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SOLID FOOD FOR BABIES

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*As we learn more (about infant nutrition) our present ideas will undoubtedly change, and the infant feeding of 1950 will probably be little like that of 1920' (Lewis Webb Hill, 1922).

There is a 'new look' in infant nutrition; one that would have made Czerny and Finkelstein gasp, Rotch and Truby King shudder, with its disquieting implication that babies are hardy creatures, not fragile, with digestive organs that are far from inadequate, indeed phenomenally good, and with its tacit admission that the artificial feeding of infants is a wonderfully easy matter, needing virtually no skill at all, only care.

Until recently, changes of fashion in infant feeding were so insidious as to be practically undetectable. It took some 3.000 years before it was accepted that solid supplements could be included in the baby's diet, not at the age of 3 years, but at 3 months. In this century, however, things have been gathering momentum, and in the last 10 years it has been accepted that solid food can be given to babies soon after birth. Thus, fable has become fact: It was some 2.000 years ago, according to legend, that ben Sira, newlyborn, disdained his mother's breast, and demanded solid food instead.1

The addition of solid foods to the diet of infants and children has a venerable and vexatious history which is only now drawing its many chapters to a close. The background, of course, is one of milk feeding, either by maternal breast, wet nursing, or dry nursing ('hand' or 'artificial' feeding). Against this background must be sketched first the addition of various gruels and porridges-from ancient usage the first to be added to a hitherto all-milk diet. Intimately bound up with the use of gruels is the subject of the eruption of the teeth, and the relationship of teething to weaning. Finally there is to be considered food other than gruels-these being virtually newcomers to the field of infant nutrition.

From the earliest recorded times until the Renaissance, infants were breast-fed or wet-nursed until perhaps 2 or 3 years of age. Such feeding often virtually excluded any other form of nourishment. In biblical times nursing lasted up to 3 years (2 Macab. 7 : 27). The Koran requires 2 years of breast feeding, though it does sanction earlier weaning (Surah 2, verse 233). Shakespeare's Juliet was nursed for almost 3 years (Act I, sc. iii).

CEREALS

As a general rule, some time during the 2nd half of the first year, thin gruels were cautiously added.

Hippocrates (460 B.C.)² advised that for the first 6 months only breast milk was to be used. The same opinion was voiced by Soranus (2nd century A.D.)2 who added that after 6 months bread crumbs soaked in water, milk or wine might be added. The practice of soaking bread in meat and vegetable broth has been ascribed to the earliest Greeks,³ and indeed, the advice on the use of bone and vegetable broth still found in modern publications, is no more modern than Galen.4 In ancient Egypt supplementary foods were begun after 6 months,5 and the Arabic physician Avicenna (11th century)3 recommended the use of bread soaked in water or sweetened milk. Jeremiah laments: The children and the sucklings swoon in the streets of the city. They say to their mothers, Where is corn and wine?' (Lament 2 : 11-12).

Such gruels as indicated above continued to be in general use in Europe until the Renaissance, when, with the massive increase in bad wet-nursing and in disastrous 'dry'-nursing (animals' milk), attempts were made to nourish infants on thin gruels long before the age of 6 months, and indeed such gruels played a most prominent part in infant nutrition even up to about 1850.2,8 In Europe such gruels were known as 'pap' and 'panada' and were usually given to infants with pewter feeding vessels of quaint appearance. Pap and panada consisted of bread crumbs, barley, rice, oatmeal, flour, or biscuits soaked or cooked in various fluids such as milk, water, broth, beer or wine. When of a formed consistency, pap was often pre-chewed by the mother or nurse before being placed in the infant's mouth-a procedure recommended by such authorities as Peachey (1697),3 and before him, Avicenna.2

Much was written about pap and panada after the Dark Ages when such cereals were offered at any time from one year of age to one month, or even earlier. Ambrose Pare (16th century)3 prescribed such 'solids' at 10 days. In liquid form large quantities of pap were fed to small infants, almost to the total exclusion of breast or animals' milk-and the results were catastrophic.

Metlinger (15th century) advised thin gruels when the nurse was ill or had little milk. Like Avicenna, he gave mixtures of bread, water, milk and sugar. He wrote: 'Children are to be nourished on gruel and milk until they cut their front teeth'. 3,6 On the Continent, in the 18th century, the use of pap from birth² (especially milk with barley flour) was widespread. By 1800 there was in use, from birth, not only pap and panada, but also barley water, soup, beer, rice, oatmeal and tapioca.³ One of the rationalizations for the early use of these foods was that their introduction before 6 months helped to establish the habit of giving solid foods (Alexander Hamilton, 1792).4

A little consideration will make it clear that the use of cereals after 6 months, as well as virtually from birth, is very much in evidence today. There are many babies who are given no porridge until they are 6 months old, while other infants have cereals placed in their bottles during the first few weeks-even days-of life.

Among some of the Bantu people feeding practices show even greater similarity to those current in Europe 200-300 years ago. On the one hand, infants may be fully breast-fed and not get cereal supplements for 6 months or longer, and on the other hand, some of them may be brought up, become malnourished and die on a diet of pap-porridge cooked in water or black tea, with an occasional addition of overdiluted milk, or perhaps a desultory suck on an inadequate breast.

With the emergence of safe milk in the late 19th century, coupled with the production of reasonably satisfactory glass feeding bottles, the habit of very early gruel feeding receded beyond the 6-month barrier. Any solid supplement was considered unsuitable much before a year, though in deference to tradition, cereal continued as the first addition to an all-milk diet.

From about 1850, when safe milk was introduced, until the turn of the century, big business in baby foods made its appearance and flourished. Understandably, the products available for sale consisted of various types of milks, of cereals, or of mixtures of the two. By the early 1900's there was a bewildering array of proprietary infant foods. Some of the better known brands were: Allenbury's, Liebig's, Borden's, Prince of Wales', Mellin's, Horlick's, Savoury and Moore's, Robb's, and Robinson's food, and the better known milks included: Swiss milk, Biedert's cream, Gartner's milk, von Durgern's renneted milk, Szekely's casein-free milk, Voltmer-Lahrmann's pancreatized milk, Backhouse's milk, Mortis' whey milk, Vigier's humanized milk, Lehndorf and Zak's dialized milk, Feer's milk and Schloss' milk.

In 1884 Eustace Smith⁷ permitted the use of 'farinaceous' foods at 6 months. In the 1920's starchy foods were generally authoritatively recommended to be begun at 9 or 8 months,⁸ in the 1940's at 6 months,⁹ and in the 1950's at 3 months.¹⁰

WEANING AND TEETHING

The introduction of solid food to an infant's diet cannot be understood without reference to the times of dental eruption. Weaning is intimately bound up with teething, and the subject of the appearance of the deciduous teeth dovetails nicely into the saga of supplementary foods.

In earlier times the matter of weaning was of considerable importance, especially the termination of weaning. Today it is the beginning of weaning that is of interest and its termination is unimportant. Indeed, the very meaning of the term has altered. In former days weaning indicated the time for the introduction of food other than breast milk. Today weaning means the addition of 'solid' food to a hitherto all-milk diet—cow's as well as breast milk. Indeed 'weaning' has become a redundant term; we can quite easily dispense with it entirely. Weaning means no more than the introduction of 'solid' food to a baby's diet.

But there were times when weaning had a pronounced and resounding end. Weaning was a long discipline, beginning usually when the first deciduous teeth appeared, and ending with the eruption of the last primary teeth. Until such time the principal item of diet was breast milk. Indeed that is precisely why the deciduous set are termed 'the milk teeth'. It was only after the final milk teeth had appeared—somewhere between 2 and 3 years—that a child was considered sufficiently mature to deal with an 'adult' diet.

The last feed was often a public occasion ('And Abraham made a great feast the same day that Isaac was weaned' Gen. 21 : 8). The nipple was smeared with pepper, aloes or some other vile substance and the breast offered to an unsuspecting child. Puzzled and enraged, the child recoiled from the breast. Once more, perhaps, the breast was offered, and weaning was complete! Such dramatic weanings were common in Europe until as late as 1800.

It seemed self-evident that solid food should only be introduced when there were teeth present to deal with it, with the result that from earliest recorded antiquity we have advice about introducing cereals at about 6 or 7 months.

Soranus wrote that supplementary foods (bread crumbs soaked in various fluids) could be given when the first teeth appeared, and added that it was unnecessary to delay weaning in girls until they were a year old!³ Hippocrates suggested that food other than milk should be introduced so as to coincide with the appearance of the teeth.²

Such views on the most suitable time for introducing solids have been echoed down the centuries until about 1950. Thereafter a new criterion has been suggested for the introduction of solids: the ability of the infant's tongue to transfer food from the front of the tongue to the back of the pharynx. This criterion¹¹ has permitted an aura of respectability to the giving of solid food at 3 months.

But from the 15th to the 18th century, when there was a rapid spread of disastrous wet-nursing and hand-feeding, the only alternative was to offer greater quantities of liquid pap and cereals at earlier ages—even soon after birth—without reference to the appearance of the teeth. While numbers of writers held that pap should only be introduced when the front teeth appeared (Underwood,¹² 1784), probably the majority of infants in Europe from the 15th to the 18th century were fed (and usually died) on a highly dilute pap (with occasionally sufficient breast or animals' milk) from earliest infancy—as advocated by Metlinger (1473) and others.⁶

Now, although by 1800 there was general agreement that solids should not be given until 6 or 7 months (some more conservative writers held that it was wise to wait until 4 incisors were through), there was a distinct difficulty about using dental eruption as a yardstick for weaning—a difficulty well known to all scholars. For one thing, teeth might not appear for a year or longer. For another, there was widespread knowledge concerning the Roman hero Marcus Curius (250 B.C.) who, having been born with teeth, became known as Marcus Curius Dentatus.¹³ When should one begin cereal feeding under circumstances like these? And he was not the only child born with teeth—among the more famous examples were Richard III of England and Louis XIV of France.¹³

By 1800 it was also realized that milk was not a perfect food and that solids too were important for infant nutrition. Armstrong (1771)² had in fact stated that it was unnecessary and undesirable for breast feeding to last until all the teeth appeared, and that 18 months' nursing was sufficient. Underwood (1789)³ was content with 12 months. By 1850 it was clear that the end of weaning had nothing whatever to do with the teeth, and that a year-and-a-half's nursing, or even a year's nursing was sufficient.

If, however, the end of weaning was not associated with teething in 1850, the beginning of weaning still was for at least another 75 years. In 1922 Eric Pritchard wrote that at 9 months 'a certain amount of solid food is indicated owing to the eruption of the teeth'.⁸

By the 1950's a certain amount of solid food was permitted at 3 months by virtue of the new criterion that the tongue was able to transfer food to the pharynx.¹¹

Perhaps by the 1960's solid foods will be permitted even earlier, based on the criterion that infants, like adults, are after all human?

NON-CEREAL SOLIDS

It is probable that foods other than gruel played some small part in the nutrition of young children in earlier times.

Among the dynastic Egyptians, vegetables were introduced after some 6 months of breast feeding.⁵ Fruit and vegetables, and perhaps even meat and fish were probably used sparingly until the completion of weaning. The *Bible* laid down detailed laws on what might be eaten among fish, flesh and poultry, but oddly enough, eggs as an article of diet is not mentioned in the Pentateuch.

Oribasius, a 4th century Turkish physician, best known for the excellence of his unacknowledged plagiarism of Soranus, advised against the use of meat for small children. 'Meat is bad' he wrote, 'and also thick soups'.⁶ Subsequent opinions on meat for babies remained practically unchanged for the next 1,500 years. Metlinger, in the 15th century, wrote that meat caused worms to grow, especially if it was 'strong' meat, and given in too great a quantity.⁶ He permitted a small amount of finelycut well-cooked lean meat during the second year.³ In the 16th century it was common practice to give minced poultry at 15 months and red meat at 2 years (Guillemeau).⁴

Peachey (±1700) gave chickenbroth after the completion of

weaning, followed by 'flesh of easy digestion'-if necessary, pre-chewed by the nurse or mother.⁸

In the late 18th century, a 'Ladies' Journal' published in America wrote an account of what must have been the general views on infant feeding at that time. The best foods for children, according to this article, were milk, bread and cereals, while a small beer (!) was also desirable for boys. Plain dry bread was the ideal food. Fruit was unsuitable for small children, and meat might be tried at 3 or 4 years, and even thereafter not more than once a day.²

'Since they overstimulate the appetite', stated the Journal, 'spices or salt are not to be used. Fruit is not good. Children, though, are not to be forbidden all fruits, for such a course would result in bribery of servants or some other surreptitious device for obtaining them'.⁶

In England, in 1742, Walter Harris complained that some children sickened and died as a result of getting meat too early;² but it is probably unlikely that mothers were as terrified of feeding children as were the authoritative writers. Caufield notes the remarks of the American colonial mother who was proud and happy to feed her 8-months-old son his usual dinner of fat pork and Indian cake.¹⁴

About 1880 Eustace Smith wrote that he gave no meat until well after a year,⁷ and until about 1925 babies were considered to have such delicate digestions that nothing but milk and cereals were to be given before the age of a year. Thereafter egg yolk might be tried, meat offered at about 2 years, and bananas even later.

But the picture is not quite so bleak. Every now and then an enlightened soul dared to give some solid food at an early age. Paul of Aegina (7th century)⁶ offered eggs shortly after 6 months. Vallambert (1565) added egg yolk to pap for use at 3 months.⁴ About 1770 the redoubtable Armstrong tried broth and beef tea at 5-6 months and minced chicken a few months later,² and the remarkable Dr. Cadogan fed babies of 6-8 months on bread and butter, vegetables and roots of all description, raw, stewed or baked fruit, and even flesh-meat.^{2,3} In 1773 Fordyce³ complained that some infants were being fed on meat, strong broths, buttered rolls and muffins even before their teeth had appeared. By 1800 it was not uncommon for egg yolk to be used in the making of pap.

In 1825 potatoes might have been offered occasionally at 9 months of age.¹⁵ Towards the end of the century Eustace Smith gave the yolk of an egg at 10 months as well as weak broth of beef, veal and mutton.⁷ A light pudding was allowed at a year, and meat only later.

The first quarter of the 20th century was one of great fear of feeding a baby at all. Overfeeding was the great bogey, and virtually all foods were accused of producing 'intolerance'. In 1922, therefore, it was reasonable to expect an authority on infant feeding of the calibre of Hill to complain about the perilous extremism of some of his contemporaries who were offering potatoes and other vegetables as early as at 8 months. He writes: 'In this country, in recent years, the practice of giving vegetables to small babies has been pushed to an extreme, and we often see babies of 7 or 8 months who are taking large amounts of potato and other vegetables'.¹⁵

Nothing daunted, in 1924 Jundell of Sweden proceeded to feed 6-month-old infants on minced meat, fish, eggs and vegetables.¹⁷ Such feeding at an early stage was given a great impetus by the discovery of the importance of vitamins, and in the 1930s solids were occasionally allowed as early as at 4 months. Glazier¹⁸ (1933) wrote an account of the introduction of solids at 2-3 months. Ten years later, while most respectable paediatricians still advised solids no earlier than 6 months, there was an astonishing report by Stewart who fed gruel by spoon from the 3rd day. That was nothing remarkable of course, but he also fed fish, sardines, carrots and peas in their skins to infants of 1-2 months.¹⁹

MODERN RADICALS

During recent years, while conservatives such as Sheldon (1955)²⁰ are content to wait until 6 months, and liberals usually begin at about 3 months, the radicals have given solids just about from birth—even to premature babies.²¹ The radicals are enthusiastic about it, believing that very young babies fed on meat are healthier, happier, sleep better and have fewer colds and higher haemoglobin values.²²

Since 1946 Gough in Quebec has been giving orange juice to 7-day-old infants, followed by cereal and then at 12-14 days by fruit (including pears and prunes). At 3 weeks the baby is given meat and whole cow's milk. Thereafter vegetables, egg yolk, more cereals, egg white and more meat are given.⁴³

Not to be outdone, Sackett of Miami (1956) gives cereals on the 2nd day, vegetables at 10 days, meat at 14 days, fruit at 17 days—at which time he drops the midnight feed and tries to institute a regime of 3 meals a day. The babies are then given their proper meals (rather than drinks) at 6-hourly intervals. He writes: 'An attempt is made to convince the mothers of the wisdom of making the babies conform to adult lives, rather than making the family adjust to the demands of the baby.'²⁴ This is certainly behaviour therapy with a vengeance!

In the United States most babies cared for by the younger paediatricians now start on solids before 3 months. The much advertised cereals are often given first—either by spoon or in the bottle. The principal reason for beginning with cereal is that it is traditional. Modern cereals are derived from the pap of earlier days. Tradition often has a great deal to recommend it, but it seems that in this instance tradition is not based on a firm foundation. While newborn babies are not generally lacking in digestive capacity, the one enzyme that is not infrequently deficient is amylase—for the digestion of carbohydrate.²⁴

Since 1955 I have been feeding solids to very young babies. I have begun as early as 10 days on the arrival of the infant from the nursing home, or as late as 3 months. Not all babies take to it and a great deal depends on how the other children in the family were fed and on the opinions of parents, grandparents, relatives and friends.

A few infants are unhappy on solids begun before about 3 months. Others love it and will take virtually anything placed in their mouths. I have seen 3-week-old infants gorge themselves with half a banana and sigh with contentment. The large majority of very young infants take readily to solids, but many of them have pronounced dislikes—often for eggs and for the baby meats produced (in glass containers) by various manufacturers. Sometimes heavy sweetening of these foods will make them acceptable, or even using a different brand of 'chicken and vegetable' may prove successful.

Somewhere about 6 weeks many mothers become restless and bored with the same daily routine, and long to add something else to baby's diet. Frequently they pluck up sufficient courage to try a bit of chocolate, and thereafter further additions are easy. Indeed, somewhere around 7 or 8 weeks, when many infants sleep through the night, it is not at all difficult to adjust the diet to coincide with 3 meals a day—especially if the infant has been taking solids well for a few weeks earlier,

I normally begin feeding solids with bananas, or occasionally with chocolates. These are given towards the end of a breast or bottle feed. The solid is placed on the back of the tongue by means of a small teaspoon. Bananas have a number of advantages as an initial food: (1) They are seldom refused (the great majority of infants love bananas) (2) they are very easy to mash and to give by spoon and (3) mothers gain confidence in noting how readily their infants take to bananas and have no qualms about offering other solids.

Most babies prefer their solids towards the end of a feed, and the solids can be given 3 times a day. There is no need to proceed with fear and trepidation. Indeed, there is no reason whatever for not giving a whole egg for breakfast if the infant obviously likes it. Within a week of giving solids for the first time, 10 or more different articles of diet may be introduced.

Apart from bananas and chocolates, other foods which may be given (singly or mixed) include custard, ice cream, soups and juices, apple sauce and various canned fruits such as peaches (especially liked), pears, apricots, guavas and prunes; also vegetables like squash, peas, pumpkin, carrots, pawpaw and avocado pear. All these are more cheaply prepared in the home rather than purchased readymade. Also suitable for babies, but particularly so at 4-6 weeks, are whole egg, strained liver and meats (best purchased rather than prepared-the texture of prepared meats may not be sufficiently fine), boiled fish, sardines (easily mashed with milk), peanut butter (with added milk) and finely grated cheese (in milk). Finely pounded bacon can be made semi-liquid with the addition of egg yolk so that there is no need to deny babies the traditional breakfast of bacon and eggs! Less important foods are potatoes, rice, jelly, jam, puddings, semolina, the much advertised cereals and finger biscuits mashed in milk. 'Marie' biscuits are unsuitable as bits tend to stick to the palate.

Solid foods are poorly named; most of them, in the form given to babies, are more liquid than solid. Milk itself is a unique solid—this is quite obvious when vomiting has occurred some time after a feed. Gastric enzymes turn milk into solid clots before it is digested. Milk is a solid disguised as a liquid, so that in any event babies are getting solids right from birth.

Solids must share 3 properties with milk: (1) They must be sterile, or at least not subject to ready contamination, (2) like the curd of milk, the texture of the solid should be as fine as possible and (3) the vehicles used for solid feeding must be sterile. These include cups, saucers, knives, forks and spoons and they are much easier to keep sterile than bottles and teats.

ADVANTAGES AND DISADVANTAGES OF FEEDING SOLIDS

Advantages

It seems to me that the principal advantage of the use of solids is the demonstration to the mother that her baby is not a frail, fragile creature, that it does not have to be handled with needless restrictions, and that fantastic and intricate formulas derived from various emasculated milks are not necessary in baby feeding. The use of solids illustrates the truism that babies are human. The advantages of giving solids before 3 months are exactly the same as giving them before 6 months ... 12 months ... 3 years....

My impression (and it is *only* an impression) is that infants who are used to a wide variety of foods very early in life give little trouble by refusing food later in the first year.

Another impression is that babies fed on solids are happier, sleep better (because the emptying time of the stomach is longer?) and that they are less subject to colic than those fed only on milk.

Another advantage is that it is a good thing to teach an infant the use of the spoon. Moreover, babies getting a

wide variety of solid foods do not need vitamin supplements. These substances are not always innocuous. There is no substitute for good food, even in earliest infancy.

Disadvantages

Strenuous objections to early feeding of solids have been voiced. The principal objection is that of precipitating allergic reactions. Thus far there is no evidence to support such a fear,²⁸ and I doubt that it has any validity. However, this is a subject about which we need more facts and less opinions.

The danger of choking when an infant is given solids comes to mind, but I have never found this a factor to be seriously considered. I also do not believe that giving solids as such interferes with the incidence and duration of breast feeding.

The question of overloading of the kidneys, must, however, be seriously considered. If too many solids are given, there may be insufficient water intake to deal adequately with the solute load,²⁶ especially in bottle-fed babies. If we assume that the infant's kidneys can only deal with a total solute load of about 700 m0s/litre²⁷ (adult maximum about 1,400 m0s/litre), the water available for the excretion of a large solute may be insufficient, especially during hot weather or when diarrhoea is present, and a state of hyperosmolarity may result. In this respect it is important to note that babies do not differ from adults. They require water, especially if they are feverish, or if they are losing water by vomiting, diarrhoea, perspiration or respiration. The important factor in the feeding of solids to very young babies is certainly not quantity, but variety.

Finally there is the canard of food tolerance, especially fat intolerance. There is a widespread fear among lay people of giving any kind of solid food to babies, and this fear is nothing more than a result of earlier views on the delicate nature of babies and on the intricate skill which was supposedly necessary for their correct feeding-skill incidentally, which was little more than an exercise in starvation. Ingrained views on intolerances, dyspepsias and indigestions are responsible for the fear of feeding infants not only with solids, but also with undiluted cow's milk. Radical views are heresy to those whose first query is 'but isn't it too strong'? The whole subject of digestion and indigestion in infancy has been dealt with most admirably by Gans,28 in a forthright attack on outmoded concepts of feeding. His paper should be compulsory reading for any student who aspires to feed babies intelligently. Suffice it to say that very young infants have most efficient digestive organs, and that indigestion (except during intercurrent illness) simply does not exist. If intolerance to food does occur, the intolerance is likely to be in the kidney, not the gut. Fat absorption and utilization in infants are especially good.

The Committee on Nutrition of the American Academy of Pediatrics has investigated reports on the early feeding of solids and, on the evidence thus far available, has not yet been convinced of the superiority of such a practice, and has taken a stand on the matter which might be termed one of negative neutrality. The Committee can detect * ... no nutritional superiority or psychologic benefit from introduction of solid foods ... prior to $2\frac{1}{2}$ to 3 months of age'.²⁶

THE FUTURE

Having scrutinized the past and examined the present, let us look into the future. There seems little doubt that the giving of food to infants is no different to the giving of food to adults. Age is no criterion. Very early feeding of solids will become increasingly widespread, but the novelty will wear off, just as the novelty wore off after beginning weaning at a year, 9 months ... 6 months ... 4 months ... 3 months. The opinion on early feeding will probably be that it is generally beneficial, and in 10-15 years we might note some questions and answers as follows:

Mother: Shall I give my baby solids?

Doctor: Yes, if you want to.

Mother: When can I begin?

Doctor: Whenever you feel like it; it's not an important question.

Mother: What foods can I give?

Doctor: Anything you wish, as long as the food is clean and finely mashed.

Mother: At what times should I give the solids?

Doctor: Whenever you feel like, or when you think your baby would like it.

Mother: How much at each feed?

Doctor: As much as the baby wants, but variety is more important than quantity.

Such replies might be exasperating in 1959, but will be perfectly acceptable in 1969—indeed the answers will not even be given, nor the questions asked, for these matters will be common knowledge and everyday practice.

SUMMARY

An account is given of the feeding of solids to babies, beginning with the views of earlier days, present practices and tendencies, and a glimpse into the future.

Gruels of one type or another have always been used as the

first solid of weaning, and their introduction is intimately bound up with the times of the appearance of the deciduous teeth. Solids other than gruels have been used sporadically since antiquity and are at present ousting the cereals as the first food to be given during weaning.

Solids are often given during the first few weeks of life, and in general this practice is beneficial.

RFFERENCES

- Schechter, S. (1938): Studies in Judaism. Philadelphia: Jewish Publication Society of America.
- 2. Bracken, F. J. (1954): Maryland Med. J., 5, 40.
- 3. Wickes, I. (1953): Arch. Dis. Childh., 28, 151.
- 4. Drake, T. G. H. (1931): Ann. Med. Hist., 3, 289.
- 5. Castiglioni, A. (1947): A History of Medicine. New York: Knopf.
- 6. Davidson, W. D. (1953): J. Pediat., 43, 74.
- Smith, E. (1878): On the Wasting Diseases of Infants and Children, 3rd ed London: Churchill.
- Pritchard, E. (1922): The Physiological Feeding of Infants and Children, 4th ed. London: Henry Kimpton.
- Jeans, P. C. and Marriott, W. McK. (1947): Infant Nutrition, 4th ed. St. Louis: C. V. Mosby Co.
- Paterson, D. and Newns, G. H. (1955): Modern Methods of Feeding in Infancy and Childhood, 10th ed. London: Constable.
- 11. Bakwin, H. and R. M. (1953): Clinical Management of Behaviour Disorders in Children. Philadelphia: W. B. Saunders Co.
- 12. Drake, T. G. H. (1930): Amer. J. Dis. Child., 39, 1049.
- 13. Samson, E. (1939): The Immortal Tooth. London: John Lane.
- 14. Caufield, E. (1952): J. Pediat., 41, 673.
- 15. Dewees, W. P. (1825): A Treatise on the Physical and Medical Treatment of Children. Philadelphia: Carey and Lea.
- Hill, L. W. (1922): Practical Infant Feeding. Philadelphia: W. B. Saunders Co.
- 17. Jundell, I. (1924): Acta paediat., 3, 159.
- 18. Glazier, M. M. (1933): J. Pediat., 3, 883.
- 19. Stewart, C. A. (1943): Ibid., 23, 310.
- 20. Sheldon, W. (1955): Diseases of Infancy and Childhood, 7th ed. London: Churchill.
- 21. Sisson, T. R. C. et al. (1951): Pediatrics, 7, 89.
- 22. Leverton, R. M. et al. (1952): J. Pediat., 40, 761.
- 23. Gough, W. F. (1953): Canad. Med. Assoc. J., 68, 544.
- 24. Sacket, W. W. (1956); G.P., 14, 98.
- 25. Nelson, W. (1954): Text-book of Pediatrics, 6th ed. Philadelphia: W. B. Saunders Co.
- 26. Hill, L. F. et al. (1958): Pediatrics, 21, 685.
- 27. Colle, E. et al. (1958): Ibid., 22, 5.
- 28. Gans, B. (1958): Med. Press, 239, 470.