allowed to be constipated and if sodium bicarbonate is administered at the same time in double the amount. With the onset of acetonuria, vomiting, or drowsiness the salicylate should be stopped temporarily. I have been able to collect twelve cases of acid intoxication following the administration of salicylates, and in every one constipation had been present.

Arsenic, in spite of its general employment, ought not to be recommended, in my opinion. Its good effects are difficult to see, but its bad effects are occasionally only too obvious. Severe gastritis is apt to be set up, and not a few cases of arsenical neuritis have followed.

The good results claimed for ergot by Dr. Eustace Smith have not been obtained by most other physicians.

Sedatives such as trional, chloral, bromides, sulphonal, and chloretone are widely used. Of these sulphonal is far too dangerous a drug to employ in this condition. Chloretone is sometimes useful in doses of from 3 to 5 grains thrice daily; but, although it has only been used extensively for a few years, already cases of poisoning have been noted. To obtain sleep in maniacal or very restless forms of chorea, chloral and bromides are valuable, especially if combined with a warm pack.

After-treatment is important. When the chorea is no longer active, the child often remains apathetic, scarcely moving in bed, and occasionally refusing to speak. Good co-ordination may not be re-established for several weeks. Power is still feeble. In such cases absolute rest is no longer indicated, and does more harm than good. Massage and easy exercises should be employed, and the child should be encouraged to test her powers of motion and speech.

While still in bed such easy re-education exercises as touching the nose, apposing the fingers of the two hands individually, making figures or houses with bricks or dominos, and playing draughts, are all useful. Later, the cribbage board supplies a more difficult exercise, the patient being instructed to put the peg into particular holes—for example, into every second or fifth. Still more exacting is the building of card houses. The legs may be re-educated to perform co-ordinate movement in a similar manner. The following exercise is useful to begin with: Heel to toe, heel to shin, heel to knee, done first with one leg, then the other. Fraenkel's boards may be used when co-ordination has begun to improve. When the patient gets up the leg movements may be corrected still more by encouraging her to walk on a certain plank or along a straight line, or on a particular part of the pattern of the carpet. By such simple devices as these recovery may be hastened considerably.

ON AVOIDABLE DIFFICULTIES IN THE HAND-FEEDING OF INFANTS.

By EUSTACE SMITH, M.D., F.R.C.P.,

SENIOR PHYSICIAN TO THE EAST LONDON HOSPITAL FOR CHILDREN.

So much has been written on the subject of infant feeding that it seems almost to require an apology from any one who ventures to add another to the many contributions which are made on this subject. The comparative values of raw milk and sterilized milk, of whole milk and milk diluted, of the various proprietary foods, of the usefulness of added sugar and cream—all these matters are discussed and rediscussed, and not without benefit to the reader, for the results of a man's own personal experience can never be anything but welcome. One cannot, however, avoid remarking that the writers, ably as they descant upon their several views, rarely ask themselves why it is that the infant should so often show a helpless incapacity to digest the food provided for him however skilfully this may be chosen, or however carefully it may be prepared.

Now the majority of children at birth are healthy and fairly vigorous, and a healthy normal child has a digestive capacity which as a rule adapts itself readily to a food chosen with judgement—that is, with due regard to the age of the infant and the probable competency of its stomach. If the child give trouble and show signs of acidity and flatulence, it does so in most cases because the digestive organs are already in a state of derange-

ment. We must remember that a newborn baby is suddenly transported from a temperature of 100° F. in which he has grown and developed, to a temperature of 65° or 70°. This is its first shock: an abrupt drop of 30° or more in the warmth of its surroundings. The child is then, after more or less delay, bathed—often very leisurely; dried slowly, and afterwards laid quite uncovered upon his nurse's lap while she attends to the navel and sews on a flannel bandage. The exposure of the sensitive body during all this time, with little or no protection, to a temperature 30° below that to which it has been accustomed must constitute a second shock of no little severity. Many vigorous infants, no doubt, bear this exposure without obvious signs of injury, and if fed with discretion, especially if they have the advantage of a nurse's or mother's breast, give little trouble to their attendants. On the other hand, infants of low resisting power often by this means contract a serious chill which at once disorders the stomach and causes them to digest with difficulty even their mother's milk. They vomit after taking the breast or show signs of flatulence and discomfort, so that the mother, after a short trial, is instructed by her medical adviser to give up all idea of nursing, from the mistaken notion that her milk is unsuited to her child. If brought up by hand and fed from a bottle, such infants suffer still more urgently from vomiting, flatulence, and abdominal pain. For all this trouble the food chosen is generally held to be accountable, and change after change is made in the hope of hitting upon something which will be welcome to the stomach and put an end to the distressing symptoms, quite regardless of the fact that while the derangement persists no food can be expected to agree. If now the real nature of the difficulty be recognized and proper steps are taken, the signs of uneasiness begin to abate and finally disappear, for as the catarrh subsides the digestive processes recover their normal vigour. In that case the food last experimented with gets the whole credit of the improvement. But if the treatment be injudicious or incomplete, if the proper steps are not taken to avoid unnecessary exposure and protect the infant from further chills, the disorder of the stomach not only remains unrelieved but suffers almost daily a fresh impulse, so that that which was in the beginning a merely temporary upset becomes a confirmed disorder which drugs and changes of diet alone have little power to correct. It is only by attention to the simple cause of the trouble that we can have any hope of bringing the child's organs into a more manageable state and paving the way for his eventual recovery. Any one who examines an infant suffering from obstinate marasmus of this purely functional character will commonly find the feet icily cold, and probably the legs and thighs as well nearly as high as the hips. It is impossible that with such a condition of the circulation a child's digestive energies can be anything but unsatisfactory, and it is hopeless to expect an improvement as long as this state of things is allowed to continue.

It is by no means for the first time that I urge this vital matter upon the notice of the profession; but I find it very difficult to gain for it the attention it deserves. In spite of the consideration, which no one would venture to dispute, that to ensure completeness of digestion we must have healthy digestive organs to work upon, the means by which soundness of these organs is to be determined and maintained are too often completely ignored. The family practitioner is too apt to regard such domestic matters as washing, clothing, and nursery management in general as lying outside his province, to be left without hesitation or inquiry to the discretion of the child's mother or nurse. In some cases, no doubt, this can be done without risk of harm; but it is not every nurse, or even every mother, who is intelligent, careful, and accurate, and whose reports can be accepted as strictly in accordance with the facts. Without any intention to deceive, very wrong impressions may be conveyed; for loose thinkers are often poor observers, whose statements of fact must be received with caution, and only accepted if confirmed. Such persons are far too ready to mistake assumptions for realities, and to declare that to be right which they do not certainly know to be wrong. I should find it very difficult to say how often I have been told that an infant's feet were quite warm when the application of my hand has shown me that they were the exact contrary. I submit, then,

that care in these matters is as important—is even more important—than the choice of a food; and that a practitioner who neglects them is doing only half his duty, and is, moreover, setting up obstacles in his own path, and unwittingly creating difficulties which more prudent conduct would avoid.

I have ventured elsewhere¹ to formulate three simple rules for the hand-feeding of infants. These if carefully observed would, I am sure, make the rearing of bottle-fed infants a far easier matter than it often proves to be. I have no desire to claim any novelty for these rules, unless, indeed, it be new to bring simple reason and common sense to bear upon our task, taking account only of plain facts and leaving theoretical considerations on one side.

The first rule is directed to the maintaining of the warmth of the surface and the avoidance of chills from exposure:

1. Take care that the infant is bathed as quickly as possible in hot water, and that his feet and legs are never allowed to get cold.

The second rule aims at encouraging the digestive processes by variety of flavour in the food. This is a matter of great importance to hand-fed babies, especially to those whose digestive deficiencies have already been a cause of anxiety. An infant, it is true, will digest his mother's milk morning, noon, and night, and want no change. He is taking his natural food which his healthy organs are specially constructed to digest, and he draws it straight from the gland, fresh, pure, and uncontaminated by noxious germs. A hand-fed baby, on the contrary, whose food is only something like that provided by Nature, and is often far from pure, is apt to resent the monotony of his artificial diet. In any case, his stomach should have every advantage we can give it, and we learn from ourselves that variety in diet is an active aid to normal digestion. Therefore:

2. See that a sufficient variety of flavour is contained in the several meals.

It will usually be sufficient to give two differently tasting foods alternately in the day and a third for the night. In exceptional cases, however, a greater variety than this is required.

The third rule relates to cleanliness, etc.:

3. See that the feeding apparatus is absolutely clean, the food fresh, and the sanitary arrangements generally in good order.

Milk should be kept outside the living room; cream is only to be used when quite fresh; foods are not to be allowed to stand for hours after being mixed; and highly perishable articles, such as whey, barley water, etc., must be made fresh and fresh as required. At any rate, whey is not to be depended upon after four hours nor barley water after six.

These rules, as I have said, are nothing more than reasonable precautions, and any thoughtful person might frame them for himself. I believe the neglect of them—and that the first two are continually neglected no practical physician would venture to deny—is due to the attention of the family medical adviser being too entirely engrossed with the conflicting claims of the legion of foods, digestives, and modified milks which are pressed upon his notice; and also, and perhaps chiefly, to his feeling that the nursery arrangements are none of his business, and must be left to the attention of the person who is responsible for them. Experience has, however, shown me that this is leaning upon a very feeble support, too apt to fail us at our need. In any case, it does not absolve the medical attendant from the duty of himself keeping an eye on these matters, for I think I am quite within the mark when I say that more than half of the cases where difficulties arise in the course of hand-feeding—cases in which the infant digests with difficulty, frequently vomits, and suffers continually from flatulence and discomfort—are due solely to breaches of the above rules. Owing to neglect of these precautions many young children contract a catarrh during the first few weeks or even the first few days of their lives. This mishap may so heighten their susceptibility as to be a cause, not only of serious trouble during the first twelve months, but of much anxiety for years afterwards. In every case of

difficulty in the bottle feeding of an infant the practitioner should personally look into the conditions in which the child is being brought up, and do his best to remedy without delay any carelessness or neglect in the nursery. By this means he will be far more likely to bring about the result he desires than by any ingenuity he may show in devising a food, or care in prescribing the exact proportions of casein, sugar, and cream to be allotted to the several meals.

REFERENCE.

¹ See a paper by the author on "Infant Feeding" in the *Index of Treatment*. Bristol: J. Wright and Son.

ORAL SEPSIS IN GENERAL PRACTICE.

By ARTHUR MILLS, M.D.,

KINGSKETTLE, FIFE.

SOON after starting practice in this country district in Fifeshire I became impressed with the number of patients who sought my advice and who were suffering from what at first sight appeared to be a marked degree of anaemia. These patients were most frequently women, but, as a rule, considerably over the age that one associates with chlorosis. Their complaints were various in character, but usually referred to a disordered state of the digestive organs, want of appetite, flatulence, pain, and sometimes vomiting. Occasionally they volunteered the information that they had frequent "bilious attacks," or that they "suffered from their liver." On the other hand, the symptoms complained of were not infrequently those which could be more easily attributed to their apparently anaemic condition, namely, breathlessness on exertion, weakness, giddiness, and palpitation. Constipation was the rule in these cases, but rarely a very urgent symptom, and once or twice an attack of diarrhoea was the immediate cause of my being consulted. The one feature which led me to group these patients together as being of one type was the very evident pallor of the face and mucous membranes. The face had a pasty-white appearance quite unlike chlorosis, and the mucous membranes were decidedly pale.

At first my efforts in the way of treatment of these patients were directed to relieving the stomach symptoms with suitable drugs and diet, regulating the bowels, and then administering iron, the idea, of course, being to improve the blood condition, which I believed then to be the true cause of their trouble. The stomach symptoms were frequently relieved for the time being, but the blood condition appeared to be affected very little, and sooner or later the patient returned to repeat the story. All this was in marked contrast to the behaviour of a typical case of chlorosis which I treated about this time in the usual manner. The foul odour of the breath in one of these cases led me to make a more careful examination of the mouth than usual. I found that the patient had a large number of decayed stumps, that the gums were swollen and red, that they bled easily on pressure, and that pus could easily be expressed from between tooth and gum, in many places. I persuaded this patient to have her decayed stumps removed, ordered her a mouth wash of hydrogen peroxide, recommended the frequent use of a toothbrush, and afterwards prescribed iron in the usual manner. She made a rapid and complete recovery. Similar cases, and others where the condition of the mouth was by no means so evidently bad, responded equally well to this treatment.

According to Dr. William Hunter, the credit of having recognized the fact that indigestion may be caused by a foul condition of the mouth belongs to Professor Miller; but Dr. Hunter himself appears to have been the first to emphasize the importance of septic conditions in the mouth as a cause of disease.¹ He originated the name "oral sepsis," intending it to cover not only pyorrhoea alveolaris, which is only one (and a comparatively rare one) of a large number of possible pathological conditions in the mouth, but "every other form of trouble, dental and oral, producible by septic infection for which an appropriate adjective can be found," the essential feature of all being that they are produced by pus organisms.² It is in this sense that the term "oral sepsis" is now used, and it covers, amongst others, all such common conditions as dental caries, stomatitis (numerous forms), gingivitis, alveolar abscess, and pyorrhoea alveolaris.