the instrumentality of a dispensary rather than a hospital, and it will be seen that, as a rule, relief is afforded on the production of a subscriber's letter, which usually includes the attendance of a midwife or medical officer, medicine, and the use of linen for the month. In several institutions special regulations have been made, which will be found set forth in detail below.

NOTE.—The institutions marked thus \* are not hospitals with accommodation for the reception of in-patients, but the recipients of the charity are treated at their own homes.

Town.	Name of institution and exact address.	Terms of admission.
*Bakewell, Derby.....	Dispensary and Lying-in Institution.	By subscriber's letter, to be signed by two ladies of the committee. Linen supplied.
*Bath.....	Bath and Lower Weston Lying-in Charity.	Free by ticket.
*Beckenham...	Beckenham Provident Dispensary.	By ticket. The holder must pay 10s. in advance to the medical officer, who gives the necessary attendances and medicine without further charge.
Birkenhead ...	Ladies' Charitable Institution and Lying-in Hospital. 104 Conway Street.	By letter or minister's recommendation, and production of marriage certificate.
*Birmingham	Lying-in Charity. 71 Newhall Street.	Free by letter.
Brighton .....	Brighton and Hove Lying-in Institution, etc.	See CHILDREN.
*Bristol .....	Bristol Dispensary. Castle Green.	
*" .....	Lying-in Institution.	Free by letter.
*Bromley, Kent	General Dispensary and Lying-in Charity.	By payment of 10s. in advance to the medical officer.



Town.	Name of institution and exact address.	Terms of admission.
*Cheltenham	Coburg Society.	By subscriber's ticket, which entitles to use of linen for the month, and also to payment of midwife's fee, with 2s. 6d. ticket for nourishment, or to the sum of 7s. 6d. towards the surgeon's fee.
*Clifton.....	Clifton Dispensary.	By letter.
*Coventry.....	Coventry Provident Dispensary.	By payment of 10s. 6d.
*Exeter.....	Lying-in Charity.	Free by letter.
*Gloucester ...	Lying-in Charity.	Each applicant pays 5s.
*Ipswich .....	Suffolk County Medical Club. 2 and 4 Princes Street.	Within 1 mile, 12s.; over 1 mile, 14s.
*Kingston-on-Thames.....	Provident Dispensary.	
*Lichfield .....	Provident Dispensary.	
Liverpool .....	Ladies' Charity and Lying-in Institutions. Brownlow Hill.	By subscriber's recommendation or by personal application (in which case inquiry will be made by the institution as to circumstances).
LONDON—		
Anerley, S.E.	Dispensary and Lying-in Charity.	
*Buck'gham Palace Rd., S.W. No. 104.....	Royal Pimlico Dispensary.	Members, 1 guinea to be paid prior to confinement.
*Camberwell, S.E.	Provident Dispensary. Camberwell Green.	By payment of 4d. to 8d. a month.
*Chelsea, S.W. ....	Chelsea, Brompton and Belgrave Dispensary. 41 Sloane Square.	By subscriber's letter.
„	St. John's Lying in Home and Training School for Midwifery. 42-46 Gunter Road.	In-patients' fee, 1s. Out-patients', 5s.
*Chiswick ...	Chiswick and Turnham Green Dispensary.	By subscriber's letter and fee of 2s. 6d.
City Road, E.C. ....	City of London Lying-in Hospital.	Free by letter, though this may be dispensed with at the committee's discretion. Attendance required at the hospital on Wednesdays, at 10 A.M., to prove legal settlement and marriage. Patients received within 48 hours of confinement, but if their delivery does not take place within that period 1s. 6d. a day is charged for board. Samaritan fund exists.
Clapham, S.W. ....	Clapham Maternity Hospital. 41 Jeffrey's Rd.	Payments according to means from 10s. to 30s. for in-patients. 5s. for out-patients.



Town.	Name of institution and exact address.	Terms of admission.
LONDON—		
Endell St., LongAcre, W.C. ....	British Lying-in Hospital.	By subscriber's letter.
*Finsbury, E.C. ....	Royal Maternity Charity. 31 Finsbury Square.	Free by letter. For delivering poor married women at their homes.
*Forest Hill, S.E. ....	Forest Hill Provident Dispensary.	By payment of 10s. at least a month before confinement.
*Hampstead, N.W. ....	Hampstead Provident Dispensary. New End.	Members, 10s. for confinement.
*Haverstock Hill, N.W.	Haverstock Hill and Malden Road Provident Dispensary. 132 Malden Road.	By payment of 6s. for confinement.
*Holborn, E.C. ....	Farringdon General Dispensary and Lying-in Charity. 17 Bartlett's Buildings.	Free by letter.
Lambeth, S.E. ....	General Lying-in Hospital. York Road, Westminster Bridge Road.	Free by letter. Certificate of marriage required. Single women admitted at committee's discretion.
Marylebone Road, No. 191, N.W.	Queen Charlotte's Lying-in Hospital.	Free by letter.
*Marylebone Rd., N.W.	Western General Dispensary.	Free by letter.
*Norwood, Upper, S.E. ....	Gipsy Hill and Upper Norwood Dispensary.	Members, 10s. to be paid prior to confinement.
*Notting Hill, W. ....	Provident Dispensary and Maternity. 43 Portland Road.	Confinement cases of members 10s. 6d. at once, or by instalments of 2s. 6d., the last to be paid one month before confinement.
*Paddington, W. ...	Paddington Provident Dispensary. 104 Star Street, Edgware Road.	Members, 10s. for confinement.
Penge, S.E.	General Dispensary and Lying-in Charity.	
*St. George's, Hanover Sq., W....	St. George's (Hanover Square) Provident Dispensary. Grosvenor Mews.	
*St. John's Wood, N.W. ....	St. John's Wood and Portland Town Provident Dispensary. 1 Henstridge Villas.	Members, 10s. 6d. to be paid prior to confinement.
*St. Marylebone, N.W.	St. Marylebone General Dispensary. 77 Wellbeck Street.	By subscriber's letter or by small payment.
*St. Pancras, N.W. ....	St. Pancras and Northern Dispensary. 126 Euston Road.	



Town.	Name of institution and exact address.	Terms of admission.
LONDON—		
Shadwell, E.	East End Mothers' Home. 396 Commercial Road.	In-patients, free by letter. Out-patients, 3s. 6d. each confinement.
*Southwark, S.E. ....	Surrey Dispensary. Great Dover Street.	Free.
*Stepney, E.	Tower Hamlets' Dispensary. White Horse Street.	Free by letter.
*Sydenham, S.E. ....	East Dulwich Provident Dispensary. 184 Crystal Palace Road.	By payment to medical officer of 15s. or to midwife of 7s. 6d.
*W a n d s w o r t h, S.W. ....	Wandsworth Provident Dispensary, S.W.	
*Westminster, S.W.	Western Dispensary. Rochester Row.	Free by letter; registration fee, 1s.; or in provident department by payment of 10s. 6d. for doctor, or 3s. 9d. for midwife, to be paid one month prior to confinement.
*W h i t e c h a p e l, E.	Eastern Dispensary. Leman Street.	By governor's letter.
*M a l v e r n, Great.	Lying-in and Samaritan Charity.	By letter and payment of 2s. 6d. to the midwife when engaging her. She has power to grant relief to the extent of 5s. in urgent cases, and to supply linen.
Manchester.....	St. Mary's Hospital and Manchester and Salford Lying-in Hospital and Dispensary for Women and Children.	Lying-in patients by subscriber's recommendation or payment of 5s. Other patients by subscriber's recommendation and payment according to means; or by payment of 2 guineas for 4 weeks, or of 1 guinea for children.
„ .....	Maternity Hospital (in connection with the Southern Hospital).	Free.
Newcastle-on-Tyne .....	Lying-in Hospital. New Bridge Street.	Free by letter.
Oxford.....	Lying-In Institution.	
* „ .....	Medical Dispensary and Lying-in Charity.	Free by letter, with use of linen.
*Salisbury .....	Salisbury and South Wilts Provident Dispensary.	Members—1st class (wages above £10 a year), 7s. 6d. for midwife and 15s. for doctor (if necessary); 2nd class, 5s. and 10s. respectively to be paid a month prior to confinement.
Wiveliscombe	Maternity Charity (The Dispensary).	By letter and payment of 5s.



MINERAL WATER BATHS. *See* HYDROPATHIC ESTABLISHMENTS.

NERVOUS DISEASES. *See* PARALYSIS.

NEURALGIC AFFECTIONS. *See* HYDROPATHIC ESTABLISHMENTS.

### NURSES.

Of all the institutions of which an account is given in this book, probably few are calculated to do more public service than those which provide for the training and sending out of nurses to the houses of the people in the day of sickness. Householders are now beginning to realise that it is false economy to allow the mother or other member of a family to exhaust her system by endeavouring to undertake the day and night nursing of a severe case of illness in addition to the ordinary household duties. At such a time a trained, capable, and intelligent nurse is invaluable, and by the aid of the nursing institutions such persons are now obtainable for a reasonable payment in every large centre of population. It is unnecessary to give particulars concerning the rules and regulations of these institutions, since they have been so fully dealt with in the many works on the subject which have been published in the last few years. A very exhaustive list of these institutions, together with their charges, will be found in *Burdett's Hospital and Charities Annual*.

ORTHOPÆDIC HOSPITALS. *See* DEFORMITIES.

PARALYSIS, EPILEPSY, AND OTHER NERVOUS DISEASES.

With the exception of London there is practically no provision for the relief of patients suffering from



paralysis, epilepsy, and similar diseases of the nervous system. It cannot, however, be questioned that this class of cases causes an enormous amount of anxiety to the friends and of suffering to the patients. In these circumstances and for these reasons, it is desirable that those who are in the habit of founding charities for the relief of sick persons should take into their earnest consideration the necessity and wisdom of instituting additional hospitals for the reception of this class of cases. Patients of this kind are not exactly suitable for admission to hospitals for incurables, although they require special treatment and care, and therefore separate institutions should be established for their reception and relief.

Town.	Name of institution and exact address.	Terms of admission.
LONDON— Bloomsbury, W.C.....	National Hospital for the Paralysed and Epileptic. Queen Square.	Free by letter. 32 beds for cases paying 21s. a week. 80 pensions granted to incurables by election of subscribers.
Clapham, S.W. ....	British Home for Incurables. 380 Clapham Road.	Pensions for the epileptic. <i>See</i> INCURABLES.
Finchley, N.	The Elms. East Finchley.	Convalescent Branch of National Hospital. By payment of 5s. a week.
Holloway, N.	Kingsdown Orphanage. 3 Manor Road and Tremlett Grove.	<i>See</i> DEFORMITIES.
Regent's Pk., N.W. ....	Hospital for Epilepsy and Paralysis. Portland Terrace.	Free by letter, available for in-patients, two months; out-patients, three months; or by a small weekly payment if a letter cannot be obtained. Washing extra.
Soho Sq're, W.....	National Hospital for Diseases of the Heart and Paralysis.	<i>See</i> HEART.
Welbeck St., No. 73, W.	West End Hospital for Diseases of the Nervous System, Paralysis and Epilepsy.	Free. No letter required. Those who are able are expected to pay 1s. or more a week. In-patients may have treatment as out-patients until they can be admitted.



## PAY HOSPITALS.

*See also under GENTLEWOMEN and WOMEN (DISEASES OF).*

Until the year 1877 the system of pay hospitals was practically unknown in England. In that year the *Standard* printed a scheme drawn up by the author of this book, which met with general assent, was approved by a public meeting at the Mansion House, and led to the establishment of the Home Hospitals' Association for Paying Patients.

The Home Hospitals' Association was founded to provide home hospitals for the treatment and cure of diseases, in the same manner as in hospitals, by skilled nursing, rest, and regulated diet, under proper sanitary and hygienic conditions, combined with the comforts of a home. The home hospital is also intended for the benefit of all classes when attacked by illness, not incurable or infectious, who can afford to pay at various rates for such advantages. The aim of the association is further to combine home hospitals in town, with convalescent hotels and homes at the sea-side and other localities where the cure of convalescents may be completed. It has been regarded as essential to the success of the association, that all the institutions under its management shall be from the first entirely self-supporting. The first English pay or home hospital, which was named Fitzroy House, situated in Fitzroy Square, London, was formally opened by the Bishop of Winchester, on the 1st July, 1880. This experiment of the Home Hospitals' Association attracted much public interest, and it is now an established success. Admission to the home hospital is obtained by letter, addressed to the lady superintendent. The terms are from four guineas per week per patient in the smaller rooms, and



from six guineas per week per patient in the larger rooms. In exceptional deserving cases the lady superintendent has power to reduce these terms. These payments include board, nursing by the staff of nurses, and everything except stimulants, mineral waters, and surgical dressings, which are charged for at cost price. Special nurses have to be paid for according to the nature of each case.

Every room is furnished as a bed and sitting room on the French plan, and double-bedded rooms for a patient and friend, or for a patient and special nurse, can be procured for the inclusive payment of from seven to ten guineas per week. All payments have to be made in advance, patients paying on admission the cost of seven days' maintenance. Patients who elect to stay beyond the date paid for in advance, must renew their payment on the day before that on which the previous payment expires. At least twenty-four hours' notice must be given before the removal of each patient, to enable the room to be re-let. To avoid misapprehension it may be well to state that the above charges include interest on the whole of the capital invested in the home hospitals, and a yearly contribution to the sinking fund to replace the capital outlay. Patients of both sexes are received, but persons suffering from epilepsy, lunacy, or diseases of an infectious or contagious character, and midwifery cases, are ineligible. Incurable cases and those of long standing, which admit only of temporary alleviation, are not regarded in general as desirable subjects for admission, the chief object being to afford substantial medical and surgical relief to as large a number as possible. Before admission the patient or his friend is required to fill in a form of



application, to be obtained from the lady superintendent. Every patient at Fitzroy House is attended by his or her own professional adviser, to whom the patient pays such fees as may be mutually arranged.

The sanitary arrangements are very good, the drainage being especially well managed and so constructed as entirely to obviate the danger of the entrance of sewer air into the hospital. The opportunities for ventilating each room are very thorough. In all other details the comfort and health of the patients, and the cheerfulness of their surroundings, have been carefully studied. No one who has visited Fitzroy House can have failed to be struck with its home-like comfort and appearance. So large has been the number of applications for admission, that it could frequently be filled twice over if accommodation were available. In these circumstances it may be well to state that the original capital was subscribed by the governors and members, every contributor of fifty guineas being regarded as a governor of the association, and being entitled to priority of admission to the home hospital for himself and his family when ill, with the right to nominate not more than two patients annually. A donor of twenty guineas is regarded as a member of the association, and possesses the privilege of priority of admission for himself, and the right of nominating one patient annually.

In admitting patients to the home hospital, the committee are guided by the following rules of precedence. A governor is entitled to be admitted before any other applicant, then a member, then any person belonging to the family of a governor, then the nominee of a governor or member, and last of all, any other persons whom the committee may think fit. The



committee are, however, empowered by the articles of association to depart from the above order in urgent cases, and either to advance or postpone applicants, or to adopt any other order they may consider desirable.

In consequence of the interest excited by the meetings and discussions which arose out of the foundation of the Home Hospitals' Association, several other institutions of a somewhat similar character have been established, and many of the large hospitals have devoted a certain number of their beds to paying patients. In the year 1879 the authorities of St. Thomas's Hospital offered the Home Hospitals' Association one of their blocks of buildings, providing the association would consent to convert it into a pay hospital for the reception of this class of cases. After due consideration the Home Hospitals' Association decided it would be undesirable for them to accept this offer, and in consequence the governors of St. Thomas's Hospital placed themselves in communication with the Charity Commissioners, and ultimately opened a wing, now known as St. Thomas's Home, as a pay hospital. The wing provides accommodation for about sixty patients, and consists of two large wards, the beds in which are separated from each other by curtains, and of three or four small wards. The charges are nine shillings per day for patients in a large ward, with extra charges for nursing, etc., in severe cases. A minimum total charge of two guineas for every patient; and from four guineas per week upwards—with extras—in a small ward. These charges include all necessities and the attendance of the resident medical officer; but where a patient desires to place himself under the treatment of a physician or surgeon, he is at liberty to do so on



condition that he pays him such fees as may be mutually agreed between them.

Another institution which deserves special mention is the Bolingbroke Hospital, founded in 1880 (under the name of the Bolingbroke House Pay Hospital) as a home in sickness for those who need the advantages of hospital treatment and nursing, and who are able to pay wholly or partially for the same. Patients are received upon paying a reasonable proportion of their actual cost, if they are not in a position to pay the whole amount, which averages two guineas weekly. Incurables, and cases of infection, insanity, or fits, are inadmissible. To Canon Erskine Clarke belongs the credit of establishing this institution, which has been attended with the greatest success, as it has greatly benefited the middle classes of clerks, skilled artisans, and other workers in the Battersea district, who have used it in increasing numbers each year. The promoters were anxious not to exclude any one who could pay even a fair proportion of the cost, and it was therefore decided to invite each applicant to fix his or her own rate of payment, the surety being required to affirm it to be fairly proportionate to the applicant's means. Application for admission should be made upon the proper form, to be obtained by writing to the honorary secretary, or by personal or written application to the Bolingbroke Hospital, Wandsworth Common, S.W. The particulars required on the form are : First, the name, occupation, and address of the patient, with the amount of the weekly sum able to be paid by the patient or friends ; secondly, a medical certificate as to the nature of the illness ; thirdly, a guarantee by some responsible person.



Many years ago an establishment for gentlewomen during temporary illness was set up at 90 Harley Street, and probably no institution has conferred greater benefits upon the professional classes of the kingdom than this. Patients are admitted on payment of from one guinea to forty-five shillings and sixpence a week, inclusive of medical attendance and every requisite, according to the number of patients in a room. This institution, though receiving payments, is not founded upon the self-supporting system, and it is therefore in need of pecuniary aid from those who have the means to support such institutions.

Several of the special hospitals admit paying patients, and particulars of such institutions will be found under their respective heads.

PAYING WARDS. — We often wonder why the managers of the great general hospitals do not appropriate a wing for the reception of poor paying patients. The work of the Home Hospitals' Association during the last fifteen years shows that a pay hospital can be worked at a profit, and in the United States of America a large income is derived from this source. Cottage hospitals in England invariably take payment from all patients who are able to contribute something, however small, to their maintenance during their stay in the institution. Now, if the labouring classes can and do contribute in this way, is it not time that the town residents were put upon their mettle, and made to contribute what they can, whilst under treatment as in-patients? The movement in favour of paying wards has extended considerably during the last fifteen years; but, although five per cent. of the income of all classes of hospitals in Great Britain and Ireland is derived from



patients' payments, we should like to see it increased to something like forty per cent., as it might well be with advantage to the patients and also the institutions.

The pay system is popular in foreign countries, as well as in the United States where definite rules exist for patients' payments in hospitals, according to their means. It cannot be doubted that the absence of a universal rule of this kind has caused much abuse of medical charity in England. In France, special terms are made for well-to-do patients, and during the past year a further regulation has been recommended by the Municipal Council of Paris to the administrators of the hospitals, whereby an extra payment shall be made by patients undergoing operations. A full history of these questions will be found in *Pay Hospitals of the World* (Dr. A. Churtney).

Place.	Name of institution and exact address.	Terms of admission.
LONDON—		
Belgravia, S.W.	Home Hospital for Women and Children. 9 Lupus Street.	One bed free. Others 1 guinea to 3 guineas per week.
Brondesbury Park, N.W.	St. Monica's Home Hospital.	For children. One guinea a week.
Fitzroy Sq., W.	Home Hospitals' Association. Fitzroy House.	From 4 guineas a week. Patients are attended by their own medical men. Acute cases pay 14 days, chronic 1 month, in advance. Epileptics, lunatics, incurables, and infectious cases inadmissible.
Hampstead, N.W.	Home Hospital and Nursing Institute. Parliament Hill Road.	By payment of from 7s. to 5 guineas a week.
Harley St., No. 90, W.	Establishment for Gentlewomen during temporary illness.	One guinea to 45s. 6d. a week inclusive, according to number in room.
Kilburn, N.W.	St. Peter's Home. Mortimer Road.	Ladies, 10s. 6d. to £1 1s. a week; ordinary cases, 7s. a week; children, 5s. 6d. a week, payable monthly in advance.



Place.	Name of institution and exact address.	Terms of admission.
Osnaburgh St., N.W.	St. Saviour's Hospital.	<i>See</i> CANCER.
St. John's Wood, N.W.	St. Helena Home and Nursing Institution. 1 Grove End Road, N.W.	From 4 to 7 guineas per week. Patients are attended by their own doctor. Nurses are also supplied.
Wandsworth Common, S.W.	Bolingbroke Hospital.	Payment of £2 2s. a week, or less, according to circumstances. Guarantee required. Incurables and cases of infection, insanity or fits inadmissible.
Westminster Bridge, S.E.	St. Thomas's Hospital. St. Thomas's Home.	8s. a day in large ward; 4 guineas a week and upwards in a small ward. Poor paying patients are admitted to the general wards at 3s. a day.
Oxford .....	Sarah Acland Memorial and Medical and Surgical Home.	By payment of from 25s. to 4 guineas a week.
Torquay .....	Erith House for Invalid Ladies of limited means.	By payment according to means.

## SICKNESS AT HOME.

(GENERAL AND PROVIDENT DISPENSARIES.)

Under this heading may be included those institutions which provide medical attendance and medicine to patients when confined to their own homes by illness or accident. Free and provident dispensaries constitute the large majority of such institutions. The so-called free dispensaries are of two classes—those which provide medical attendance by means of paid resident medical officers; and those where the medical staff are honorary officers in practice in the town where the particular institution is situated. In both instances patients must obtain the recommendation of a governor, every governor receiving five or six tickets for each guinea subscribed. The rules provide, in both instances, that every governor recommending a person



as a patient shall satisfy himself that the person is a proper object for charitable relief.

At all the dispensaries it is usual for urgent cases to be admitted to relief on application to the physician or surgeon of the day at his residence, or at the institution, within certain specified hours; and in the case of accidents patients are usually admitted, without recommendation, by order of any one of the medical officers. It is usual to limit the tickets to six weeks, at the end of which time a patient is discharged unless a further recommendation is procured. All patients are discharged from time to time at the discretion of the medical officers. Patients who absent themselves without permission from the medical officer in attendance for a period of one week or longer are discharged.

Some of these dispensaries provide surgical appliances, and in such cases tickets of recommendation may be used for the supply of the instruments required, providing the value of the tickets presented covers the cost of the appliances required. Patients are usually expected to pay one penny for each small bottle or gallipot, and twopence for larger ones; but the money is, as a rule, returned to the patients if the bottles or gallipots are brought back clean to the institution. It is customary to strictly enforce a rule which provides that tickets must be delivered before half-past nine in the morning, to ensure a visit from the doctor on the day of application.

In connection with many of these institutions are relief funds, for meeting the cases of extreme wretchedness which often attend the disorders to which the poor are particularly exposed. Such funds are of great value, since pure air and good food are in many cases more



necessary than medicines, and the funds enable the medical officers to secure a supply of suitable food and other necessities that they think desirable for the recovery of the patients.

The provident dispensary differs from the general dispensary in its being founded with the object of enabling the artisan class to secure medical attendance for themselves and families when sick, by making small weekly payments throughout the year. In other words, the scheme of the provident dispensary is, as its name implies, to enable the more thrifty members of the working classes to maintain their independence, and not to be forced in a day of sickness to receive alms by resorting to a charitable institution. Members usually consist of the industrious classes, whether male or female, and their children, not receiving parish relief, and all other persons who are unable to pay for medical advice in the usual way. In some places there are two or more classes of members—Class “A” being restricted to persons earning on an average not more than thirty shillings per week; and Class “B” to persons earning on an average more than thirty shillings but not more than fifty shillings per week. Class “A” subscribe, say, one penny per week for each person above fourteen years of age, and one halfpenny per week for each child under that age, but no greater sum than fourpence per week is required from any family, providing they reside together under the same roof. Class “B” pay, say, twopence per week for each person above, and one penny per week for each child under, fourteen years of age, and no greater sum than eightpence per week is received from any single family. Of course the amounts per week paid by the members vary according to the district in



which the dispensary is situated; thus, it is usual for members in an agricultural district to pay less than those who reside in a manufacturing town. Domestic servants pay from five to ten shillings a year, such payments being customarily made half-yearly; but a man-servant being married and having a family is commonly not considered as a domestic servant, though he is admissible with his wife and children as an ordinary member, providing their united earnings do not exceed a stipulated amount. In the majority of instances members select their medical attendants on joining the dispensary, but they have the option of changing them when making the annual payments. It is usual to divide from two-thirds to the whole amount paid by members amongst the medical officers, after deducting payment for drugs and other dispensary expenses.

Provident dispensaries also undertake attendance upon midwifery cases upon payment of from ten shillings to fifteen shillings by members, and a further sum of ten shillings and sixpence or six shillings, making together a fee of one guinea, from honorary subscribers' contributions. In the majority of these dispensaries vaccination is undertaken on payment of a small fee, but in a few instances no fee is charged for the vaccination of members, their wives or families.

Attendance upon members is either given at the dispensary during certain hours, or at the surgeries of the various medical officers and at the members' homes, the latter being the more general practice on account of the great saving in the working expenses. Medicines are included in the fees paid by members of provident dispensaries.

In addition to general and provident dispensaries



there is a further class of institutions denominated Amalgamated Friendly Societies Medical Associations, which resemble provident dispensaries in some particulars, but are distinct from them and from general dispensaries in the fact that they have been established and are under the sole management of working men.

It has not been thought necessary to give a list of these institutions, though where special cases such as diseases of women, lying-in, or consumption are treated such institutions have been included under their respective heads. A full list of the dispensaries in England and Wales will be found in *Burdett's Hospital and Charities Annual*.

#### SICKNESS IN HOSPITAL.

(GENERAL HOSPITALS AND INFIRMARIES and COTTAGE HOSPITALS.)

The majority of general hospitals (*i.e.*, hospitals which provide for cases of accident and ordinary disease, and which in many instances admit special diseases also, but which are not established for the treatment of one special disease alone) are established upon what is known as the ticket system, which provides that patients, except when suffering from accident or sudden and severe illness, cannot be admitted without the production of an in-patient ticket signed by one of the governors. These tickets are supplied to subscribers in the proportion of one in-patient ticket for every two guineas subscribed, or for every donation of twenty guineas in one sum. The practice of admission varies, however, at different hospitals. Thus at the country hospitals, each applicant for admission is obliged to present himself before the medical staff on a given day with an in-patient letter obtained from one of the subscribers



to the charity. The committee are generally empowered by their rules to grant admission to any serious case that may be unable to procure a letter of recommendation, providing the medical staff recommend such a course; but this privilege is very rarely exercised, and the delay in procuring a ticket not unfrequently entails upon the applicant an amount of unnecessary suffering which ought to secure an immediate reconsideration and amendment of the existing system. In London and in the larger towns, especially if medical schools are attached to the hospitals, it has become the custom to practically suspend the ticket system, and to select the in-patients from the applicants according to the comparative urgency of the cases alone. In a few instances the hospitals are entirely free, and all applicants who apply at the hospital are treated upon their medical or surgical merits, and are relegated to the in-patient or out-patient department according to the requirements of each case.

At the cottage hospitals, it has become the custom to afford the patients the privilege of paying something, however small, towards the expense of their maintenance in the hospital. The sums given by the patients vary according to their means, from eighteen pence to one guinea per week, and in the aggregate the patients at 200 cottage hospitals contribute about one-tenth of the whole income, or a sum approaching £11,000 every year. This system of small payments by patients who are willing to maintain their independence to the utmost of their ability has been attended in practice with the most excellent results, and the time is approaching when there can be little doubt that every hospital in this country will afford every patient who seeks admission to its wards an opportunity



of contributing according to his means for the benefits he receives. Any person desiring admission to a particular hospital will find it the simplest and best course to address a letter to the secretary, asking him to be good enough to forward a copy of the last report with a list of the subscribers, which will afford all the information that is required.

It may be useful to add that certain cases are ineligible, and will not be admitted to any of the general hospitals. For examples may be mentioned chronic cases, that is to say, those complaints which are deemed likely to be so tedious to cure as to preclude the admission of cases of more urgent disease; cases which, after examination, are deemed incurable, and are not likely to receive considerable permanent relief; cases which require food and not medicine, and which are more properly objects of parochial relief; cases which are likely to be aggravated rather than relieved by a residence in a general hospital, amongst which may be mentioned asthma, advanced cases of consumption, and other diseases; cases which are equally capable of relief as out-patients; cases of small-pox and other infectious diseases, lunatics, epileptics, and patients which are deemed dangerous to the other inmates, and for the treatment of which no suitable accommodation exists.

#### SKIN, DISEASES OF.

Some of the sea-bathing establishments, *e.g.*, Margate, give special attention to scrofulous patients.

The institution marked thus (\*) is certified by the Local Government Board under the Act 25 and 26 Vict., cap. 43.



Town.	Name of institution and exact address.	Terms of admission.
Bath .....	Dispensary for Diseases of the Skin and Urinary Organs. 4 Church St.	No information.
Birmingham...	Birm'gham and Midlands Skin and Lock Hospital.	Free. Registration fee, however, is charged to all but very poor.
Brighton .....	Convalescent Home. The Downlands, Rottingdean.	<i>See</i> CHILDREN.
Chester .....	Chester Skin Dispensary. City Walls.	Free.
Leeds.....	Public Hospital for Skin Diseases, Cancerous and Scrofulous Affections. 24 Park Square.	<i>See</i> CANCER.
Liverpool .....	Hospital for Cancer and Skin Diseases. Myrtle Street.	<i>See</i> CANCER.
" .....	St. George's Hospital for Diseases of the Skin. Great George Street.	Free without letter, but patients are expected to contribute according to their ability. No in-patients.
LONDON— Fitzroy Sq., W. No. 40 .....	London Skin Hospital.	Out-patients only. Free, or by payment according to means.
Leicester Square ...	St. John's Hospital for Diseases of the Skin.	In-patients free by letter, or by payment according to means. Out-patients free by letter, or payment of 1s. to 5s. a month.
Marlborough St., Great, W. No. 56 .....	British Hospital for Skin Diseases.	Free without letter.
LONDON— Newington Butts, S.E. No. 5. ...	Branch of British Hospital.	<i>See</i> above.
Portland St., Gt., W. No. 179....	Western Skin Hospital.	In-patients by letter, or by payment of from 1s. per week.
Manchester ...	Manchester and Salford Lock Hospital. (Skin Hospital, Dale Street.)	<i>See</i> LOCK.
" ...	Hospital for the Skin, Cancer and Scrofula.	<i>See</i> CANCER.
*Margate .....	Royal Sea Bathing Infirmary for Scrofula. Office: 30 Charing Cross, London, S.W.	By governor's recommendation, and payment of 5s. or 6s. a week.
Newcastle-on-Tyne .....	Hospital for Diseases of the Skin. 53 Blackett Street.	Free without letter.
Sheffield .....	Public Hospital for Ear, Throat and Skin Diseases. Holly Street.	Free without letter.



SMALL-POX. *See* INFECTIOUS DISEASES.

SPINE. *See* DEFORMITIES.

STONE. *See* URINARY ORGANS.

### SURGICAL APPLIANCES.

Until a few years ago it was the cruel practice of the Surgical Appliances or Aid Societies to compel those who were in need of instruments, crutches, artificial limbs, etc., to lose many days and to exhaust their already enfeebled frames by canvassing for a varying number of tickets which had to be collected from the subscribers to these institutions. The committee and secretary of the Surgical Aid Society are, however, to be warmly congratulated upon a modification in the rules, which reflects the greatest credit upon their management, and proves their desire to really help the deserving. Formerly the letter system entailed much hardship upon the patients at times, as it was necessary to procure a large number of letters before a surgical appliance could be obtained. We rejoice to see from the report of 1893, and from the new form of letter now used, that on satisfactory proof being given of the patient's inability to obtain all the letters, the secretary recommends the case for immediate benefit without further delay. During last year, out of 16,817 appliances supplied, 13,370 were given at once upon the production of the subscriber's letter. Even in respect to the more costly instruments and limbs the committee made 623 special grants under the new system. As this plan removes the chief objection to the former system of the Surgical Aid Society, we hope



Mr. W. Tresidder, the secretary, will receive speedy and substantial proof of the giving public's appreciation and gratitude.

Fortunately, also, the council of the Metropolitan Hospital Sunday Fund have recognised the inhumanity and abuse attached to the latter system; and, in consequence, they set aside a sum each year for the purpose of providing, on the recommendation of ministers and others, surgical appliances to such as may require them. Application has to be made in the first instance to the secretary of the Metropolitan Hospital Sunday Fund, Mr. Henry N. Custance, Mansion House, E.C., by the minister of any contributing congregation, stating the name, address and age of the patient, and the nature of the appliance required, which must not exceed £5 in value. A form of recommendation is then supplied to the applicant, which form has to be taken to the authorities of one of the hospitals or dispensaries which receive grants from the fund. The patient presents this recommendation to the hospital, where he is seen by a member of the staff, who prescribes for the case and sees that the appliance is properly fitted. It is to be wished that every Hospital Sunday Fund organisation throughout the country would adopt this method of dispensing surgical aid. At the present time about £6000 is spent in London on the management of the Surgical Aid Societies, a sum which is more than equivalent to the whole amount of relief afforded in this direction by the Hospital Sunday Fund. The philanthropic public will do well to inquire before they contribute to any surgical appliance or aid society, to what extent the benefits are obtainable without the presentation of governors' letters of recommendation.



It would be desirable, too, for them to use their influence in different parts of the country with a view to persuade the councils of the Hospital Sunday Funds to adopt the plan so successfully carried out in the metropolis, and to induce the committees of the appliance societies to abolish the ticket system altogether.

Place.	Name of institution and exact address.	Terms of admission.
LONDON— Bedfd. Row, W.C. .... FinsburyCir- cus, E.C. No. 28.....	Rupture Society. 27 Gt. James Street. Surgical Appliance So- ciety. (Provident.)	By subscriber's letter.  Letter not essential, but whole or partial assistance is obtained on one. The secretary decides what portion of the cost of appliances is to be borne by the applicant, according to the circumstances. Surgeons attend. Branch at Norwich.
LONDON— Finsbury Sq., E.C. No. 35. ... King Wil- liam St., E.C. No. 30 ..... Mansion House, E.C., and 18 Queen Victoria St., E.C...	City of London Truss Society.  National Truss Society.  Metropolitan Hospital Sunday Fund.	Free by letter.  Free by letter. For appliances other than trusses two letters may be necessary, according to circumstances.  Minister must apply to the secretary, stating name, age and address of patient, and nature of appliance required. A letter of recommendation to a hospital will be returned, and at such hospital an order for the appliance will be obtained. Allowance, not exceeding £5, for any one appliance.
Salisbury Sq., Fleet St., E.C...	Surgical Aid Society.	By letter or equivalent payment. See also text. The number of letters requisite varies with the nature of the appliance required. Water beds and invalid chairs are lent on recommendation from subscribers. Branches at Bexhill, Croydon, Eastbourne, Hastings, Oxford, Portsmouth, Sunderland, and Tunbridge Wells.



SYPHILIS. *See* LOCK.

TEETH. *See* DENTAL.

THROAT, DISEASES OF. *See* CONSUMPTION and EAR.

TRUSSES. *See* SURGICAL APPLIANCES.

### URINARY ORGANS, DISEASES OF.

Town.	Name of institution and exact address.	Terms of admission.
Bath.....	Dispensary for Diseases of the Skin and Urinary Organs. 4 Church St.	No information.
LONDON— Covent Garden, W.C.	St. Peter's Hospital for Stone and Urinary Diseases. Henrietta St.	Free. No letter required.

### VACCINATION AND VACCINE LYMPH.

The experience gained in the small-pox hospitals and in every small-pox epidemic has proved that, where people have been properly vaccinated in infancy and re-vaccinated on attaining the age of puberty, almost invariably absolute protection has been secured against this loathsome disease. Recognising this truth, the Legislature has divided unions and parishes into vaccination districts, with the view of securing the vaccination of every child who is not unfit for the operation. There are public vaccinators appointed and paid by the Guardians to perform vaccination at appointed stations free of charge. The registrar of births has, on the registration with him of



the birth of a child not already vaccinated, or within seven days thereafter, to give notice to the child's parents or custodian, requiring its vaccination within three months. It is also the registrar's duty to inform the parents of the place and hour at which the public vaccinator may be found. After successful vaccination a certificate is sent by the public vaccinator to the vaccination officer, and a duplicate is given to the parents. If vaccination is performed by a private medical practitioner, the parent has himself to forward to the vaccination officer, within seven days of the operation, a certificate on a prescribed form, signed by the medical man, in testimony of successful vaccination. Any parent neglecting to have his child vaccinated, or to transmit a certificate of successful vaccination, is liable to a penalty of twenty shillings in each case. Some of the places from which vaccine lymph can be obtained are given on the following pages.

Place.	Name of institution and exact address.	Terms.
LONDON— Whitehall ...	Local Government Board. National Vaccine Establishment.	Lymph, both humanised and calf, is supplied only to legally qualified medical practitioners, on application either personally between 12 and 2 or by letter. Children are vaccinated gratuitously direct from the calf at the Government Animal Vaccine Station, 95 Lamb's Conduit Street, London, on Tuesdays and Thursdays, from 10.30 A.M. till noon.
Marylebone Rd., N.W. No. 186.	Dr. Renner's Establishment for Vaccination with Calf Lymph.	Lymph obtainable by purchase.
Pall Mall East, S.W. No. 12 ...	Association for the Supply of Pure Vaccine Lymph.	Lymph obtainable by purchase.



## WOMEN, DISEASES OF.

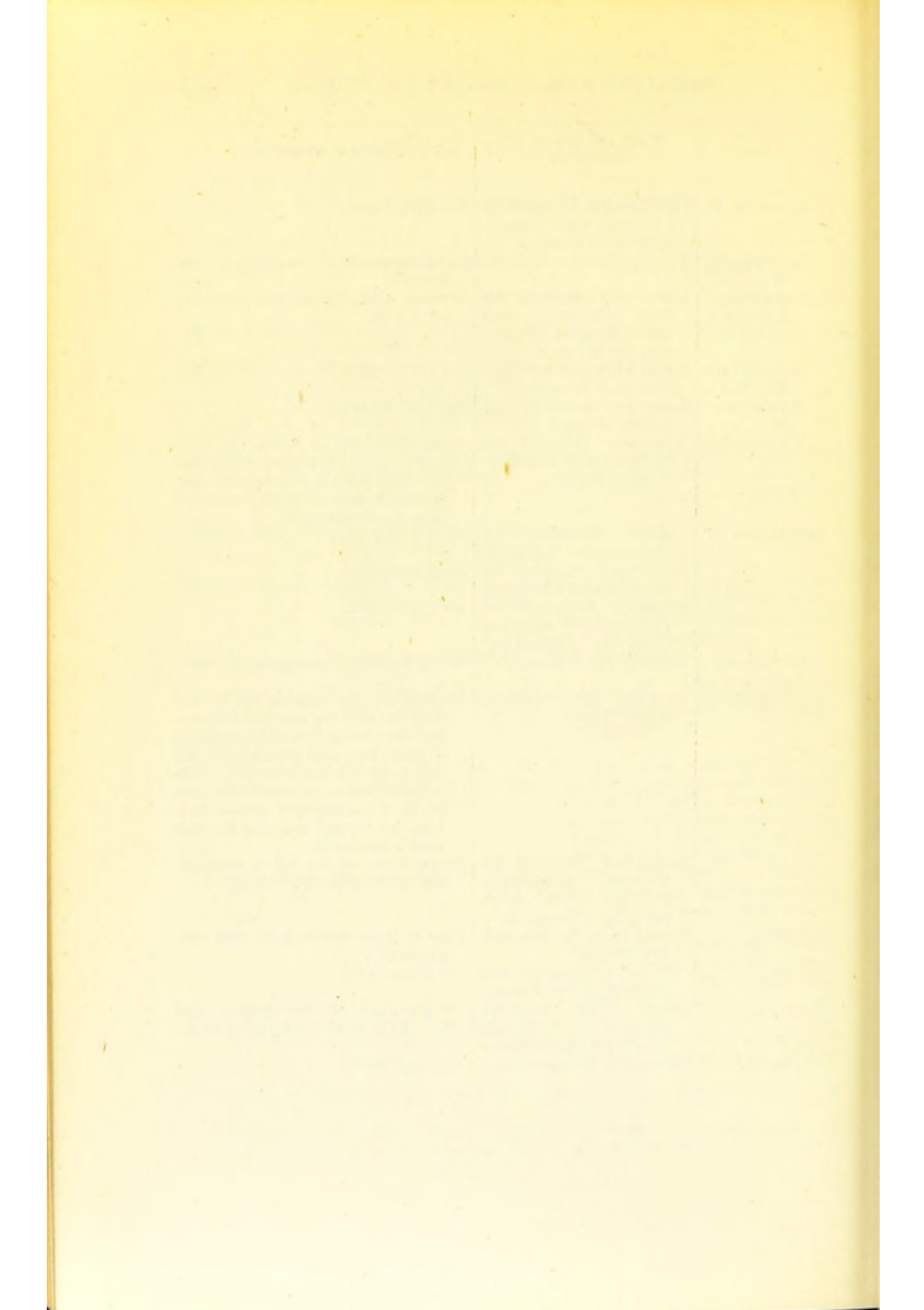
See also GENTLEWOMEN and PAY HOSPITALS.

Town.	Name and address of institution.	Terms of admission.
Birmingham ...	Birmingham and Midland Hospital for Women.	Free. No letter required.
Brighton .....	Brighton and Hove Lying-in Institution and Hospital, and Dispensary for Diseases of Women and Children.	See CHILDREN.
Bristol .....	Hospital for Sick Children and Women.	Women: In-patients, by payment according to means; out, 1s. 6d. first visit, 3d. each subsequent visit.
Cheltenham...	Cobourg Society and Dispensary for Diseases of Women and Children.	See CHILDREN.
Derby.....	Derbyshire Hospital for Women. 48 Bridge Street.	In-patients, 21s. a week in advance. Out-patients, 1s. registration fee, 6d. for each attendance, and 6d. a week for medicines.
Leeds .....	Hospital for Women and Children.	See CHILDREN.
Liverpool .....	Hospital for Women. 109 Shaw Street.	By letter free, or free if poor. If able are expected to contribute something.
LONDON— Chelsea, S.W. ....	Chelsea Hospital for Women. Fulham Rd.	Free by letter available for one month, or by payment from 10s. 6d. to £2 2s. a week. Out-patients with letter, free for one month; without letter, are charged 6d. for medicine.
Euston Rd., N.W. No. 144 .....	New Hospital for Women.	By letter and payment of from 2s. 6d. a week, but serious cases may be admitted free. Out-patients by letter or 6d. or 1s. entrance fee, and 2d. each visit, and if necessary are taken in without further letter. The visiting physicians are all women.
Marylebone Rd., N.W.	Samaritan Free Hospital for Women and Children.	Free. In the out-patient department a letter from governor is required if disease is <i>not</i> peculiar to women.
Osnaburgh St., N.W.	St. Saviour's Hospital.	See CANCER. Diseases of Women admitted.
Portobello Rd., W...	Portobello Road Provident Dispensary for Women and Children.	By payment. Non-members, 1s. per consultation.



Town.	Name and address of institution.	Terms of admission.
Shadwell, E.	East London Hospital for Children and Dispensary for Women.	<i>See</i> CHILDREN.
Soho Square, W.....	The Hospital for Women.	Out-patients free; in-patients by letter.
Sydenham, Lower, S.E.	Home and Infirmary for Sick Children, and South London Dispensary for Women.	Women attended as out-patients; 6 <i>d.</i> a visit.
Waterloo Rd., S.E..	Royal Hospital for Children and Women.	<i>See</i> CHILDREN.
Whitstone, N.....	Home for Incurable and Infirm Women.	<i>See</i> INCURABLES.
Westminster	Grosvenor Hospital for Women and Children. Vincent Square.	In-patients, 10 <i>s.</i> a week, or with letter, 5 <i>s.</i> A higher class received in private wards from two guineas a week. Children received as out-patients only.
Manchester....	Clinical Hospital for Women and Children.	<i>See</i> CHILDREN.
.. ..	St. Mary's Hospital for Women and Children.	<i>See</i> CHILDREN.
.. ..	Southern Hospital for Diseases of Women and Children. Clifford St.	<i>See</i> CHILDREN.
Newcastle-on-Tyne .....	Hospital for Women.	No in-patients; out-patients, free.
Nottingham ...	Hospital for Women. Castle Gate.	In-patients, by application to the matron or to the medical officers, and the production of a certificate of character, and payment of not less than 10 <i>s.</i> 6 <i>d.</i> a week. Out-patients pay 1 <i>s.</i> on admission, and 6 <i>d.</i> each subsequent attendance. Also 6 <i>d.</i> to the druggist for one week's medicine.
.. ..	Samaritan Hospital for Women. In-patients, Raleigh Street. Out-patients, 5 Broad St.	By payment of 10 <i>s.</i> 6 <i>d.</i> a week, or free with subscriber's letter.
Sheffield .....	Jessop Hosp. for Women. Gell Street.	Free by letter for both in- and out-patients.
Shirley .....	Children's Hospital and Dispensary for Women.	<i>See</i> CHILDREN.
Southsea .....	South Coast Medical, Surgical and Convalescent Home for Women.	By payment of one guinea and 12 <i>s.</i> 3 <i>d.</i> a week. Washing extra.
Weymouth ....	Weymouth Sanatorium.	<i>See</i> CHILDREN.







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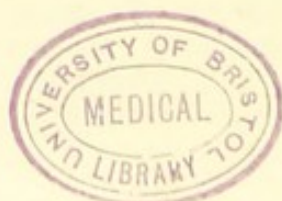
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