The Natural & Hygienic Care of Children

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One Introduction

It is a birthright of every child to be healthy. Yet, in spite of all our advancements in the sciences and medicine, the health of our children and the survival rate at birth leaves much to be desired. Our children are the next generation, and if their health is substandard, the health of the nation will subsequently be substandard. This will in turn manifest itself in the deterioration of our civilisation and standards of living. It will not require a cataclysm, holocaust, or other disaster to end our civilisation. It will, of its own volition, destroy itself, and all of us with it.

This is only one possible future, however, and we may still avoid it by correct action. But to motivate us to change our ways, we need to accept the reality of the situation.

At present it would appear that we are moving in the positive direction of taking more responsibility for our health. The media tells us that more and more people are turning from orthodox medicine, and are looking to alternative methods for the alleviation of their ills. I commend them for doing so, as, although many of the "alternatives" vary little from orthodox medicine in their practice and philosophy, the remedies used are usually less harmful. Additionally, "alternative" practitioners generally advocate a much-improved lifestyle over that normally recommended, including the eating of organic foods and more raw foods, exercise, and fresh air and sunlight.

"Isn't this enough?", I hear you say. And I reply, "No, it is too little, too late." In the words of the Medical Panel, Cheshire, in 1936: "We are two to three generations too late." In addition, as when we have had this kind of renaissance in the past, we will slowly but surely drift back into our old habits and become dependent on drug medication with its so-called "miraculous" cures, and invasive surgery with its so-called "life-prolonging" measures such as transplants, etc. Why is this? The simple truth is that in spite of our so-called "enlightenment", we really have not changed anything very much. We are still dependent on some form of remedial agent, be it so-called natural, herbal, homoeopathic, etc. We are still looking for some form of "curative" agent outside of the body, some magical pill or potion to cure the disease or ailment that has been diagnosed as being the cause of our ill-health or indisposition.

Until such time as we accept the simple fact that the human organism is a self-healing, self-reparative organism, we will continue to be slaves to the remedy-taking syndrome. As we have enumerated on many previous occasions in this course, "Before we can change things on the physical level, we must first change them on the mental level." We must in fact change the paradigm by which we live. We must change the philosophy by which we live, if we are to be truly successful in our quest for our health and that of our children. We must abandon old "truths" and accept new ones. They may not be new in the true sense of the word, for there is very little "new under the sun", only re-discoveries of old truths which have been lost or forgotten, or disregarded in our headlong rush down the path of "progress".

My own personal background has been in agriculture, horticulture, and animal husbandry. As in the realm of human health, these fields are going through the process of using all sorts of chemical agents and poisons and, along with us the consumers, are suffering the consequences. Like human medicine, they are learning that they must abandon these destructive ways if they are to survive in the long term. They, too, are looking to "alternatives", but also without realising that nature is self-reparative. We will only be able

to produce healthy food when we accept that the insect pest or disease is "nature's monitor" telling us that something is wrong, be it in the soil conditions or environment, and that we should correct the cause and not just treat the effect. Until we reach this realisation we will not provide the correct conditions necessary for the production and rearing of truly healthy children.

What is required is a whole re-evaluation of the principle and practice on which our society is based. We need to realise that poisons are designated such because they are poisonous to our organism. A poison remains a poison even when it is socially acceptable to take it. Substances such as alcohol, tea, coffee, tobacco, proprietary and medical drugs, whether prescribed or not, are detrimental when introduced into our bodies. Prescription of a poison, regardless of the training or social status of the prescriber, does not render it any less poisonous. To quote Dr. William Osier:

"We are prescribing poisons, of which we know little, for disease, of which we know even less."

Clearly, continuing down this path will lead to disaster. The sooner this realisation comes to society, the sooner we will take steps to remedy the situation, and the better will be the prospects for our children and the continuation of our species.

Two Preparation

In the breeding of all species of domesticated animals we take great care to choose the animals—both dam and sire—from which to produce offspring. In the case of the mother, care is taken to ensure that the pelvic area is sufficient for easy birth of the child, that she does not have a history of aborting or producing deformed offspring. In the case of mammals, we ensure that the mother can provide an adequate milk supply. First and foremost, we ensure that she is in the best of health by providing her with those things which are necessary to produce such a state. And in our efforts to secure such a state, we look to providing her with adequate care, by way of food and protection from the elements. All this and more.

With respect to the sire, or father, we look to all of the above as they apply to the male of the species. In our endeavour to ensure that the young will be of the highest calibre in all respects, we pay particular attention to the bloodlines from which he came. We pride ourselves greatly on the lengths we will go to in our continued search and application in this area.

Millions of dollars have been spent in the ongoing investigation for ways and means to improve our expertise in the area of animal husbandry. When we look at the area of human health and reproduction, we find very little exploration or emphasis on these areas. Yet this is the very place where the greatest emphasis should be placed—especially as all that comes after is almost wholly dependent on our actions at this stage.

By contrast with the care we take with animals in these areas, we humans are particularly lax in these aspects of our own lives. In civilised countries we have made a virtue of many of the things that are inimical to our own well-being. The slim-hipped, narrow pelvis has been made the "fashion-plate" of our society. So prominent has this become that it is almost impossible to differentiate between men and women when the body-line is viewed from the back. Many women in our society today have been so grossly educated in this matter that they consider themselves grossly deformed if they have the broad hips that go with a naturally-developed pelvis. The same is true of the extra weight that is normal for the feminine body. This is the weight that gives the roundness of the female over the angularity of the male. The end result is that many women continually strive to lose weight even though their weight is quite normal and natural. This results in the condition of anorexia, usually followed by bulimia—binge and purge.

You should now readily understand our emphasis on the area of preparation for the conception, birth and subsequent care of a healthy child.

Birth defects and certain learning disabilities and behavioural disorders have their roots in the health of the parents before conception and during pregnancy. This fact has been more and more highlighted as latter day technology has been able to confirm the links. Until this confirmation, our knowledge in this area was of an empirical nature. It was, however, no less valuable or valid because of this.

In indigenous peoples we find that much emphasis is placed on the habits and diet of both parents prior to conception, then of the mother during pregnancy, and the subsequent care and feeding of the child till it is weaned. In our present day society, however, little or no emphasis is placed upon the habits of the mother prior to conception, very little more during pregnancy, and even less during the period after the child has been born and is being breast fed. In addition, although heredity, genetics and drugs, including

alcohol, are recognised as factors in causing abnormalities of the foetus and newborn infants, very little of practical value is being carried out to address these problems in our society today. As early as 1958, the British Prenatal Mortality Survey provided information about many of the antenatal factors that are likely to result in impaired foetal growth. They wrote, as quoted from A. J. Keay and D. M. *Morgan, The care of the newly born infant,* pp57:

"Many of these factors can be included under the general heading of socioeconomic, and it is important to realise that improvement in the standard of living and of the health education of a community is of prime importance in maintaining foetal health and reducing perinatal mortality. This is a function of national and local government and is slow in producing an effect."

In this survey, carried out over forty years ago, we see the acknowledgment of the prevailing authorities that there is a need to deal with the problem of foetal health well prior to the birth, in fact well prior even to conception. It acknowledges that we need to look at the socioeconomic factors, the causes, that is those factors that cause the mothers and fathers to live in ways that are inimical to the conception and subsequent well-being of the foetus.

I would like to take us back even further, into the 30s, and quote from the medical Testament of the County Palatine of Chester, Local Medical and Panel Committees, as mentioned in Dr. Picton's *Nutrition & the soil,* pp40:

"Our daily work brings us repeatedly to the same point: 'This illness results from a lifetime of wrong nutrition'. The wrong nutrition begins before life begins. 'Unfit to be a mother'—from undernutrition or nutritional anaemia—is an occasional verdict upon a maternal death. For one such fatal case there are hundreds of less severity where the frail mothers and sickly infants survive."

They continue, pp49:

"Though we bear no direct responsibility for such problems, yet the better manuring of the homeland so as to bring an ample succession of fresh food crops to the tables of our people, the arrest of the present exhaustion of the soil and the restoration and permanent maintenance of its fertility concern us very closely. For nutrition and the quality of food are paramount factors in fitness. No health campaign can succeed unless the materials of which the bodies are built are sound. At present they are not.

"Probably half our work is wasted, since our patients are so fed from the cradle, indeed before the cradle, that they are certain contributions to a C3 nation. Even our country people share the white bread, tinned salmon, dried milk regime. Against this the efforts of the doctor resemble those of Sisyphis."

For over more than a century the birthrate in the UK has been declining, and for this period there has also been a corresponding deprivation of vitamins—particularly vitamins E and B—due to the consumption of white flour and its products, such as white bread, from which the germ and bran have been removed. In these two ingredients are to be found large caches of both these vitamins.

Dr. Picton, *Nutrition & the soil,* pp229, writes:

"A stallion of a friend of mine, proving infertile, was fed, at my suggestion, with 4oz of wheat germ a day and he became the sire of a fine string of foals."

In another experiment described by Dr. Picton, male rats were fed on a diet deprived of vitamin E. The rats became sterile. Although the animals appeared normal, upon post mortem examination, the seminal tubes were shown to be degenerate. Some of the rats were permitted to survive and fed wheat germ or lettuce. They again became fertile. It can be seen, then, that in

ordinary life, traces of the necessary elements may mitigate or even save the situation. Further, that these needs can readily be supplied by the provision of whole foods in preference to supplementation. We must realise that supplementation often only exacerbates the situation by further masking the real problem, which is the lack of fresh whole foods in the diet.

Dr. Picton gives a very illuminating example on pp115 that should convince you of the dire necessity to ensure the health of the unborn and the necessity to prepare ourselves prior to conception:

"It is customary in the East to prepare a seed bed, using charcoal sometimes to hold the heat of the sun and always compost matured with age old skill. Here the seedlings, irrigated with water in that perfect way which is only possible when the surface is as flat as a billiard table, are allowed to grow about the length of the open hand, by which time they are stuffed full of proteins and other nutrients. They are then planted out in the irrigated field, and even if that receives little manure, they commonly yield a very useful crop. But if, contrawise, the seed bed has been neglected and devoid of the traditional enrichment, no amount of manuring of the crop, after the seedlings have been dibbled into the open field, will compensate for the early deprivation. However lavish this subsequent treatment, the crop will fail. Human beings are in like case: it is the seed bed that matters most."

Dr. Picton spells it out for us. No amount of care after the child is born can make up for the deprivation that occurs in the seedbed, the mother and the father.

Although this is generally considered to be primarily a socioeconomic problem—as we have discussed earlier in this article—it is my contention that it is as much a personal one. For habits—and eating and other aspects of our lifestyle are primarily habits—can only be dealt with by those who have the habit, at an individual level. Hence, it is really at the personal level that we must address the problem.

It is at the personal level that the social aspect is very much to the fore, for we are very much social beings. We thrive on our social gatherings, and as much as we may indicate otherwise, we do not wish to be different and we do wish to conform. For to be different is to stand out from the crowd, to be noticeable, and for most of us this would make us uncomfortable.

The adoption of a habit of lifestyle that does not conform to the "norm" means that we would expose ourselves to the anti-social aspect of being different. Fortunately, for those of us who choose to be "different", there

usually are others with like minds. And on the question of preparation for parenthood there is at least one group of people who have had the courage, the intestinal courage, to stand up and be counted as well as offering advice and support for those doing likewise. This group is known as FORESIGHT—The Association for the Promotion of Preconceptual Care. They have published a book, *Planning for a healthy baby,* which may be obtained from them by writing to: Foresight, 28 The Paddock, Godalming, Surrey GU7 1XD, UK. The book is published by Vermilion, an imprint of Edbury Press, Random House, UK, Ltd. ISBN 00917 90298.

As with any book, you may disagree with some of their recommendations, but I believe that the balance that you will agree with and find of benefit will be well worth it, especially as there are very few books published that cover this very important topic.

Three Contraception & Pregnancy—Section One

Why contraception? If we are leading entirely natural lives, why not conceive children as nature dictates? To answer this question, we have to consider all the socio-economic factors at work, including religion, philosophy, economics, and even politics.

Through the ages, there have been numerous theories on the cause of pregnancy and how to control conception. One effective and intriguing method of conception is the one used by the Muria, a tribe of aboriginal peoples in India. The same method was used by inhabitants of the Triobriand Islands, which lie off the South East coast of New Guinea.

The following description of this method is by the English theologian Verrier Elwin, who lived among the Muria for a considerable period to observe their customs. Elwin's description was originally published as *Muria and their Ghotul.* Later an abridged edition titled *Kingdom of the Young* was produced. The present material is from Appendix B *of The 'Natural Birth Control Book,* pp134-141.

Four *Kingdom of the Young*

This is a reprint of an article by Gordon Troeller and Claude Deffarge translated from the German magazine *Stern* (August 1972). We felt it was of interest in establishing validity for mental control of conception and are therefore including it in its entirety to create the setting which is so different from our own Western attitude.

The English theologian, Verrier Elwin, who is mentioned in the article, has written a large number of books, including *Kingdom of the Young* which deals in a full and scientific way with the life of the Muria people and their *ghotul* dormitory which is the subject of the following article. In his book Elwin discusses the question of the apparent sexual infertility of the girls, only 4 per cent (same figure as in the article) of whom became pregnant before marriage in spite of regular sexual relations. He devotes a whole chapter to this issue and notes that within the *ghotul*, no relationships are seen as sinful, and if a pregnancy occurs it is usually blamed on activity outside of that dormitory. Elwin mentions the fact that each girl, upon entering the *ghotul*, partakes of a ceremony in which the god of the *ghotul* is requested to keep her from becoming pregnant before marriage. One could therefore suggest that this is a mental or spiritual form of birth control used with outstanding success, as the following article verifies.

We are sitting in a small hut in the Indian jungle. Around us is a group consisting only of children from five to seventeen. It is evening. While the little ones play in the corner, the older children assign their roles for the night.

"Do you want to share your bed with Mukwab today?" the chief of the group asks a girl who is perhaps fourteen.

She shakes her head vigorously.

"Then I suggest Defedar," the boy says.

"I don't want him either."

"Who, then?"

"Halvaldar," she shouts, and her eyes glow.

Silence falls. Small groups form. They seem to be consulting. From the corner where the youngest children are playing a voice suddenly breaks out:

"*That is impossible," shouts a nine-year-old boy, "you've already shared your bed with him three times. Tonight I want to sleep with you. Please . . ."

The girl smiles and goes to the little boy. "Agreed," she says and begins to comb his hair.

But stop!—We must tip-toe into paradise. Softly, lovingly, quietly. Unburdened by our judgments. Like man before the Fall. Innocent and uncorrupted. Prepare yourself to assume for fifteen minutes that your world and morality are not absolutely the only correct ones—

Perhaps we needn't go as far as Verrier Elwin, a famous theologian and anthropologist. When he came to convert the Muria people he laid aside his cassock and declared: '"There is no god but truth." He thought he was closer to this god among the Murias and could serve him better there, than by strict conformity to Christian doctrines and the spreading of Western civilisation.

On Elwin's track we reached the territory of the Murias, a people numbering 200,000, living south of New Delhi in the territory of Bastar, in the heart of India, surrounded by tigers, snakes, and Indians who, convinced of the doctrine of Hinduism, suspect the devil to be at work among the heathen Murias.

We met the first "devil"' on a narrow forest path. A boy of perhaps ten. Alone. Happy. Singing. Since we have been travelling in India, this is the first time we have heard a song. Except in the houses reserved for music-making prostitutes, singing is never heard. In the villages people don't even smile. And here suddenly is a little person who sings contentedly at the top of his lungs—and who is startled with fright when he sees us, although the bush is thick and the territory dangerous.

In his hair are four red flowers. Around his neck he wears a necklace of carved wood. Boldly he approaches Claude Deffarge and offers her a flower.

"Are you a *motiari* (unmarried girl)?" he asks.

Claude nods.

"Then take this flower. It is a token of love."

Now we feel captured by this gallant child of the jungle. Out of sheer embarrassment I ask the little cavalier who gave him the flowers.

"My *motion,"* he says, and a tender light gleams in his eyes.

'"And how old is she?"

The boy raises his hand to the level of his chest and opens them as though cautiously clasping two small rounded objects. "No older than that," he explains. "Her breasts are still as small as lemons. But she is the most beautiful in the whole village!"

When we meet the first girls we practice guessing their ages. This is not at all difficult. Over their backs and breasts they wear a folded cloth that reveals their "birth certificates" with every lively movement.

The little one who tells us that the oldest man of the village of Chilputi cannot receive us is—according to the "scale" of our young friend—already of grapefruit age. She offers us *salfi,* a palm wine, which tastes better than champagne. But that cannot comfort us. Without the permission of the mayor we cannot do anything here.

An older boy explains: "The village elder is only a little drunk. He thinks he will offend you if he doesn't appear before you sober. Have patience."

A wise man! That comforts us. But we want more than the permission to stay here. We want to study the life of the Murias. They belong to the 30 million natives whose forefathers already inhabited India before the Aryan conquerors overran the subcontinent.

The Murias live, as they always have, by agriculture, hunting, and fishing, and they have hardly been touched by Hinduism. They have also preserved an institution to which they owe the privilege of being called the happiest people on earth: the *ghotul*—the children's house.

Every village has such a children's house. Usually it is set apart, at the edge of the jungle. The parents keep only the infants with them, and all-other children of the village community live together in this house, which they have built themselves. Alone. Without adult supervision. It is an independent republic of minors, in which they live according to their own laws.

We are concerned above all with this *ghotul.* To gain entrance is very difficult. Up to now few have succeeded.

We are lucky. The polite young man who asked us to pardon the inebriated village elder, is the chief of the local *ghotul.* He has even been to school. We can therefore easily convince him that we are not like Indian travellers and loiterers—lasciviously on the lookout for vice. What interests us is that even European sociologists call the children's house of the Murias the "world's healthiest education."

We exchange a few gifts. In the evening we are already permitted to observe the daily dances of the children. Two days later we are officially named relatives. From now on I am the brother of the chief. Yes, in spite of my age I receive a noble title. Claude Deffarge, also. She becomes "Belosa," I

"Divan." These titles designate important functions in the republic of children.

But our noble titles do not protect us from the strict command to stay in the *ghotul* only until midnight. What happens after that is exclusively a matter for the children and must remain hidden from adult eyes.

So there we sit in the circle of these young people who are assigning their roles for the night. It is eleven o'clock.

The fourteen-year-old girl who earlier declined vigorously to share her bed with the partners suggested for her is finished with the combing. Now she takes off the shirt of the little boy who pleaded so loudly for her nocturnal companionship, and massages his back and arms. She is a head taller than he. A woman, in comparison to this child.

It is difficult to remain calm and not to judge according to our standards. Our Indian interpreter doesn't succeed. He is breathing heavily. "They are reincarnated devils." he whispers. "Shameless creatures. Why doesn't our government forbid such a thing?"

I can imagine what is going on in his head. But only there. For there is no hint here of sex or perverse games. The massage is no tender stroking. I have tried it out. One's skin ends up in tatters, but one's muscles are relaxed after the day's work.

The children are doing everything with great seriousness. I would almost compare them with European Scouts who are discussing the next day's tasks around the camp fire. While five girls are combing their partners' hair, a group of older boys is discussing the harvest. The jobs are assigned and the little children must report what they have done during the day.

The chief, called "Sirdar," and the mistress, the Belosa, oversee the order in the *ghotul.* Punishments are handed out when necessary and no one objects. Authority is embodied in the whole group and accepted by everyone. Rights and duties are continually reborn out of the inner needs of the children—and exclusively administered and strictly observed by them: for these rights and duties correspond to their world.

The parents have nothing to say in the *ghotul.* They may at no time interfere. Their authority is limited to the administration of the community. The council of elders regulates the relationships with neighbouring tribes and the Indian government offices. It also oversees the schools, which many voluntarily attend nowadays.

Naturally the parents provide their children's meals—in return for which the children do a large part of the farming work. During the day the young people are in school or in the fields. But punctually at six the time at the *ghotul* begins.

The children's house does not by any means serve only for sexual education. It is the centre of village activity. Its members organise the harvest, the hunt, and marriage and burial ceremonies. Without the *ghotul* the Muria community could not function.

At the moment the Belosa is asking who will take over the tiger watch tonight. Four boys volunteer. Two are appointed. A big boy and a little one.

Commands are never given. Everything is decided in common. Sirdar and Belosa are not tyrants. Nor do they get their posts because their parents, say, are rich and therefore have more influence, perhaps, than others. There is nothing like that here. The best one automatically rises to the highest rank and there is unanimity about it.

My brother, the Sirdar of this *ghotul,* is the son of a simple smith. Now he is smiling at me, because an eight-year-old girl has taken possession of him and is almost tearing his hair out. The little girl wants to show that she too can already comb the way she should.

"Have you chosen her for yourself?" I ask.

"No, the little girl wants to share my bed tonight, and I cannot say no," he answers, his face distorted by pain. Tufts of hair are stuck in the girl's comb.

Tonight, also, a fourteen-year-old girl will share her mat with a nine-year-old boy, and the sixteen-year-old Sirdar must sleep with the wildly combing child.

What will happen? Probably nothing at all. Or very little. Here there is no repressed sexual curiosity suddenly aware of a once-in-a-lifetime opportunity. For the occasion is not unique. It belongs to life like eating and drinking. The fourteen-year-old will take her little comrade into her arms and then peacefully go to sleep with him. Other couples may exchange a few caresses before sleepiness overcomes them—and older children perhaps steal softly out of the house in order to make love outside.

Meanwhile a few boys have spread out their mats. Next to them stand the girls. They have combed and massaged them. Now they wait until we have left the *ghotul* so that they can lie down to rest in the arms of the boys.

Belosa bends over Claude Deffarge. "Only ten minutes more, she says, "'then unfortunately you must leave us.'"

They are not sending us away because we might be witnesses to some love games. Whoever caresses or loves here must do it unobserved. Discretion and considerateness are very strict rules. And in general nothing forbidden ever happens. Here everyone holds very exactly to the prescribed laws of the children's republic.

This concept is hardly understandable for a European. In the *ghotul,* caresses and sexuality are just as harmoniously included in life as work and dancing in the day's events. The Murias are convinced that sexuality is the chief problem of man and that a society can only maintain its equilibrium if this primordial power is given a place that corresponds to its importance. Instead of damming it up—as we, the Indians, and many others do—with prohibitions, the Murias have made an attempt to tame sexuality in the *ghotul* and even to sublimate it: and in fact sexual harmony and inner peace reign in their paradise.

The proofs are not lacking: other peoples of India and even the modern Indians must attest to a real inflation of crimes, suicides, and sexual offences. But among the Murias there is no criminality, no prostitution, no homosexuality—not even petty thefts. Here, according to Indian statistics—which are certainly not exactly friendly to the Murias—live the most harmonious people in the world. And if we had not visited them ourselves in many villages, I would not have believed it either.

In the *ghotul,* besides, there is no learning, instruction, or drilling. The basic attitude toward sexuality is simply the complete opposite of ours. We learn for instance from the thirteen-year-old girl on my right, who will share her bed today with a fifteen-year-old boy, that she is still a virgin. Not because her parents want it or a particular moral code dictates it. She has quite simply not yet found anyone with whom she will take the last step together although she has been sleeping for five years with a different boy every night.

When we must leave the *ghotul,* the hour of sleep or caresses—or love-begins. It may even happen that the fourteen-year-old girl tonight will initiate her nine-year-old comrade into love. Perhaps, too, a sixteen-year-old boy will cautiously show a twelve-year-old girl what it means to be man and wife.

It is a part of the essential wisdom of the *ghotul* that it is better to be led by an older child than to be seduced or taken by surprise by an inexperienced one—without conscience pangs, without difficulty, but also without any

obligation. And if a boy does try to force a girl or even to be tender with her against her will, then he is strictly punished.

At the beginning of the evening we were shown how that happens: a boy was hung by his thumbs with a rope. He stood it for a few seconds. In a serious case the punishment lasts three minutes. And in case the person who is punished this way tries again to overpower a girl's will, he is excluded from the society of the children for a considerable time. Here that is almost as serious as death.

Sirdar gives us the sign. It is just midnight. Each of the children touches our left shoulders briefly and wishes us good night.

At the door I ask the Sirdar how old a child must be to enter the *ghotul.*

"When he no longer goes in his pants at night and is big enough to gather wood for our fire."

"Is that the only standard?"

"Certainly not," he says, seriously now. "The children come into the *ghotul* as soon as they understand what happens at night between their fathers and mothers. That is bad for a child. You understand? When a child suddenly sees that his father is taking his mother away from him, it is high time to send him to the *ghotul."*

The Murias know what a mental burden it can be for a child when he is half asleep to witness his parents' love. They also seem to suspect that the awakening sexuality of a child usually is transferred to his mother or father and can lead to pathological complexes. They escape this danger by sending the child from his parents' house into the *ghotul,* where his sexuality can be directed at the proper time to others of his own age. The unconscious and often deranging sexual rivalry with the father, which psychoanalysis has made famous under the name of the Oedipus complex, is thus avoided.

Also, the collision between the child's need for activity and parental authority does not exist here. Father and mother are soon replaced by another "orderer": the community of all the children. Their rules and laws are never questioned—because they bind everyone. They are not, as at home, the sum of privileges—often arbitrarily administered—by two adults with all their weaknesses, moods, and pedagogical bumbling, but the self-chosen duties of a republic of children.

In short: Among the Murias there is no unavoidable conflict between parent and child—either in the unconscious sexual or in the conscious authoritarian realm. Consequently, love for parents is much greater than elsewhere, and lasts the whole life long.

That sounds almost too beautiful to be true. But in a singular way, this observation agrees essentially with the discoveries of European psychiatry: The *ghotul* of the Murias is, so to speak, the psychoanalytic ideal of education. Naturally, it contradicts our traditional family order and sexual morality. But many sociologists and even the Swedish parliament are seriously considering today whether the experiences of the Murias might not show us too a way out of our threatening sexual anarchy.

Be that as it may, we at any rate have never seen so many lighthearted people as in this "paradise." And we have rarely met people who are as sexually fulfilled as the Murias.

But what happens when one of these girls falls in love? When she prefers one special boy and wants to have him for herself? The laws of the *ghotul* forbid that. A girl may be with the same boy three times. Then she must change, or she will be punished. Later she may make love with him again three times, but she must always give some other boy the opportunity in between.

"In this way love is preserved," an old Muria says to us. "'If the children attach themselves to one partner early, their love is lost."

We try to convince him he is wrong and tell him of Europe and America, where it is believed that young love can last beyond the grave.

He only shakes his head. "Where there is too much love before marriage, there is less and less afterward.'"

"In this way, too, it is easier for a person to remain faithful later," adds another Muria. "Someone who has already learned everything as a child is no longer curious later on."

But what happens when a girl is in love and later is married to another?

"'That happens," the old man explains. "If the love is really great, then the couple separate from their spouses, whom they love less, and marry each other. We have three such cases in the village. Everyone finds that normal. And no one would protest. Least of all the unloved spouse."

We ask many young men for their opinion. They all answer unanimously: "In the *ghotul* there must not be any firm pairs, or jealousy and competition would creep in.[1] Society could no longer function justly. And what would happen in such a case to the ugly ones? Should they be thrown out or made to stand aside?"

"Doesn't a lover become unhappy when he knows that the girl he prefers is in the arms of another?" we want to know.

"That happens only rarely. We get used to sharing everything very early. If a boy frowns because of jealousy he is punished."

We ask some girls if they would rather not have a steady friend. "Then we would all be pregnant," one of them answers. "Oh, no—never! In the *ghotul* everything is all right as it is."

The Murias are convinced that a girl can only become pregnant when she binds herself to a man in her mind and remains physically true to him. That may be a ridiculous superstition. But somehow this conviction must have anchored itself so deeply in the consciousness of the Murias that it is effective. For there are hardly any pregnancies among them: only 4 percent—with complete sexual freedom. That is incredibly few. But as soon as one of these girls marries, the first child appears in the first year of the marriage.

Physicians and psychologists have concerned themselves with this phenomenon without finding a satisfying answer. Perhaps there are in the *ghotul* rules prescribed times of love which explain this limitation on conception. We do not know.

In spite of everything that we and others before us have been able to find out, the republic of children still contains a thousand secrets. They are guarded all the more carefully as more and more Indians travelling through look upon the *ghotul* as a brothel and try to gain entrance as "customers." Thank God they have not yet succeeded!

This is the image "civilisation" presents: foreign people who laugh at the Murias as primitives and scorn their customs, but who, at the first opportunity, try to exploit them shamelessly—supported by liquor, gifts, or threats. They are the snakes of paradise.

The Murias are not primitives. In their little world they have consciously created the most harmonious society we have ever seen.

The English theologian Verrier Elwin, who has spent part of his life among the Murias, wrote: "While I shared the free, happy life of the Murias, I

[1] Further study of the writings of Verrier Elwin reveals that there are two types of *ghotuls*. In the older type, couples do pair off on a semi-permanent basis. In more recently established *ghotuls* there is a three or four day limit.

often asked myself if I was centuries behind the times or centuries ahead. I am not proposing that we transform our middle schools into *ghotuls.* But I should like to point out that there are elements of the life and the teaching of the *ghotul* that we should study attentively, and that there are few of us who could be harmed by being infected by the spirit of the Murias."

Statistically, it was found by Elwin that 4% of the girls became pregnant before marriage in the older *ghotuls,* while 4.2% became pregnant when partners were changed frequently. This again suggests that mental control was the method actually at work here.

Five Contraception & Pregnancy—Section Two

Contraception—methods to avoid having children—is one aspect of birth control (the other aspect being methods that enhance the possibility of having children). Humans through the ages have practised it in many forms. Contraceptive methods in common use today are:

1. Sterilisation.
2. Celibacy and continence except for procreation.
3. Onanism.
4. Coitus interruptus.
5. Coitus reservatus.
6. Castration.
7. The contraceptive pill.
8. Intra-uterine devices.
9. Diaphragm with chemicals.
10. Condom.
11. Chemicals alone.
12. Rhythm or safe period.
13. The douche.

Sterilisation

Sterilisation involves closing or severing certain ducts or tubes to prevent conception. It has little or no effect on virility. Sterilisation has been used on the criminally insane, and also to ensure that pregnancy will not occur where this would be dangerous to the mother. The operation has some dangers and is sometimes unsuccessful. The major side effect is of a psychological nature, according to medical literature.

Celibacy

Herbert Shelton writes in *The Hygienic System, Vol V, Orthogenetics,* pp396:

"Continence except for procreation is the only natural (and the only sure) method of birth control. During periods of drought quails do not breed—they employ no contraceptives. This is celibacy only in a limited way."

Onanism

Onanism—male masturbation—is names after Onan, the son of Judah, as mentioned in Genesis 38:9. It is also used to refer to a form of withdrawal, or coitus interruptus, being considered vaginal masturbation.

Coitus Interruptus

Coitus interruptus—or withdrawal—refers to the male withdrawing his penis prior to ejaculation during sexual intercourse. Its failure rate of 6 to 7% is high when compared with other contraceptive methods. Its main side effect is psychological: most couples find it highly unfulfilling.

Referring to both celibacy and coitus interruptus, Dr. J. H. Gerter writes in *Nature's Own Birth Control,* pp7:

"Neither method, if employed for any length of time, is likely to further health and well-being in marriage."

However, Shelton says, pp396:

"Coitus interruptus (withdrawal), while damaging enough, is probably not as damaging as is popularly supposed and certainly not as destructive as the Bible pictures. See Genesis, 38:9-10."

Coitus Reservatus

This is similar to coitus interruptus and is often coupled with it. However, it does not require withdrawal; instead, the male is required to control ejaculation. Other terms for coitus reservatus are Karezza, Deanism, Oneidism, Zuggassaits discovery, Sex Communion, Transmutation of the Seminal Seed, and so on. The Chinese have practised coitus reservatus from time immemorial. There is also a strong following in regions of India.

Castration

Castration refers to removal of the ovaries or testicles. In the West it is no longer practised on males. However, it still occurs at times in the Orient. It is still practised widely on women, when the ovaries are removed during a hysterectomy.

Castration causes both men and women to gradually become increasingly androgenous.

The Contraceptive Pill

Pills are also known as oral contraceptives. There are two types of contraceptive pill:

1. those containing oestrogen and progestin, and
2. those containing only progestin.

The failure rate of the pills containing both oestrogen and progestin is 0.27 to 0.32 per cent, while the progestin-only pill has a failure rate of 1.2 per cent (Vessey, Lawless & Yates in William F. Ganong, *Review of Medical Physiology,* pp419).

The side effects of oral contraceptives are listed by L. Meylor and 25 consultant physicians in *Side Effects of Drugs,* pp423-430. They include: allergic reactions, skin rashes and eczema, acne, nausea, vomiting, liver dysfunction, cardiovascular effects, including a rise in blood pressure, thrombophlebitis, and pulmonary embolism, changes in blood coagulability, nervousness and irritability, severe uterine bleeding, dysmenorrhoea, effects on pituitary and thyroid function, and many more.

Dr. Robert Mendelsohn in *How to Raise a Healthy Child in Spite of Your Doctor,* pp31, adds:

"You face another major risk if conception follows too closely a period of contraception with birth control pills. This too can result in a deformed or brain-damaged child. Women who have used the Pill should allow several months to pass before they attempt to have a child."

Intra-uterine Devices

Commonly known as IUDs. There are two types currently available:

1. Copper 7.
2. Loop D.

Both types should be fitted by a medical practitioner or at a special clinic. There is often discomfort and bleeding for a while after fitting. Sometimes the bleeding continues and the IUD is then usually removed. The IUD has a failure rate of 1.3 to 1.5 per cent as contraceptive, so it is highly effective. However, it is not known how the devices work.

IUDs have been known to cause sterility and pre-cancerous and cancerous conditions in the long term.

Diaphragm With Chemicals

The failure rate of this method is 1.9 per cent, according to Vessey, Lawless & Yeates. Some couples use the diaphragm alone, but this method has a high failure rate.

Shelton writes, pp397:

"These contraceptives present three other objectionable features, as follows:

1. some of them are poisonous to the woman's tissues;
2. they all produce considerable and frequent chemical and mechanical irritation of the woman's sexual organs and aid in producing pathological changes;
3. the psychic factors of intercourse are disturbed by the use of complicated facilities before or after coition and the spontaneity of the sex relation is interfered with, preventing the woman from achieving an orgasm and often resulting in frigidity and disgust."

Condom

The condom is one of the most favoured methods of birth control, despite its failure rate of 3.6 per cent (Vessey, Lawless & Yeates). It is also advocated for controlling disease transmission, particularly for AIDS, but its effectiveness for this purpose is still unclear.

Chemicals Alone

The chemicals alone method uses substances that form a foam barrier designed to kill and stop the progress of the sperm. However, this method has a very high failure rate of 11.9 per cent, and it has the same side effects as for the diaphragm with chemicals.

Rhythm and Billings Methods

The rhythm method, also known as the safe period, restricts intercourse to the relatively sterile periods between ovulations. The early Jews knew this method, as Jewish law proscribes intercourse during certain periods. The modern rediscovery of the method is usually attributed to two researchers: Ogino in Japan and Knaus in Germany. However, Shelton states otherwise, pp398:

"In the February 1857 issue of the 'Journal', Dr. Trail made the startling announcement that he was 'in possession of the knowledge of a physiological law, by the application of which any female may prevent conception, without injury or inconvenience, and without in any way interfering with conjugal relations. The process is as simple, almost, as the act of willing.' He offered this knowledge to married women only in return for a modest fee. What was this method of birth control? He has previously briefly explained it in the 'Encyclopedia' (1851), in which, after discussing the monthly ripening and discharge of the ovum by the female and pointing out that the ovum remains in the tube and womb for but a limited time, he stated that, from the time the ovum passes from the womb until the discharge by the ovaries of the next ovum, the woman is not fertile, and said that impregnation can only occur, as a general rule, between certain dates in the ovulation cycle. He said that 'those who would not propagate have only to abstain from sexual connection during this period'. Credit for the discovery that women have 'fertile periods' and

'sterile periods' belongs to Trail and not to Ogino and Knaus, and credit for the effort to make practical use of this fact belongs also to Trail."

In its basic form, the rhythm method has a 15.5 per cent failure rate. The following methods add refinements that significantly reduce the failure rate.

The "Billings Method" is based on the same principles as the rhythm method, with the added refinement that the woman checks her temperature to find her periods of fertility and infertility more accurately

American researchers Pendleton, Zuck, Rubenstein, and Tomkins showed that the temperature of the intestine in the mornings is normally below 37 degrees Celsius, but rises on the day of ovulation to between 37 and 37.3 degrees Celsius.

A further refinement is to observe the vaginal mucus as well as to chart the basal temperature. This method has a very low failure rate, close to zero.

The Douche

The douche is a most ineffective method of contraception, although I have no figures to support this. It also tends to destroy the spontaneity of the sexual relationship.

Conclusion

I will conclude with Shelton, who says, pp397:

"No known contraceptive is harmless. All of them produce harm either directly or indirectly, particularly to the woman. Leucorrhoea, endometritis, cervicitis, salpingitis, and other troubles frequently result from the mechanical and chemical irritation. I do not doubt that the habitual employment of these supposedly harmless measures is a contributing factor in the production of the great increase in tumours and cancers of the female organs in recent years. Ulcers may also be produced by them. There are reasons to believe that the employment of contraceptives leads to sterility in women. It is a matter of experience that many who finally wish children find that they cannot have them."

Six Prenatal Care of the Mother

Complication-free pregnancy, childbirth, feeding and rearing depend a great deal on the health of the mother at the time her child is conceived. Once the mother has conceived, her health and wellbeing are even more important for minimising problems.

Leucorrhoea, dysmenorrhoea, and painful menstruation are common conditions among women today. Dr. J. H. Tilden, in *Diseases of women & easy childbirth,* pp33-40, describes these as conditions of autotoxaemia. A woman who is suffering from one of these conditions at the time of conception will probably experience an unhealthy pregnancy, with symptoms of morning sickness, lack of energy, heart palpitations, and so on, and particularly a painful birth.

Morning Sickness

This is almost universal in Western society. It can be highly debilitating, consisting primarily of nausea to the point of prostration, other with vomiting, and at times with headaches and other debilitating symptoms.

Tilden considers morning sickness to be another autotoxaemic condition. As with every other acute crisis, it should be considered as a natural healing process by which the body of the prospective mother clears itself of these unwanted encumbrances early in the piece to enable it to continue with all the necessary energy in the process of building a healthy foetus**.** If the mother views morning sickness in this way and deals with it in a natural and Hygienic manner, she will increase the chance that the rest of her pregnancy and the delivery will be trouble free.

Dr. Herbert M. Shelton in *Hygienic care of children,* pp27, writes: Women need wholesome outdoor exercise, pure air, plenty of rest and sleep, sun baths, freedom from worry and anxiety and other devitalising influences. They should not be overworked. They should not be required to administer to the sexual desires of their husband during pregnancy. And last, but not least, they need proper food."

Sister Joyce Lubke, in *I had no say,* writes about morning sickness and its causes, pp35-36:

"During the early months of pregnancy, this is a problem for many mothers who are living the orthodox way, but it seldom happens with mothers who have fasted and been living naturally before conceiving."

She continues:

"Morning sickness is nature's way of cleaning out the mother's system to eliminate any toxins and poisons from her body, so that it is in perfect condition to carry and nourish the child. If at this time the mother takes medicines or drugs which suppress these efforts at elimination, not only will the toxic matter remain in her body and pass through the placenta and into the baby, but the medicines and drugs used will also cross the placenta and enter the baby's body and brain. We have seen an example of this with the tranquilliser thalidomide, which was given to pregnant mothers in the first three months of pregnancy for morning sickness and resulted in deformed and limbless babies. Even and aspirin can cause malformations. Legs, arms, fingers and toes are fully formed by eight weeks, and if drugs are taken during this time they will prevent full development."

This warning should not be taken lightly; remember, it is too late to say afterwards, "I'm sorry".

Care of the Mother in Morning Sickness

The prospective mother who is experiencing morning sickness should consider it as any other healing process and, as with most other acute crises, expect to spend some time not eating, that is to fast. Joyce Lubke writes:

"Morning or pregnancy sickness can occur at any time of the day or night and sometimes all the time. It is nature telling the mother not to eat. She should rest and relax, have only pure water when thirsty and nothing to eat until the sickness passes (which should take between one and three days), then fresh juice 50/50 with water for one day, fruit juice and fruit for one day, returning to the pregnancy diet chart the next day."

Most writers state that morning sickness is caused by mainly physiological factors. However, some, such as Margaret Brady, *Having a baby easily,* pp47, emphasise the spiritual and psychological factors involved:

"When pregnancy starts, it sets in train a while new set of processes, and a certain number of adjustments and alterations have to take place in the mother's body, which is in a hypersensitive condition. This hypersensitiveness shows itself very markedly in the digestive system, and morning sickness, heartburn and indigestion may be a revolt of the system against the food that is being eaten or has been eaten."

Jessie R. Thomson writes about morning sickness in *Healthy childhood,* pp18:

"Mental and physical strain are undoubtedly predisposing factors in this condition."

In line with the rest of our teaching, I consider the psychological and spiritual attitude of the prospective mother to be as important as other factors. I view morning sickness as an orthopathic action, that is a correct action given the circumstances. I encourage the prospective mother to trust this process. If she is acting naturally and hygienically she will be able to console herself that "this too shall pass" with an eventual beneficial outcome.

Three Fundamentals

Margaret Brady, writing of "the fundamental essentials", says, pp11:

"The birth of a baby means fulfilment, complete physical fulfilment of a woman's most fundamental function of reproduction and motherhood. But more than this, it is a big step along her road to emotional and spiritual fulfilment as well." She continues: "A girl who is about to have a baby should start with the fundamental essentials and realise that it is a threefold function, viz

1. It is a CREATIVE function.
2. It is an ATHLETIC function.
3. It is a SPIRITUAL function."

Brady goes on to emphasise that in the CREATIVE function the mother must have the essential raw materials needed to fulfil this operation.

Jessie Thomson, in *Healthy childhood,* writes, pp10:

"Farmers and cattle breeders know the importance of a low intake of protein foods during gestation, particularly so towards the end of the process. These practical men recognise the intimate connection between an excess of building foods and difficult labour."

Dr. Ada Griffiths, an Australian doctor, writes:

"It was notable that in Gippsland in Victoria, where there was abundance of green food all the year round, no difficulty in parturition was experienced by the mares. On the other hand, in Northern Victoria, at those periods when green foods were scarce, labour in mares was more difficult and attended by the loss of foals."

A good diet, based on a predominance of fresh raw fruits and vegetables, nuts, seeds, and some form of animal protein, is essential for the healthy development of the foetus. However, although most people would acknowledge this, only a few practice it. Herbert Shelton writes, pp27:

"If women will eat properly and care for themselves properly during pregnancy, they will not only save their teeth and preserve their health and assure themselves a healthy, vigorous child, but they will make childbirth safe and easy providing they are normally developed and live fully right, make childbirth painless, even pleasurable."

Instead, our society places more emphasis on bigger and better hospitals and maternity care to provide for the ills that are primarily caused by incorrect instruction on prenatal care, particularly with respect to diet.

Margaret Brady writes, *pp1*4:

"It is putting the cart before the horse to provide more and more medical care at the time of the baby's birth and more and better hospitals, while failing to see that the mother's diet is right in the nine months of pregnancy."

Shelton warns about defective diets on pp27:

"Cereals seem to induce defective teeth, particularly when not counterbalanced with large quantities of green food and fresh fruits. The effects of deficient diets reach through more than one generation."

The research of Drs. Weston A. Price and Francis Pottenger, Jr. supports Shelton's statement that deficient diets affect subsequent generations. Price, in *Nutrition & physical degeneration,* under the heading "Prenatal nutritional deformities and disease types", writes, pp326:

"Associated with a find physical condition the isolated primitive groups have a high level of immunity to many of our modern degenerative processes, including tuberculosis, arthritis, heart disease, and affections of the internal organs. When, however, these individuals have lost this high level of physical excellence (through the adoption of modern dietary methods) a definite lowering of their resistance to the modern degenerative processes has taken place."

Dr. Francis Pottenger, Jr. in *Pottenger's cats,* pp94, writes:

"In my experience there is no more important time to ensure that a diet is optimal than during pregnancy. The normal development of the foetus depends on the expectant mother's nutrition. Give her a diet of adequate nutrients, make sure she is physically active without overtiring and that she is emotionally serene."

Sister Joyce Lubke recommends that the diet at this time consist primarily of whole, raw fruit and vegetables with a minimum of the starchy and protein foods.

Jessie Thomson says on pp11 that the diet for the prenatal mother "should contain a large daily salad, conservatively cooked vegetables, wholewheat or crispbread and butter, cheese, unpasteurised milk (up to one pint [600ml] daily), eggs in moderation, meat not oftener than twice weekly—if taken at all—and a fair quantity of fresh and dried fruits."

We note that Jessie Thomson is writing for the mothers of Scotland. For those living in warmer climates—particularly the tropics and sub-tropics—her recommended diet should be varied to suit.

Shelton warns on pp27 that the mother's diet must contain all the essential elements:

"Not only must the mother supply the calcium or lime salts and phosphates so essential to the development of the teeth and bones of the child, both before and during the nursing period, but she must supply every other element the child requires."

Stimulants & Drugs

So far we have considered what the expectant mother should supply in her diet. We now turn to consideration of the many things that she should not supply. Many of these may appear to us to be obviously harmful, but they are unfortunately not obvious to most people, having become so common in the average diet that they are considered to cause little or no harm.

Jessie Thomson writes, pp11:

"Stimulants such as tea, coffee, alcohol and tobacco have no place in an expectant mother's diet. Smoking is an unwholesome habit at any time, but when it is indulged in during pregnancy it passes beyond the stage of a personal stupidity: it can build up a tragic legacy."

She continues on p11 by reporting an item from Time (17 November 1947):

"The newborn baby seemed normal. But after two days it began to vomit, cried and tossed in its crib, was seized by convulsions and fits of holding its breath. These all suggested symptoms of a drug addict suddenly deprived of his drug.

"The baby indeed was a drug addict, born to a drug-addicted mother. After birth it was suffering the usual symptoms of an addict deprived of morphine.

"This horrifying case, proving that drug-addicted mothers produce drug-addicted babies, was reported last week by Dr. Meyer R. Peristein of Chicago, in the American Association *Journal.* Said the doctor, 'Separation from the maternal circulation shuts off the supply of drug to the newborn'. After eight weeks his baby patient emerged safely from its morphine jag."

This scenario is repeated many times over for those mothers who are addicted to tea, coffee, alcohol and tobacco. The symptoms may be worse than those listed above.

Athletic Training

Giving birth is, as much as anything else, an athletic achievement. Just as we should provide the right materials for the correct development of the foetus, so we should train, as with any athletic event, to strengthen and practise the muscles that are to be used. Margaret Brady writes, pp15:

"In no other field of human athletic effort is the question of proper exercise more important than it is with the athletic function of birth."

Sister Joyce Lubke suggests that the prenatal mother attend special classes in yoga and other organised activities to strengthen and relax the muscles.

Jessie Thomson writes, pp17:

"Deep rhythmic breathing, daily walks—to the shops by all means, but better still, right past them out into the country—also swimming [but not in chlorinated swimming baths, Editor], are all valuable aids for the prospective healthy mother."

Spiritual Function

In Nature Cure and Natural Hygiene, the spiritual side of life is probably the least mentioned.

By spiritual side, we mean the whole mental, emotional and spiritual outlook. This may or may not be related to some form of religious belief or practice. Margaret Brady says, pp15:

"The third fundamental essential, the Spiritual side of having a baby, is often not given its due importance as a vital element in happy births as well as essential raw materials and training. . . . Without the right spiritual, mental

and emotional approach it is unlikely for the birth to be easy and perfectly natural, even if the raw materials and training have been given due care."

Conclusion

If the mother waits until she is pregnant before giving up most of the bad habits mentioned above, then it is almost "too little, too late". Much damage is done by the mother's bad habits before she conceives. If she truly wants to provide the best conditions for herself and her baby, she should adopt a healthy lifestyle—giving up bad habits in the process—as long before conception as possible. This will give her body time to cleanse and readjust.

Seven Home Births—Section One

The only place for a baby to be born naturally is at home. If you have adjusted your lifestyle and educated yourself, you will find all the facilities you will need for a relaxed, comfortable birth in your own home. Having your baby at home avoids the possibility of coming to unknown harm at the hands of modern medicine. Dr. Robert S. Mendelsohn, in *How to Raise a Healthy Child in Spite of Your Doctor,* pp28-29, writes:

"If you have your baby in a hospital, you will be exposed to an array of obstetrical hazards so broad that I cannot possibly describe them fully here. . . . Having your baby at home is less risky than going to hospital because much of the most dangerous technology employed in hospitals is not available to doctors or midwives who deliver babies at home. This reduces the opportunity for needless, hazardous intervention and virtually assures that you will be permitted to have your baby naturally, as God intended you should."

Uncharacteristically, Herbert M. Shelton, in *The hygienic care of children,* does not address the question of where the baby should be born. He does, however, say that babies should be born in the springtime, a point we shall discuss later.

Kenneth S. Jaffrey also does not directly address the question of where the baby should be born. He does say, in Rearing *your baby naturally,* pp8:

"It is absolutely essential at the outset to understand that pregnancy and childbirth are NOT diseases. They are perfectly natural phenomena for which the female organism is specially designed. If a woman is a normally healthy person there is no reason why pregnancy should be accompanied by aches, pains or the so-called "morning sickness". There is no reason why the birth should not take place normally without the recourse to drugs, anaesthetics, or instruments. . . . If a woman is a normal healthy woman she will be capable of giving birth to her baby naturally."

In other words, if the mother is in relatively good health and has prepared herself by following a simple, natural lifestyle, no complications should occur, regardless of where the birth takes place.

Although Sister Joyce Lubke did not directly advocate homebirths, nor did she carry out home deliveries, she wrote in *I had no say,* pp39:

"Every couple has to make their own decision as to where they want to have their baby, and then make all the arrangements accordingly."

She continues:

"If a mother is living naturally it is much more likely that she will choose to have her baby by natural childbirth, and she will most likely not have a large baby to cause complications."

Parental Agreement

Henry Ligtermoet and Margaret Ireland in *Responsible homebirth,* pp64, write:

"Both parents must be in total agreement about the decision to have their baby at home. There can be no conflict. This decision must be arrived at through informed opinion obtained by extensive reading about pregnancy, labour, and delivery reports, pre- and post- natal reports, nutrition studies and careful consideration of each individual couple's circumstances. Parents must accept and be made fully aware that medical circumstances may arise during pregnancy, labour or delivery, which may require hospitalisation."

It is important to acknowledge that unforeseen circumstances may require medical intervention, and to prepare well in advance for such possibilities.

It is beyond the scope of this course to provide you with all the relevant information to be fully prepared for medical emergencies in childbirth. I recommend that you seek this information for yourself if you wish to advise people on childbirth.

Dr. Mendelsohn writes, pp28:

"What is radical—and dangerous for you and your child—is the arsenal of obstetrical intervention that lies in wait for you in the hospital, as well as the threats lurking in the hospital nursery that may damage your baby after he is born."

Mendelsohn then enumerates these threats:

"There is ample evidence that the medical technology, drugs, anaesthetics, surgery, and other obstetrical slings and arrows employed in most hospitals expose mothers and babies to needless risk. They have a frightening potential for inflicting severe, even life threatening, damage on you and also your child."

Dr. Wilhelm zur Linden in *A child is born,* pp51, supports this opinion from the European viewpoint. Under the heading "The birth of the baby" he writes:

"At home or in hospital?

"This question requires careful consideration, for while the hospital may be well equipped to deal with all kinds of emergencies, it also has dangers and disadvantages which are not present in the home."

In addition to the dangers and disadvantages listed by Mendelsohn, Dr. zur Linden adds the following warning:

"Because there are so many people in a hospital there is a great danger of infection such as mastitis (inflammation of the breast), influenza, pemphigus of the newborn, and also now epidemic gastroenteritis, which is the consequence of the indiscriminate use of penicillin and other antibiotics."

Dr. zur Linden writes:

"So if the birth is expected to be normal and without complications, even a humble home is preferable. Here the mother is surrounded by familiar objects instead of strange machinery. She can be herself and concentrate on the birth. Her husband can stay with her, hold her hand, support and encourage her, make her comfortable and share in this unforgettable family event. And she can keep the baby's cot beside her bed once he is born."

Among the hazardous interventions that Dr. Mendelsohn lists as taking place in hospitals are the following:

"Procedures such as ultrasound diagnosis, internal foetal monitoring, excessive use of sedatives, pain relievers and anaesthetics, Pitocin induced labour and the temptation to resort to delivery by caesarean section are largely avoided when you play it safe and have your baby in your own bed."

The Birth of the Baby

The onset and continuation of the delivery of the baby is termed *labour.* Dr. Lance Townsend in *Obstetrics for students,* pp94, writes:

"There are three stages of labour:

"The first stage or stage of dilation.

"The second stage or stage of expulsion.

"The third stage or stage of delivery of the secundines."

Ima May and the Farm midwives in *Spiritual midwifery,* pp348, describe the stages of labour:

"The First Stage of Labour

"The first stage of labour lasts from the first rushes to the full dilation of the cervix (approximately ten centimetres). This usually lasts about fifteen hours for the first baby and less than that if the mother has already had a baby.

"The Second Stage of Labour

"The second stage of labour lasts from the time of the full dilation of the cervix until the baby is born. This usually lasts from a few minutes upwards of a couple of hours. (I should add though that I have delivered at least two good, healthy babies after a second stage lasting four to five hours, checking the baby's heartbeat often.) "The Third Stage of Labour

"This is the period from the birth of the baby until the placenta and membranes have been expelled. The length of this stage has nothing to do with the number of babies the mother has had, and needn't exceed about 20 minutes."

Dr. Lance Townsend in *Obstetrics for students,* pp94, gives the duration of the three stages of labour as:

Stage	**First child**	**Subsequent child**
First	14 hours	7 hours
Second	1-2 hours	½ hour
Third	¼ - ½ hour	¼ - ½ hour
Total	16½ hours	8 hours

He stresses, however, that these figures are averages only, and that wide variations are often encountered.

Eight Home Births—Section Two

The Psychological Aspects of Labour

The descriptions of the stages of labour in the previous lesson addressed the purely mechanical aspect of the process. Also important are the psychological aspects. Margaret Brady writes, pp101:

"At this stage the mother's part is one of passive collaboration only. She does not actively try to get the baby born, but only to help, by mental and physical relaxation, the involuntary process going on inside her."

Dr. Grantly Dick-Read in *Childbirth without fear,* pp6, writes:

"The first stage of labour demands peaceful relaxation, quiet assurance, and the ignoring mentally of what is going on in the womb, or uterus. Any effort actively to assist first stage contractions will defeat its own ends. The secret of rapid opening of the outlet (the cervix) of the uterus is to allow the skeletal muscles to become limp and thus let the uterus work by itself. The more relaxed and unresisting both the abdominal muscles and the muscles of the pelvic floor below the uterus are, so much more easily can each uterine contraction pull the cervix over the baby's head and press the head gently down into the birth canal."

This relaxation requires the mother to adopt the right mental attitude to the whole process of birthing. She must have a deep-felt understanding that giving birth is an entirely natural process and is not to be feared. This is necessarily an act of faith if it is the mother's first baby; she must have faith that all will be well and that she can deliver her baby safely. It is almost a spiritual experience.

Dr. Grantly Dick-Read further elaborates:

"Relaxation must be recognised as a necessary phenomenon of natural labour, and it should be accompanied by an alienation of the mind from any active interest in the uterine function . . . . If the woman's muscles outside the uterus are tensed and rigid—as they will be if, for example, she grabs something tightly with her hands, resisting the contractions—this will tighten the circular muscles of the cervix. This creates in the uterus the need to work harder to push the baby out and causes pain."

Dr. zur Linden comments on painless childbirth on pp53:

"Three hundred years ago Euphemia Macfarlane was burnt at the stake in Edinburgh for advocating painless childbirth."

Second Stage

Margaret Brady, pp102, describes the second stage and what the mother should do:

"The body of the uterus is now contracting and pushing the baby down, and the neck is relaxing.

"The pains are therefore regular and more frequent and the mother feels a definite inclination to help by what is called 'bearing down'. . . . The mother can now start active cooperation as opposed to the previous passive cooperation, and the harder she works the less pain."

Dr. zur Linden, pp55, describes the second stage:

"When the second stage of labour is reached, the time comes for the mother to take an active part in the bearing-down effort, helping to push the child through the birth canal. This activity give her great satisfaction and she experiences immense joy at being able to help in her baby's birth."

Dr. Townsend describes this more prosaically, pp111:

"By the time the end of the first stage is reached there may have been little descent of the presenting part. There will inevitably have been some, the amount varying with the level of the presenting part when labour began. If it was high, obvious descent can be expected; if it was low, little will have occurred. Rupture of the membranes is accompanied by a gush of liquor and classically occurs at the end of the first stage. It may not occur until after delivery, the baby being born in a 'caul'. In the second stage during a contraction the uterus changes shape, increasing in length and diminishing in transverse and antero-posterior diameters. The foetus straightens out accordingly. The expulsive efforts of the uterus can now be better applied to its contents and, with no resistance from the cervix and lower segment the presenting part moves downwards into the vagina . . . . As the foetus moves downwards the upper segment retracts and accommodates itself to the reduction in volume."

Dr. Grantly Dick-Read, pp7, gives an entirely different perspective on the second stage:

"As the second stage becomes fully established, acquired social habits and manners are thrown off. The woman becomes aware of the conscious effort demanded of her to help as far as possible in the expulsion of her child. She is engrossed in her task, concentrating upon the all-important occupation of the moment. When the muscular effort ceases, her mind and body relax and she passes into a restful, sleepy state, sometimes into a deep, snoring slumber. This condition of complete alienation from other thoughts and associations either causes or passes into a state of amnesia and partial anaesthesia; the perception is dulled and the interpretation of stimuli through the normal channels is clouded. She rests peacefully, arousing only to work with each contraction."

The Position

The traditional birthing position in hospitals is lying on the back with the legs in stirrups. Most authorities on natural birthing consider this to be a most unnatural method and position. In most indigenous societies it is normal for birthing to occur in the squatting position. As this position is the one most helped by gravity, it would appear to be the most natural.

Water Births

Recently there have been many advocates of water births. It is up to each individual to investigate different methods such as this. If the individual is drawn to the method then it may be for them. If repulsed, then the method should not be used. If there is any doubt, do not use the method.

Effect of Birthing on the Child

Dr. Frederick Leboyer is a leading advocate of birth without violence. In *Birth without violence,* pp99-100, he writes:

"Birth may be a matter of a moment. But it is a unique one . . . others will say: 'Doubtless birth does mark the child, but life is no game. It is a merciless battle. A jungle. So, like it or not, aggressiveness is essential.'

"It is a total error to imagine that birth without violence produces children who are passive, weak, slow. Quite the contrary.

"Birth without violence produces children who are strong, because they are free, without conflict. Free and fully awake.

"Aggression is not strength. It is exactly the opposite. Aggression and violence are masks of weakness, impotence and fear . . .

"Natural childbirth—childbirth without pain—stands as proof of this."

Bonding

Often in hospital births the child is removed from the vicinity of the birth almost as soon as the cord is cut and is placed in a nursery completely alienated from the mother. This unnatural practice prevents the newly-born child from bonding with its own mother. It is denied the necessary nurturing of touching and stroking that is important at this moment. It is also denied the benefits of being put to the breast to suckle on the colostrum that nature has provided for its ongoing wellbeing.

Jean Liedloff, in *The continuum concept,* pp32-33, writes of this crucial time as follows:

"The period immediately following birth is the most impressive part of life. What a baby encounters is what he feels the nature of life to be. Each later impression can only qualify to a greater or lesser degree the first impression, made when he had no previous data on the world outside his mother's body. His expectations are the most inflexible he will ever have. The change from the total hospitality of the womb is enormous, but as we have seen, he has come prepared for the great leap from the womb to his place in arms.

"What he has not come prepared for is a greater leap of any sort, let alone a leap into nothingness, non-life, a basket with a dead cloth in it, or a plastic box without motion, sound, odour or the feel of life. The violent tearing apart of the continuum so strongly established during the phases which took place in the womb, may understandably result in depression for the mother, as well as agony for the infant."

Clearly, it is necessary to make the transition from the womb to the outside world in as natural and non-violent a way as is possible. This can be done by sliding the child up the mother's abdomen and placing it into her arms before the cord is cut. She may then put it to the breast for it to receive the colostrum. There should be no hurry to cut the cord, and this should definitely not occur until pulsation has ceased. During this period the mother may also examine her child, touching it, and soothing it and making the necessary bonding.

Joy of Birthing

Dr. Grantly Dick-Read describes this time on pp10:

"Many times I have called attention to the wonderful picture of happiness that we see at a natural birth. Women of all ages and types have testified to

this 'greatest happiness in their lives'. It is a moment when, in the full consciousness of their achievement, they experience the most intense emotional joy. 'I have never felt anything so marvellous—it cannot be compared to ordinary pleasure'."

He continues on pp11:

"It is the spiritual perfection of physical achievement . . . . Young mothers with no pretensions to piety have unhesitatingly told me at the birth of their child they felt nearness to God, or the presence of a superhuman being—'a heavenly feeling that they had never known before'—and that it was difficult to believe in the reality of the present. They spoke with awe and respect for the unpremeditated wonder of their experience."

Third Stage

The third and final stage of labour is the period following the birth of the child while the mother quietly lies nursing and bonding with her newly born baby. This should be a period of joyful relaxation while she awaits a few

further contractions in 15 to 30 minutes, at which time the placenta and membranes (after-birth) are expelled.

When the baby is put to the breast, the contact stimulates by direct reflex strong contractions and retractions of the uterus, hastening the separation of the placenta and the closing of the blood vessels in the part of the uterus to which it was attached. If this very natural sequence of events is followed, the birth will be the joyous and fulfilling occasion that it should be.

Nine Springtime Births & Breastfeeding

Dr. Herbert M. Shelton and Professor Westermark, who is quoted in Shelton's *The Hygienic care of children,* are two of the few people who have given consideration to the most appropriate time for children to be born.

Westermark says in *History of human marriage,* quoted by Shelton, pp55:

"Thus comparing the facts stated, we find among various races of men, the sexual instinct increasing at the end of spring, or, rather, at the beginning of summer. . . . It seems therefore, a reasonable presumption that the increase of the sexual instinct at the end of spring or in the beginning of summer, is a survival of the ancient pairing season, depending upon the same law that rules the rest of the animal kingdom."

It seems to be best for children to be born in spring. Shelton, pp56, argues that the time of year of the birth is most important for those living in cool and temperate climates:

"Babies born in the late fall or early winter and who live through the winter, nearly all develop rickets to a greater or lesser degree. Fewer cases of rickets are seen in children who have the advantage of sunshine and sunkissed food during their first months of life. That sunshine is absolutely essential to the normal assimilation and utilisation of calcium (lime) and perhaps also of iron and other elements is certain. This is true of plants and animals. This is true to quote Berg, 'When plants are in the most vigorous phase of their development, they contain comparatively large quantities of calcium. On the other hand the ripening of hay is attended by a gradual decline in the amount of calcium it contains, which may be reduced to an inadequate proportion.' It does not matter whether or not 'vitamins is the true explanation of the varying adequacy of milk through the seasons, the important fact is that spring and summer produce the best milk, and early spring therefore is the best time for babies to be born."

The situation is very different in the tropics and subtropics, since these areas really only have two seasons—wet and dry—compared to the four seasons which occur in other climates. In the colder climates winter is wet and cloudy. But in the tropics and subtropics, winter is the dry season, and is

hot and sunny, more like the summer of the colder climates. Conversely, in the tropics and subtropics, summer is the wet season, and it is wet and cloudy. It would therefore appear best for children born in the tropics or subtropics to be born just before the dry season, to enable them to benefit from the months of dry sunny weather. If a child is born in the tropics just before the wet season, it will be exposed to the hot, humid, cloudy months, which are uncomfortable and possibly lacking adequate sunlight.

The In Arms Phase

Birth of the child is a transition from the mother holding it in her womb to holding it in her arms. The role of holding the baby can also be shared with other members of the family and with friends and even strangers. This is a new phase of influence on the consciousness of the infant. Jean Liedloff in *The continuum concept,* pp33, says:

"The state of consciousness of an infant changes enormously during the in-arms phase. At the beginning he is more like other animals than he is like an adult human. Step by step, as his central nervous system develops he

becomes more particularly Homo Sapiens. Experience does not simply impress him more or less, but in different ways altogether as his faculties increase in number as well as in acuity. The earliest established components of an infant's psycho-biological make-up are those most primitive of his lifelong outlook. What he feels before he can think is a powerful determinant of what kinds of things he thinks when thought becomes possible."

Liedloff continues by describing how these feelings affect the child in later life:

"If he feels safe, lovable and 'at home' before he can think, his view of later experiences will be very distinct in character from those of a child who feels unwelcome, unstimulated by the experiences he has missed and accustomed to living in a state of want, though the later experiences be identical."

Clearly, it is necessary to provide an harmonious and safe continuum from the womb to the in-arms phase if the child is to develop naturally. This can be ensured if the child is born without undue interference, is then placed directly in its mother's arms, and the in-arms phase continues until the child naturally weans itself from it.

It is the norm in the less developed nations for a child to spend its first few months of life with its mother, either sleeping with her in her bed, or in a sling behind or in front of her body according to custom. The child may continue to be carried in a sling until it is two or three years of age. This practice frees the mother from continual concern about the wellbeing of her child, permitting her to continue with her normal duties. It also gives the infant continual contact with its mother's body. The warmth and contact with the mother's heartbeat provide a continuity of experience from the in-womb to the in-arms phase of the infant's life, easing the trauma of birth and the move to an independent existence.

By contrast, it is the habit in civilised countries to leave children in cots, prams, or even separate rooms, away from the nursing mother. Children brought up in this way consider loneliness to be the norm, leading them in later life to attempt to establish a state of loneliness. Similarly, if the child is brought up with anxiety being the norm, it will consider it necessary to always have something to worry about, and will feel insecure if this is not the case.

Breast Feeding

Breastfeeding is nature's most precious gift to the newly born child. Margaret Brady, in *Having a baby easily,* pp119, writes:

"For the new-born baby there is one, and only one, right food, and that is his mother's milk. No other food can begin to compare in value with good breast milk for a new born baby, and from his point of view, all other substitutes are 'ersatz' foods and less desirable."

Dr. Herbert M. Shelton explains in *The hygienic care of children,* pp116, why mother's milk is the best nutriment for newly-born human infants:

"Mothers should bear in mind that the milk of each species is perfectly adapted to the needs of its own young, and to the young of no other species. This is as true of the human mother as that of the animal mother. Nonspecific milk, that is, the milk of another species, is not only not as well adapted to meet the needs of the human infant as is that of the human mother, but it may prove to be actually harmful."

Dr. Bircher-Benner, in *Children's diet book,* pp22, supports this view:

"The laws of diet hold good basically for children and adults alike, but the effects of violating these laws during the years of growth are more profound and decisive for later life."

So we are affected, beneficially or otherwise, by our diet, not only at the time of consumption, but in later years. Furthermore, the ongoing effect of diet in the first two or three years, while the foundation of the body is being laid, is greater than the ongoing effect of diet at any other time.

Dr. zur Linden, pp132-133 writes of the benefits of mother's milk and breast-feeding:

"Mothers milk is a complete and perfect organism and its value for the child cannot be stressed too highly. Almost without exception breastfed babies develop harmoniously and without disturbance . . . . Even the best substitute cannot provide the resistance to diseases given by mothers' milk and the mortality of bottle-fed babies is still three times higher than that of breast-fed babies."

Dr. Mendelsohn, in *How to raise a healthy child,* pp47-49, lists five significant benefits of breast-feeding:

"1. Mothers' milk, time tested for millions of years, is the best nutrient for babies because it is nature's perfect food.

"2. A breast-fed baby gains from his mother's milk a natural immunity to many allergies and infections that is denied to bottle-fed babies.

"3. The bonding of mother and child is regarded as essential to your baby's emotional development, and it provides emotional rewards for you, as well.

"4. Not to be overlooked in deciding whether you will breast-feed your baby are several factors of specific importance to you. If you begin nursing your baby within a few minutes after delivery it will help to prevent haemorrhage because this sucking will cause your uterus to contract, hastening its return to its normal condition which reduces the flow of blood.

"Mothers who breastfeed are able to return to this normal weight with greater ease than those who abandon this phase of the reproductive cycle by resorting to bottle-feeding.

"5. If your baby is totally breast-fed, it will provide you with contraceptive protection in most cases, for at least six months, and in some instances for as long as 2½ years."

The emotional and psychological rewards of breast-feeding are just as important as the physical and physiological rewards. Dr. Grantly Dick-Read, who is regarded by many as the father of today's natural birth movement, says in *Childbirth without fear,* pp245:

"Mothers' milk has certain qualities that cannot be exactly duplicated. It has been created specifically for the human baby's own digestive system. It develops within the child an immunity against certain diseases, infections, and tooth decay. In families that suffer from such allergic diseases as asthma, eczema or hives, infants who are entirely breastfed for the earlier months of their lives are less prone to develop these conditions."

He continues:

"Breastfeeding is easier for mother, for the baby's milk is always fresh, clean, easily available, and at the correct temperature. It is both economical and labour saving, for there is no need to waste time sterilising bottles and preparing food, or buying expensive pre-packaged formula in bottles. It contains all the essential elements of food for the baby."

Bernarr McFadden, in *How to raise the baby,* pp10, lists other benefits of allowing the baby to suckle almost immediately following birth:

"After the baby has safely arrived . . . it is advisable to bring him . . . and put him to the breast.

"This is good for both mother and baby. It helps the mother by exciting uterine contraction, thereby preventing danger from haemorrhage, and it helps the baby because that peculiar liquid, known as colostrum, with which the breasts are filled, acts as a cathartic.

"Colostrum is a thick, yellow secretion, not in the least like the fluid milk subsequently secreted. It you were to examine it under a microscope, you would find it contained some milk globules and a lot of fat corpuscles. The latter have a natural laxative action, producing with less irritation than would be from any cathartic which could possibly be substituted for it, a discharge of the meconium with which the infant's bowels are loaded."

Contraction of the Uterus

Clearly, breast-feeding has a major role in assisting the contraction of the uterus after the birth of the baby. Many mothers have told me that they can 'feel the uterus contracting' as the infant suckles at the breast.

Jessie R. Thomson, in *Healthy childhood,* pp19, makes a further suggestion: "If the new mother will be persuaded to wear a very simple cold compress on the abdomen after parturition, she can do much to ensure a quick return to vigorous health and physical grace. The proper contraction of the uterus is all-important, and this can be materially assured by the warm reaction following upon the cold compress if it is applied as soon as possible after the completion of the birth."

Kenneth S. Jaffrey, in *Rearing your baby naturally,* pp10, makes another suggestion:

"After a baby is born the mother should fast for twenty-four hours. She should not eat any food at all, simply drink water whenever she feels thirsty.

"The baby may be put to the breast as soon as it demands food. Early feeding assists greatly in returning the abdominal area to its former size, shape and tone."

Suckling

Apart from the benefit that the mother derives by the reduction of the uterus as the infant suckles, its other long-lasting beneficial effect is to stimulate production of the mother's milk. Sheila Kippley, in *Breast-feeding and natural child spacing,* pp1, under the heading 'The breast for nourishment', writes:

"One of the baby's strongest needs is the need to suck—and rightly so, for it is the sucking that provides him with nourishment. The sucking of the infant stimulates the production of milk in the mother, and is the natural means of transmitting the milk from mother to baby." Margaret Brady, pp124, says:

"One of the new-born infant's strongest instincts is the instinct to suck. When in his mother's arms, being cuddled and given the breast, he derives tremendous pleasure and satisfaction from sucking the breast and getting his nourishment."

Breast-feeding should be a pleasure and a source of joy and happiness to both the mother and the child. Often, however, there appears to be insufficient quantity or insufficient quality. These problems can be addressed by consulting a Natural Health practitioner or an appropriately informed Natural Hygienist. It can also be useful to contact groups such as the La Leche League, which is a group of women who have successfully nursed their babies. In their book, *The womanly art of breastfeeding,* pp4, under the heading 'You can breastfeed', they write:

"Be reassured then, that you will be able to nurse your baby. You can because you want to. But is merely having the desire enough? Breast-feeding is basically a natural art, or should be, possessed by woman and strengthened as it is passed on from mother to daughter. . . . We are friends who believe we can help you because we have all successfully nursed our babies and have helped others."

To close, I quote from the La Leche League, pp7, under the heading 'Breast milk is superior infant food':

"Human milk, being form fitted to the human baby's digestive system, is more readily assimilated than cow's milk (which explains, incidentally, why most breast-fed babies are fed more often than formula-fed babies). Because it is easier to digest, the baby's energy is conserved for better growth of his brain and body—an important consideration during the early months when the rate of growth is far greater than at any other period of life."

Mother's Milk Cannot be Duplicated

The La Leche League continue:

"Mother's milk cannot be duplicated because we still do not know all the components of breast milk."

Radioactive Fallout

And further:

"Another consideration of some importance in this atomic age is the presence in milk of such products of radioactive fallout as strontium-90. The harmful effects of ionising radiation are said to be greater the younger the child. The consensus of scientific thought is that the amount of such radiation emitting bodies in breast milk is significantly smaller than that found in formula milk."

Ten The Newborn Baby

The newborn baby must make many adjustments to its new surroundings. Once the umbilical cord is cut, the heart, lungs, liver, and kidneys of the infant are required to take full control of its metabolic processes without the former assistance from its mother.

Usually the newborn baby is quickly rinsed with warm water and carefully dabbed dry with a warm towel to ensure that the valuable vernix is not damaged. Dr. Wilhelm zur Linden in A *child is born,* pp65, describes the role of the vernix:

"This fatty slippery substance which entirely covers the baby first helps him slip through the narrow birth canal. That it then also has other uses is becoming increasingly recognised. Apart from fats it contains mineral salts, vitamins and substances akin to protein. Some midwives know that it protects the skin, for they use it themselves to improve their own complexion. It inhibits the germs with which the baby is surrounded in his new environment, it insulates him and keeps him warm, and finally it is a form of nourishment and is absorbed by the skin within a few days."

To enable the baby to adjust to its new environment, it is vital that the mother herself has prepared by educating herself in the various stages of pregnancy, labour and birthing, and the needs of the newborn infant. She will then have the necessary knowledge and poise to confidently do the right things for her child. Stephen Gaskin in *Spiritual midwifery,* pp303, writes:

"Deer babies react to a rustle in the brush or other external environment sounds or sights. A human baby responds to ruffles in the vibrations more than the material plane. The human baby doesn't care what's going on in the material plane as long as the mother's vibrations are cool. The mother could be sitting on the carriage at a sawmill nursing the baby, and if she's cool the baby can be cool in that situation. But if the mother is uptight, or in an uptight situation, that can make the baby cry. That is what the baby really feels, and that is telepathic. That's why we feel that it's good for babies to be raised by their real mothers. We don't agree with the idea of the destruction of the family, that kids should be de-socialised by being raised by a whole bunch of other folks. My real opinion about it is that it makes crazy kids. It's really good for kids to be raised by their biological mother who has certain

interior psychedelics that her body manufactures. . . . So there is a relationship between a mother and her child that's realer than just conceptual, that is purely vibrational. The vibrations are really important and very real. If you take care of them, the rest of it will turn around and follow suit."

The newborn baby requires not only the warmth of love which his parents will naturally give, but also a great deal of physical warmth, particularly in the early weeks, and particularly if it has been born in the cooler climes or during the cold period of the year. After nine months in the womb, the baby now has to adjust to much lower temperatures. To check whether the baby is cold, simply feel its hands or feet; if they are cold the baby should be more warmly clothed or covered. Better still, restore the baby's warmth using your own body heat. Carrying the baby in a sling next to the body is an ideal way of ensuring that the baby is kept at a comfortable temperature. Jessie R. Thomson in *Healthy childhood,* pp25, writes:

"If a baby is to thrive he must be kept warm. This does not mean that he should be bundled up in many layers of garments. Over-clothing enervates and overheats the body, causes restlessness and fretting, and disturbs the

circulation. All garments should be designed to allow complete freedom of action. An active gurgling baby is not only a delight to the eye; he is in process of building up muscular tone and a vigorous circulation. He thus requires much less clothing and applied warmth."

In addition to the outer changes, very important inner changes occur when the umbilical cord is cut. Before birth, the baby developed with the help of the mother, through her blood and other forces acting through the foetal membranes. With its first breath the baby begins to live independently of the mother. Most significantly, with the first breath there is a re-direction of the blood circulation, which before the birth bypassed the lungs. The wall between the right and left half of the heart closes and the blood begins to circulate through the lungs, where it is refreshed before flowing through the whole body.

A New Factor

Now a new factor comes into play. As the child's life forces continue to increase, they also begin to be consumed. The child has taken the first step toward growing old. Building up and breaking down alternate, with the activity of the life forces leading to tiredness, and the bladder and intestines

begin their task of excreting what is no longer needed. Dr. Wilhelm zur Linden in *A child is born,* pp67, writes:

". . . we say a newborn infant is one day 'old', not one day 'young'. Parents and doctors should remember that it is in their power to influence this process of growing old through diet, through upbringing, and through choice of medicines: we can speed up or slow down the rate at which our children grow older and we should be conscious of this from the beginning so that we can help their life to proceed at the right and natural speed. An early maturation means an early loss of youth."

Another aspect of the breaking down process is the reduction of the number of red blood corpuscles from the seven or eight million per cubic millimetre with which the baby is born, to just four million per cubic millimetre. The digestive organs, particularly the liver, are responsible for this prodigious task. The process requires the baby to be kept warm for correct operation of the liver; without warmth the baby is likely to become severely jaundiced. Dr. Wilhelm zur Linden in *A child is born,* pp68, writes:

"An early sign of the breaking-down process is seen in the activities of the bowel and bladder. First the bowels excrete meconium, a greenish black substance consisting of thickened digestive juices, uterine fluid swallowed by the baby, cells from the walls of the intestines and fine hair from the embryo's skin. This usually takes three or four days and then the baby starts producing the golden-yellow, sweet-smelling motions of a purely milk diet. During the first few days the baby drinks very little milk and therefore passes water only once or twice a day. Later this happens up to thirty times a day. The first urine passed soon after birth is sometimes reddish in colour due to the salts dissolved in it. This is quite harmless."

The mucous membranes of the air passages and intestines are completely sterile at birth. Soon after birth, however, they become well populated with bacteria, and the baby will sneeze ten to twelve times a day to clear the upper respiratory passages. This is quite natural and normal.

The skin, which at birth is wrinkly, rapidly becomes smooth, and the skull bones, which have often become startlingly squashed, readjust. Another process which commences after birth is metabolism of the gastrointestinal tract, including the mouth, gullet, stomach, small and large intestines. Dr. Wilhelm zur Linden in *A child is born,* pp68-69 writes:

"But the most wonderful is the gradual regulating of breath and heartbeat till there are about four heartbeats to every breath. This miraculous process can be a sign for us of the double nature of man. Through birth the child enters the realms of natural laws, but the functions of his organs are only partly subject to these laws. For the greater part they function according to spiritual laws and draw their strength from spiritual sources. This is particularly the case with all functions which are rhythmical and so the rhythms of the heart and lungs are an expression of the interweaving activity of soul and body."

We can observe the movement of the limbs, the heaving of the chest, feel the beating of the heart, and perceive the activity of the digestive system by the flow of saliva in the mouth and the subsequent excreta. But there are no other external signs of the considerable activity of the brain and nerves. They work quietly and without movement, even though their importance, both for the embryo and the child after birth, is exceptional.

Very early in the embryonic development the head is the same size as the rest of the embryo. However, at birth the head is far larger in relation to the rest of the body than in the normal adult human being. At this stage the nervous system is the best developed of all the systems of organs. At five months, the embryo already has as many nerve cells as has a fully-grown adult. Clearly, the brain and nervous system play a major role in the development of the embryo and the child.

At birth the newborn child has only reflex reactions to the external stimuli of the sense organs. The limbs move haphazardly without help from the brain or spinal cord. Movement is a fundamental property of anything living, and there is rhythmic movement in all living protoplasm, from the white of a bird's egg to the embryo in the womb which moves without any stimulus.

The movements become ordered only when the nervous system is more developed so that the brain is aware of the state of the muscles, their position in space and condition of metabolism. At this stage the movements become subject to conscious will and can be directed to an aim.

Although the newborn does not consciously experience its senses, its senses are nevertheless highly active. It is therefore vital to expose the infant to carefully selected healthy sense impressions. At this early stage the sense organs find the shape and basis of health which will be theirs for life.

Dr. Wilhelm zur Linden in *A child is born,* pp70, writes:

"Though not consciously experienced, all the senses of the baby are active. Because his soul and spirit have entered right into his body . . . he is in a way 'all sense organs'; his whole body takes in sense stimuli. Thus the soul and spirit receive sense impressions very intensely at this age, though not fully consciously. The organs are formed in their finest structure with the help of these sense impressions. And with their help the consciousness of the soul gradually awakens. As the sense organs develop, so the soul awakens. With the help of the impressions of touch received through the nerves all over the skin, the impressions of light, the effects of warmth and cold, the sound of speech and song, noises of all kinds, the taste of food and its greater or lesser digestibility and the love, or lack of it, from those around him."

Clearly, we should be very careful in how we treat a newborn infant, especially in the first few days and weeks. Proper treatment will enable the infant to develop healthily. For restful sleep, the infant needs peaceful surroundings without undue noise. Plenty of unpolluted air, no bright lights, and brief exposure to the early morning sun are also necessary for the newborn infant. Above all, the infant needs love and understanding. Too

often, newborn infants become vehicles for display to friends and relatives. Better to put the welfare of the child before the curiosity of others.

The First Bath

It is normal for a baby to be bathed soon after birth. Bernarr McFadden in *How to raise the baby,* pp4, writes:

"The baby should first be carefully anointed with pure olive oil to facilitate the removal of the vernix caseosa—the unctuous material with which the baby is covered. This is followed by a warm bath, the water being from ninety-five to one hundred degrees Fahrenheit (35 to 37.8 degrees Celsius). The best castile soap should be used, the baby being carefully soaped and sponged from head to foot. Then he should be dried with a soft old towel, using extreme gentleness always."

The foregoing is a clear example of many things that we do not advocate. At the beginning of this section we listed the benefits from not removing the vernix. Most authors recommend the use of warm (body temperature) water for bathing the baby. Herbert Shelton in *The hygienic care of children,* pp65, writes:

" . . . the baby should be bathed in warm water, soft water if this is available."

And Jesse R. Thomson in Healthy *childhood,* pp22, says:

"Wash baby quickly in warm water. Even if you 'love to see him in his bath', a hot steamy bath can quickly soak his vitality."

She continues:

"After the warm bath, give baby a gentle but brisk rub over with the hand dipped in cold water. Accustom him to the use of cool water and very quickly he will enjoy his rub down."

The common practice of using soap is both unnecessary and harmful, as it destroys the natural oils of the body which protect the skin, and leaves a layer of irritating chemicals on the skin which are also absorbed through the skin.

Neither Shelton nor Thomson consider soap necessary, and Thomson writes, pp22:

"In the early days avoid the use of soap; it is quite unnecessary until the child learns to crawl."

In the past many peoples have bathed newborn infants in cold water. My own observation is that children are not harmed by this practice. Shelton in *The hygienic care of children,* pp64, writes:

"Most so-called primitive peoples seem to have been content to bathe their newborn babies in cold water. The American Indians washed their newborn in cold water almost immediately after birth. In his 'Twenty years residence in South America', Stevenson says that: 'Among the Araucanian Indians of that country a mother, immediately on the delivery, takes her child, and going down to the nearest stream of water, washes herself and it, and returns to the labours of her station.' The inhabitants of Pitcairns Island bathed their babies in cold water and bathed their children three times a day in cold water. Ancient Germans, Britons, Scythians, and the people of Greenland, were in the habit of bathing their newborn infants in cold water or ice water or even rolling them in the snow. In Russia this practice also prevailed. Dr. Shaw tells us of the practice by many mothers of washing newborn babies in water as cold as could be obtained in New York, in the first part of the last century."

Shelton nevertheless advises preference for the warm bath, pp64:

"Dr. Andrew Combe, in his book 'The physiological and moral management of infancy', advised bathing the newborn in water at blood temperature—that is, at about one hundred degrees Fahrenheit (37.8 degrees Celsius). The warm is certainly preferable to the cold bath at all ages and under most circumstances of life."

Dr. Tilden advocated anointing the baby with oil. However, I agree with Shelton, who says:

"I am unable to see the need for oil."

I too feel that oil is unnecessary and could be harmful in clogging up the pores of the skin, restricting its ability to 'breathe'.

Powders

As with oil, so with baby powders. Jessie R. Thomson in *Healthy childhood,* pp23, writes:

"If you value your baby's health and would keep his body free from chaping and sores, do not use baby powders of any description. It is no empty theory, but a finding from prolonged professional observation and personal experience, that a baby's skin can be kept in a beautiful, silky condition without the use of any powder. Absolute cleanliness is the secret."

Eleven The Cord

As mentioned earlier, the cutting of the cord should be delayed until the pulsation ceases. We now concern ourselves with the care of the cord from that point onwards.

Bernarr McFadden in *How to raise* the *baby,* mentions the use of a navel dressing, held in place by a flannel band. He continues, pp9:

"I think however, that the time may come when we will treat the cord as nature treats the cord of a calf or colt. She just scabs over the stump, and lets it alone. It heals normally and that is all there is to it."

I have observed this method on numerous occasions, and it has always been eminently successful. However, because our lifestyles may not always be perfect it is sometimes necessary to take precautions. Jesse R. Thomson in *Healthy childhood,* pp23, says:

"Sometimes the umbilical cord requires a certain amount of attention. A satisfactory method of applying the dressing on the navel is to use a coat button the size of a penny. Cover this liberally with cotton wool and on top of this place a piece of fine linen moistened with cold water. Apply this dressing very gently over the navel and keep it in position with a flannel bandage, which can be kept in place by tucking the end underneath. The bandage must not be tight. It should be drawn just firmly enough to hold the dressing in place. The damp linen should be removed and renewed at each bathing time until the scab sloughs off and the surrounding parts no longer require attention."

It is not unusual for a certain amount of bleeding after the umbilical cord is cut. If this is excessive or prolonged, further help should be sought. Dr. Wilhelm zur Linden in *A child is born,* pp74, writes:

"Bleeding from the navel after the remainder of the umbilical cord has been discarded can also cause mothers anxiety, but this is quite harmless so long as the navel has been kept absolutely clean."

It is usual to advise the use of some form of antiseptic on the cord to assist in the "drying process". Sometimes even those who we would expect to be more enlightened advise procedures which are potentially harmful. For example, Ima May and the Farm midwives in *Spiritual midwifery,* pp306, write:

"The cord: the umbilical cord begins drying up soon after it's clamped and cut. In about 48 hours your midwife or doctor will cut the cord clamp off. You should look at the baby's belly button frequently in the first 24 hours after birth. Fold the baby's diaper low so it doesn't rub against his cord. Also keep plastic pants low enough so they don't get around the cord and keep it from drying. Several times a day put a few drops of alcohol on the end of the cord where it was cut and at the base where it meets the baby's body. Do this till it is completely healed. The cord keeps drying up until it falls off. This can take a few days or over a week. It's common to see a tiny bit of blood around the belly button."

Where should I start?! Pants made of plastic or other material that does not permit free air circulation, while conveniently reducing the need to frequently change nappies, are certainly not conducive to the wellbeing of the child. The continued hothouse conditions they create can cause chapping of the skin, nappy rash, and re-absorption of the urine.

Alcohol is also a harmful substance. It irritates the delicate skin of the infant, and is absorbed through the skin. Herbert Shelton in *The hygienic care*

of children, pp67, under the heading 'The navel', states that the only thing needed is cleanliness:

"This is usually an object of much concern except in the lower animals. It is the custom to wash it with antiseptics and put a 'drying powder'—arisol, bismuth, subgallate, etc.—on it. A shield is then placed over the parts and the usual 'belly-band' tied around the child. All of this monkey-work is pernicious and needless. Cleanliness is all that the navel requires. Clean it with plain warm water and let it alone. If the navel is discharging and a strap is applied to it, so that the discharge is pent-up, infection is almost sure to follow."

Circumcision

Circumcision has been described variously as 'the greatest hygienic measure for the prevention of disease' to 'a barbarous and criminal practice'.

Margaret Brady, in *Having a baby easily,* pp178, writes:

"Circumcision is the practice of cutting the foreskin in boy babies. In the majority of cases this operation is unnecessary. In some cases the foreskin may be a little tight, but it can usually be stretched by the doctor [Editorial comment: or mother], and daily retraction by the mother . . . during the first few weeks will suffice to cure it. Only in a very small number of cases is circumcision really needed to prevent pain on passing water, or later troubles."

I have yet to see an instance where circumcision is 'really needed'. Such instances may nevertheless occur. Dr. Robert S. Mendelsohn, in *How to raise a healthy child,* pp44, writes:

"Every generation of doctors has found a new excuse for circumcision, despite the fact that even the American Academy of Pediatrics has advised that 'There is no absolute medical indication for circumcision of the newborn'. If your doctor suggests circumcision for your baby boy, ask him why he wants to expose the poor kid to the pain, the possibility of infection or haemorrhage, and the risk of death from surgery that has no medical justification."

Umbilical Hernia

Dr. Robert S. Mendelsohn, in *How to raise a healthy child,* continues by warning of the dangers from two other surgical procedures for conditions that sometimes exist at birth: umbilical hernia and an undescended testicle. On umbilical hernia he writes (pp45):

"The first of these is the umbilical hernia, a small defect in the abdominal muscle that permits the abdominal contents to protrude. The condition is quite common and can usually be expected to correct itself before your baby's first birthday. However, even if it doesn't, surgery should not be considered until your child is three to five years old, because there is a good chance that the condition will correct itself."

Dr. Wilhelm zur Linden in *A child is born,* pp74, also discusses this condition:

"The navel is at first definitely a weak spot. Even when it is well healed an umbilical hernia can occur if the baby cries or if he presses while passing a motion. The resulting lump can be larger than a walnut and if one pushes it back with a finger one can clearly feel the opening in the wall of the abdomen. In many cases this kind of hernia can be corrected without having to operate . . ."

Undescended Testicle

Dr. Robert S. Mendelsohn, in *How to raise a healthy child,* writes:

"Finally there is the possibility that your baby may be born with an undescended testicle and your doctor will recommend surgery to bring it down. The need to do so is dubious at best. Some doctors maintain that it is essential because the threat that cancer may develop in the undescended testicle. That reason may seem persuasive, but it shouldn't be, because the mortality rate from surgery is higher than the potential mortality rate from testicular cancer. Consequently, it is safer for your child to leave the undescended testicle alone."

He continues:

"It is another matter if your child has two undescended testicles. In that event surgery deserves serious consideration because sterility is almost inevitable if neither of your child's testes is in its proper place."

Phimosis

Phimosis is the condition of having a tight foreskin, and circumcision is the customary remedy; we feel that this practice is unnecessary. Herbert Shelton in *The hygienic care of children,* pp79, writes:

"In boys the foreskin is almost always tight. There is nothing abnormal about this."

Dr. Wilhelm zur Linden in *A child is born,* pp76, writes:

"Phimosis is quite common in small boys. This is a narrowing of the foreskin which can cause difficulty in passing water. Usually the doctor can correct this during the early weeks by stretching. The foreskin finally stretches by itself during puberty."

Dr. Shelton further says (pp80):

"In phimosis, if daily traction will not overcome it, a probe should be inserted and the part stretched. The foreskin should be drawn over the end of a syringe and warm water forced into the cavity between the glans and the foreskin to cleanse it. If necessary a doctor may be called to dilate the foreskin with a dilator. It causes a little pain, but is soon over. In cases where the foreskin is adhered to the glans, it should be peeled loose."

Care of the Genitalia

The genital organs should be kept scrupulously clean. Unfortunately, this is not always done. The cleaning should be done with only clean warm (not hot) water, and should be carried out frequently during the day to ensure that any residue from wet and soiled nappies is not retained on the infant's skin. When a wet or soiled nappy is changed, the opportunity should betaken, if possible, to expose the genitalia to sunlight for a few minutes. At very least, the genitalia should be exposed to the sun once a day.

Herbert Shelton in *The hygienic care of children,* pp79, writes:

"The genital organs should be kept scrupulously clean. In girls these should be washed during the bath with plain water and absorbent cotton. No soap or antiseptics should be used on these tender parts. Be careful to dry them thoroughly after each washing.

"In boys . . . every other day . . . the foreskin should be pulled back and the secretion thoroughly washed away with plain water. Do not use boric acid ointment or other drugs to smear the parts as is normally advised."

The time to start pushing the foreskin back on the male infant is when he is two to three days old. It is quite normal for the foreskin to be tight; if it is especially so you may need to work it quite a bit to enable it to retract. This should be done with the thumb and the forefinger, and is best done in the bath, where the water will act as a lubricant.

After the first time of retraction, it may be wise to leave it for a day before doing so again. From then on it should be done every day, cleansing the area of smegma, a cheesy white secretion produced by the sebaceous glands of the foreskin. If this cleansing is not done, smegma will build up under the foreskin.

Each time the foreskin is retracted it should be put back into place, otherwise it could cause swelling.

Chafing

Chafing of the skin is a common problem in infants. It is always due to uncleanliness. The uncleanliness can be external, involving the skin and clothing, or it can be internal, caused by incorrect feeding or undue stress.

External uncleanliness of the skin can be remedied easily with a small amount of clean warm water. In the case of clothing, the problem may be from wet or soiled nappies that are not changed, or the use of certain types of soaps, washing powders or detergents to wash nappies. To avoid chafing, these laundry ingredients must be rinsed from the nappies sufficiently and the nappies well aired in sunlight.

Internal uncleanliness may be due to incorrect diet on the part of the breastfeeding mother, or inappropriate alternatives in the case of a bottle-fed baby. Undue stress can also contribute by causing the urine to become highly acidic.

Another factor is the use of disposable nappies. Do not use them—they are invariably impregnated with chemicals that are liable to affect the health of your infant.

Herbert Shelton in *The hygienic care of children,* pp68, writes about chafing:

"This is due to dirt, a wet skin, sweat or water left in the folds of fat on fat babies, overclothing, tight clothing, etc. The usual treatment disregards the causes. Bran baths, powders, medicated and otherwise, sea-salt baths, vinegar, starch, and boric acid powder, etc., and the foolish procedures of the 'do something' schools.

If a child is washed in plain water, thoroughly dried after each bath, not allowed to acquire the fat bloat, and is not overclothed, its skin will not chafe. If it has been allowed to chafe there is nothing better than to expose the baby's body to the air."

Jesse R. Thomson in *Healthy childhood,* pp24, says about the contribution of powders and creams to chafing:

"If through lack of cleanliness or unwise dietary, baby's skin does become chafed and irritated, a lotion made up of two parts of olive oil and one part of lemon juice may be used until the condition is under control. Afterwards, nothing but frequent cold water sponging and careful drying is called for. The tendencies of all powders and creams is to clog the skin. Many of them contain active chemicals which lower the skin's vitality and prevent normal cleansing activities. This is not a slight defect. It can throw a great deal of extra work upon the kidneys, lungs, liver and bowels."

In my experience, oils applied directly to the skin also tend to clog the pores and suppress normal function.

Twelve When to Wean?

When to wean is the same question as 'How long to breastfeed?' To begin we will consider the question assuming that the mother is able to breastfeed for as long as the child needs. Later, we shall consider those situations requiring premature weaning of the infant due to illness etc.

In our society the average age of weening is between six and nine months, a very few go to twelve months, and weaning as early as three months is not unusual.

Strictly speaking, weaning begins with the introduction of any food other than mother's milk. Margaret Brady, in *Having a baby easily,* pp139, writes:

"Weaning really consists of teaching the baby to take foods other than breast milk, from some source other than the breast. It should not be regarded as a special or worrying time beginning at eight or nine months, nor should it be done suddenly. Instead, it should be looked upon as something which begins when the baby has his first drink of cooled, boiled water, and proceeds gradually, by easy stages, until the very last breast feed has been taken."

Regardless of how long breastfeeding continues, weaning should be done gradually, rather than an abrupt cessation as is often recommended. The La Leche League, in *The womanly art of breastfeeding,* pp130, write:

"It is true that some doctors, nurses, and others who are strongly in favour of breastfeeding, up to a point, nonetheless advocate a definite age for weaning. On the other hand, many doctors, psychologists, social anthropologists and other scientific folk (as well as mothers, in terms of their natural intuition), are equally outspoken in advocating a more relaxed attitude toward weaning the baby. They point out that in cultures where children are allowed to continue nursing quite freely as long as they like, the children in general are well adjusted, gentle, agreeable persons when they grow up."

Clearly, there are great benefits from not arbitrarily curtailing breastfeeding. What greater benefits are there than having children grow up to be gentle, well adjusted and agreeable?

The La Leche League continues on pp133:

"Let the baby do it. Let him nurse until he wants to stop. Be sure then that, when he is ready, he will 'graduate'. Weaning is a personal affair. It should take into consideration primarily the needs of the baby as recognised by the observant mother. You see, your baby has his own individual growth pattern in this respect too. He is different from all other babies as to when he will cut his first tooth, when he will sit up by himself and when he will walk and talk. Your baby may need the special kind of mothering he gets from breastfeeding for a longer time than someone else's baby. You, his mother, know and understand that need best because you have cared for him since he was born. With the special kind of love a mother has for her baby, you can sense his needs better than anyone else. This is why each baby has his own individual mother and is not turned out on an assembly line, mass-produced basis."

I cannot condemn too strongly the practice of early cessation of breastfeeding. I feel that even the minimum of seven months recommended by Jesse R. Thomson in *Healthy childhood,* pp37, is premature. She writes:

"The present fashion of hurrying on weaning time is to be deplored. 'How much longer must I go on nursing my baby?' is an all too frequent question. So long as baby is thriving well and the mother maintaining reasonably good

health, nothing but good will come from continuing breastfeeding for at least seven months."

Dr. Wilhelm zur Linden in *A child is born,* pp112-113, writes about some of the negative aspects of ceasing breastfeeding prematurely:

"Human milk has less calcium than any animal milk and consequently the breast fed baby grows more slowly and his body and bony system solidify more slowly. The awakening of the consciousness stands in direct relation to the solidifying of the body and in the bottle-fed baby this takes place too early because he receives too many mineral salts, particularly calcium, too soon.

A speeding up of growth and awakening directly connected with nutrition brings with it a danger of early rigidity and a premature ceasing of development as a result of too rapid and too intensive calcification. The human being needs to progress very carefully in everything; the incarnation of the soul and spirit and connected with this the transformation of the model body given by the parents into one which suits the child must take place step by step at a calm and tranquil pace. But with present methods of nutrition children emerge too soon from their dreamy consciousness, they stand, walk and speak too early, the fontanelle often closes at ten instead of eighteen months and so on.

"A speeding up of this kind, which only makes a different of weeks, or at most a few months, may seem rather insignificant. But premature development like this affects the whole course of life and cannot be undone."

Dr. zur Linden goes on to describe how this precocious development can result in nervous restlessness, lack of concentration, causing failure at school due to an inability to grasp the basic concepts necessary for fuller and more complete understanding.

Small Breasts

Women with small breasts often believe that they will be unable to feed their baby satisfactorily, or that if they do, their milk supply will become inadequate after a relatively short period. The evidence is to the contrary: small-breasted women are not only capable of feeding their babies as much and as long as required, but also their milk may be of a higher quality than the milk of large-breasted women. Herbert Shelton in *The hygienic care of children,* pp160, writes:

"Small breasts do not constitute a reason for not nursing one's child. There is no necessary relation between the size of the breast and the ability to nurse one's child. It is a fact that many women with small breasts secrete more and better milk than women with large breasts."

The La Leche League, in *The womanly art of breastfeeding,* pp43, support this:

"As for size of breast, this has nothing to do with its ability to make milk; a mother with a small bra size can be just as successful as her more amply endowed neighbour."

Shelton further comments on breast size on pp160:

"There are, of course, women who have no breasts. The glands never develop and their chests are adorned with nothing but nipples. Such women, if it is possible for them to become mothers, should avoid motherhood."

How Long to Breastfeed?

In our society it is considered radical to breastfeed for more than six months. The La Leche League, however, considers it acceptable to breastfeed for as long as twenty-four months under some circumstances. But to consider extending breastfeeding beyond this point is considered quite extreme.

Even the revered Dr. J. H. Tilden in *Children—their health and happiness,* pp43, placed the limit at around twelve months:

"If the mother is healthy and giving all the food the child needs, and if the child is showing a wholesome condition, it should continue to nurse until about one year of age."

He also says, pp41:

"I do not believe in feeding children very much other than milk in the first twelve months. Those who have normal, healthy mothers should thrive very well for the first year if kept entirely on the mother's milk, plus fruit and vegetable juices. After a child is three months old, it should be taking a feeding of fruit and vegetable juices daily."

The Three Year Nursing Period

In contrast to the authors quoted above, I advocate a *three-year* nursing period as ideal. This will probably surprise you, unless you are familiar with Hygienic practices. I am supported by Kenneth S. Jaffrey and Dr. Herbert M. Shelton in this.

My experience is that children who are breastfed for three years, given that the mother is healthy and happy in her circumstances, develop into well-rounded people and do not need any milk in their diet after ceasing to breastfeed. In contrast, children who have not been breastfed for this long require, for satisfactory development, supplementary feeding with milk until they are as old as seven years.

Kenneth S. Jaffrey in Rearing *your baby naturally,* pp10, writes:

"Until the baby is three years old is should be fed exclusively on its mother's milk. This may sound revolutionary to some, but it is in accordance with natural law."

Notice the word 'exclusively' here. On pp16, under the heading 'Weaning the baby', he writes:

"When a baby is three years old he should be weaned. No purees, porridges or starchy concoctions should ever be given to baby. When baby is three years old he should be introduced to the same natural foods as his parents *should* be eating. At three, baby should learn to eat raw fruit, raw vegetables, whole grains and proteins such as nuts, eggs, cheese, etc.

"You simply reduce the amount of milk or milk substitutes progressively at the same time as you increase the amount of solid natural foods. The changeover from milk may take about four to eight weeks. From now on the child is to be regarded as having the digestive capacity of an adult."

In practice, however, Jaffrey taught the mothers in his care to commence the feeding of other foods, such as juicy fruits, at any time from nine to twelve months of age. By contrast, Shelton advised the use of fruit or vegetable juices from about three months of age.

Herbert Shelton in *The hygienic care of children,* pp135, gives us some insight as to why he believes a three year nursing period to be ideal:

"I have developed the theory that the normal nursing period of mammals is directly related to the development of the young, even that it bears a direct ratio to the length of time required to reach maturity. Young mammals that grow rapidly and mature early have correspondingly short nursing periods; young mammals that grow slowly and develop late have correspondingly long nursing periods; the human infant that grows slowest of all and reaches maturity latest has a correspondingly longer nursing period."

Shelton continues by explaining how he has observed the feeding patterns of mammals and the conclusions he has drawn from them:

"I have divided the feeding periods of the mammal, including man, into three distinct stages corresponding to their development, as follow:

"1. The infant period, during which they normally take nothing but milk as food.

"2. The transition period, during which they take both milk and other foods.

"3. The adult feeding period which begins with weaning and continues throughout the remainder of life, during which period the mammal normally takes no milk."

I agree with these divisions, with minor refinements. The first refinement is my observation that for all human infants, sweet milk is best, while for those who are weaned, the best form of milk is soured, clabbered, cultured or fermented. Milk in the non-sweet forms is partially digested and is tolerated even by those who are intolerant to sweet milk.

I am of course referring to milk products in their whole raw state from healthy animals, not the devitalised, pasteurised, homogenised product from animals that have been fed with the offal from other animals, drenched, vaccinated, or otherwise mistreated in the guise of keeping them 'healthy'.

Dr. Shelton further elaborates, pp135-136:

"The infant period normally commences at birth and ends with the development of a mouth full of teeth and the development of the ability to secrete adequate digestive juices with which to digest solid foods. The transition period begins with the development of the anatomical and physiological equipment with which to digest solid foods and ends with weaning. The adult period commences with weaning and ends at death.

"This classification of the three feeding periods of the mammal is based on what actually occurs in the life of the mammal living in a state of nature. Also, it is what actually occurs in the life of the human being living under conditions in which substitutes for the mother are not at hand. They represent, I contend, the three norms of nature in the feeding practice of all mammals, including the human mammal."

I would add a fourth period to the three designated by Shelton. The fourth period commences at what is commonly termed 'middle age', that is, around forty-five years of age, which is our point of physiological maturity. It terminates at death. During the fourth period we are on a slow decline, with the physiological functions of the body deteriorating until complete cessation of function. The rate of this decline depends somewhat on our prevailing lifestyle.

We return to Dr. Shelton on the theme of the three-year nursing period, pp137:

"How long should the human nursing period last: the human infant is helpless longer than the young of any other mammal and requires longer to mature than any other animal, hence we should expect the period of nursing in man to be longer than that of any other mammal.

"Normally, by the age of two the child has developed the tools—teeth and digestive enzymes—with which to deal with solid foods, although neither in animals nor in children in nature does nursing automatically and abruptly end at this stage of development. The requirements of the organism change markedly at the age of two, although the change is not so radical and abrupt that milk is no longer needed. There is, on the contrary, a transition period, during which the diet of the young mammal, whether human young or the young of lower mammals, subsist on both milk and other foods. In the human young, both among so-called primitive peoples and among so-called backward peoples, who have no milk animals to substitute for the mother, the age at which weaning takes place is determined by the type of food upon

which the adult feeds rather than by any physiological development of the young . . ."

He continues:

"Until the child is adequately equipped with teeth with which to chew solid food, its food should be milk. When it has developed a mouthful of teeth, it should begin to add solid foods to the diet. When it arrives at the stage when it should be weaned, there is no longer any need that it shall be given milk."

Summary

The infant should be exclusively fed mothers' milk for the first three months. From three months onwards, fruit and vegetable juices, commencing with very small amounts, should be introduced. At approximately nine to twelve months, depending on individual requirements, soft juicy non-starchy fruits may be introduced. No starchy foods should be introduced before fifteen to eighteen months of age, at which time the enzyme ptyalin will be present in the mouth.

From the age of nine to twelve months the intake of the more solid foods should be increased gradually, with weaning being complete at around three years of age.

Thirteen Frequency of Feeding

The literature presents quite a range of views as to what is the most appropriate frequency for feeding. Some advise that the periods of feeding should be confined, as early as possible, to three per day. Others, including Thomson, believe that the best method is that of 'self regulation' or 'on demand'.

Tradition

Traditionally, six feedings a day are advocated, at 6am, 10am, 2pm, 6pm, 10pm, and 2am. Some authors feel that unless this regularity is adhered to from the outset, there will be insufficient stimulation for an adequate supply of milk. Dr. zur Linden in *A child is born,* pp137, writes:

"This regular sucking every four hours helps to stimulate the supply of milk. Soon the baby will sleep through the night and the 2am feed can be omitted."

He continues:

"The four hour gaps between feeds should be maintained as strictly as possible. It is quite all right to wake the baby gently when the next feed is due."

Sister Joyce Lubke in *I had no say,* pp47 recommends that children be fed every three to four hours, but not to wake the baby for a feed:

"Breastfeed your baby every three to four hours or longer if he is sleeping."

Margaret Brady in *Having a baby easily,* pp 124-125 also advocates a regular routine:

"It is important that the other should have a regular routine as a useful guide. As a rule, the baby should have five feeds at four-hourly intervals and no night feed.

She continues under the heading 'Routine':

"Regularity of feeding has certain advantages even though it may be necessary to wake the baby for some feeds to establish a routine. . . . By having a routine and sticking to it, the mother can begin the training of the baby into regular habits, and at the same time so arrange her own day to get the maximum amount of work done with the minimum of effort."

She makes exceptions for sick babies, however: "A sick baby or child should seldom be awakened for a meal." From the Natural or Hygienic viewpoint, a sick child will probably not be eating, and in any case should never be woken for a meal.

On Demand

Jessie R. Thomson in *Healthy childhood* considers that strict adherence to particular feeding times can be harmful. Under the heading 'Self regulated feeding', pp35, she writes:

"Although an approximate interval of three hours between feeds in infancy, and later four hours seems to suit most babies, we find that if left to himself any unagitated child will quickly fall into his own routine. A *rigid adherence to* timing *is to be deplored."*

Brady appears to revise her view on regular routine later in her book. On pp164 she writes:

"Though a regular routine with five feeding periods a day is usually the best plan for the mother, and one which helps the baby to form regular habits,

it sometimes causes difficulties. Some babies, especially in the early days, appear to thrive better if they are fed on the new—or rather older—'on demand' method. They are not roused for feeds, but are allowed to sleep on until they wake and demand food; similarly, if they wake early and cry, they are fed."

The average recommendation would appear to be five or six feeds a day, with perhaps even more where feeding is 'on demand', particularly early on.

Three Feedings a Day

The idea that children should be fed three times a day appears to have been held by very few. I have been able to find only three people who promoted the idea: Dr. Page (quoted by Shelton), Dr. Herbert M. Shelton, and Kenneth S. Jaffrey (who, I understand, took up the idea from Shelton).

Apparently, Dr. Shelton also quotes Dr. Tilden as advocating the three meals a day plan, but I have not been able to verify this.

Tilden in *Children,* pp39, writes:

"Now, how often should a child be fed? This is a question that will continue to be asked as long as children are born and the answer will vary according to the prejudices, superstitions, and customs of the locality in which they are born. If babies are allowed to rest as they should, without

handling and fondling, they may be fed about three times a day for one or two days. A child that is permitted to rest all it can, and has not been injured in childbirth, will probably not awaken oftener than three times in twenty-four hours. It is a very silly, foolish thing to awaken a child to put it to the breast. I have found for the first three or four days after birth the baby will sleep nearly all the time—probably twenty-three and one-half hours out of twenty-four."

He continues:

"At the beginning of the second week or the end of the fourth or fifth day, the child should be nursed every four hours during the day—at six and ten o'clock in the morning, and at two and six o'clock in the afternoon; absolutely no night feeding."

Kenneth S. Jaffrey in *Rearing your baby naturally,* pp10, advocates the three meals a day plan as follows:

"While breast feeding the baby the ideal number of feeds daily is three. These may be given at 6.00am, 12noon, and 6.00pm. No other food is required. If thirsty, the baby may have water between meals."

Sister Joyce Lubke, a contemporary and close friend of Kenneth Jaffrey, advocated a similar regimen to Dr. Tilden, with feedings at 6am, 10am, 2pm, and 6pm, and including a 10pm feeding for the period up to 8 weeks after birth. In *I had no say,* pp47, she writes:

"Breast feed your baby every three to four hours or longer if he is sleeping. Your milk will change to suit the baby's different needs during the day, and at night to satisfy and carry him through the night without a feed (usually from about 8 weeks)."

Dr. Shelton in *The hygienic care of children,* pp150, quotes Dr. Page in support of three feedings a day:

"It is my belief, verified by experience in the case of my own infant and from other substantial proof, that three meals a day, with sufficient restriction at each . . . are all that should be permitted from birth, and the intervals should be at least five or six hours between meals."

He continues, pp151:

"My own experience corroborates all of this. I believe it to be an invariable rule that babies fed as herein directed grow faster and develop

better than the overfed children of the average home. They do not weigh as much, for they are never permitted to become fat. More than once I have stopped all food but orange juice in my own children to counteract a tendency to get fat."

My own experience is that children generally do best when fed according to the regimen advocated by Dr. Tilden and others, i.e. at 6am, 10am, 2pm, and 6pm, with a night feed in the early stages. Those mothers who I have observed that have endeavoured to limit the feeding of their babies to three feedings a day have found that they had unhappy babies. They all awoke well before feeding time, cried consistently, and always appeared to be hungry. No amount of loving and caring can offset the effects of underfeeding.

Overfeeding

Care must be taken to ensure that overfeeding does not occur. Overfeeding is more harmful for infants than for adults. Overfeeding occurs not only from the intake of excess milk, which happens readily when the mother's supply is in excess of needs, but also when the milk is too rich through the mother's ingestion of foods which are rich in nutrients in excess of needs. These foods consist mainly of the concentrated starches and proteins, and also include the avocado and yellow sapote fruits.

Shelton's prime reason for advocating the three feedings a day plan was that it prevented overfeeding from occurring. Dr. Shelton writes, pp152:

"That overfeeding tends to stunt growth is well proved. Why should we go on stuffing our children in an effort to fatten them or to force them to grow more rapidly than normal?"

This warning is still relevant, especially considering present ideas as to what a healthy baby should be like. Unless a baby is carrying excess weight, present ideas hold that it is underweight and undernourished. Remember always that the standard weight tables are compiled by averaging data from a rather unhealthy population. Any truly healthy child will be thin compared to these standards.

To avoid falling into the habit of overfeeding, we must carefully observe our babies, and particularly their stools, as they will clearly indicate when overfeeding has occurred. Dr. Tilden in *Children,* pp40-41, writes about overfeeding:

"When there are any white flakes or minute curds showing in the movements from the bowels, it means that the child is being nursed too often or too long at a time . . . . It is a very dangerous thing to continue to feed a child the same amount when evidences of indigestion, such as milk curds, begin to manifest themselves in the bowel movements. If this is attended to early, there will be no danger of constipation, and the indigestion that necessarily will soon follow. It is criminal carelessness to allow anything of this kind to run on until the child is sick."

It may be surprising to hear that overfeeding is a common problem, when so many mothers claim to have insufficient milk to satisfy their babies and resort to supplements. Margaret Brady in *Having a baby easily,* pp188, writes:

"Overfeeding is one of the commonest mistakes made by mothers, not only in infancy, but throughout childhood, and it is at the root of many childish complaints. The overfed baby may have loose stools, which may be a good colour, but will later contain curds and tend to scald the buttocks, and constipation may follow. The baby also frequently vomits after feeds (not due to bringing up wind). The baby is restless and fretful and may suck its fingers,

thus leading the mother to fear it is hungry, and so give it still more food, when its trouble is not hunger but indigestion."

Since the symptoms of overfeeding are often mistaken for hunger, it is not surprising that overfeeding is common.

Underfeeding

Underfeeding often occurs, but not nearly as often as overfeeding. Underfeeding is associated with a baby that fails to gain weight, is restless, cries consistently before the next feed is due, or is constipated with abnormal stools. Margaret Brady in *Having a baby easily,* pp185, describes the effects of underfeeding:

"If a baby fails to gain enough weight, is restless, or cries before the next feed is due, is constipated, or has frequent, small greenish motions, it is probably underfed."

But what is meant by 'gain enough weight' here? In the first two weeks it is normal for the baby to lose weight. From two weeks on, breastfed babies should gain on average 6 to 8 ounces (about 200 to 250g) per week. The gain will not occur at an even rate—some weeks there will be more, or less, or even no gain at all. Dr. Shelton in *The hygienic care of children,* pp94, writes:

"Many mothers worry unduly about the weight of their babies. Theoretically, a normal baby should gain weight every day, but actually babies almost never do this . . . . The normal breastfed baby is said to gain from six to eight ounces a week for the first five months of life. It loses weight for the first two weeks after which it begins to gain. During the last seven months of its first year the baby is supposed to gain an average of from four to six ounces [130 to 200g] a week. These are the average gains made by overfed babies, and represent considerable fat."

If the baby is undernourished, the situation must be corrected immediately. But supplementary feeding should be considered a last resort in resolving the problem. It is wise to remember the following from the La Leche League in *The womanly art of breastfeeding,* pp6:

"The physical reasons why a mother would be unable to nurse her baby are rare."

Under the heading 'Then, can nothing keep me from nursing my baby?', pp52, they say:

"Practically nothing. Your milk protects your baby from almost any illness you may have. Mothers have nursed successfully after breast surgery (and even just on one breast). Certain types of breast reduction surgery, however, sever all the milk ducts. Nursing would then obviously be impossible.

"Neonatal jaundice is never a cause for permanent weaning, and seldom for even temporary weaning.

"Some babies with cleft palate cannot suck, but they can still be given mother's milk. Lee M. used an electric pump for eight months to express milk."

We should also keep in mind that loss of weight, underweight, or supposed inadequate weight gain, may not be wholly related to diet and malnutrition. Dr. Shelton in *The hygienic care of children,* pp94, writes:

"A cold or slight indisposition prevents the child from gaining, not alone because the child eats less under such conditions, but because the derangement interferes with growth and development. . . . Impaired digestion from overeating, over excitement, too much handling, overheating, chilling, etc., will check the growth of the child. A failure to gain for one or two weeks

does not always mean that there is anything wrong with the baby. It may only mean that the heat of summer has reduced the baby's appetite."

Shelton further warns on fat babies, pp93:

"There are other and more important signs of malnutrition than that of being underweight . . .

"Fat babies . . . are not healthy babies, and while the scales may indicate that the baby is thriving, this may be deceptive. Many infants whose weights would be considered normal have soft, flabby flesh and are often anaemic and in very poor condition."

If undernutrition occurs, steps must be taken to correct it.

Fourteen Healthy Babies

Until fairly recently, the bulk of the responsibility for the welfare of the child fell to the mother, and the mother has remained at home to look after the children while the father spent most of his days at work. Often, the father would leave the house before the children awakened, and return in the evening just before they went to bed.

Now it is not uncommon for the father to stay at home and care for the children while the mother goes to work. This means that both the mother and father should understand how to keep their children healthy and well nourished.

As adults we can easily communicate our needs and indicate when we have aches or pains. A young baby or small child cannot do this. Parents should therefore be aware of the actions and reactions of the human body in health and disease, and observe the vital signs of their children to detect when they might be in distress.

In the past, this kind of knowledge was passed from mother to daughter. But today, with the loss of the extended family and so many broken homes, this knowledge is often not passed on. Additionally, since recent tradition has excluded fathers from the nurturing role, fathers are likely to be even less well-informed on these matters than are mothers.

Indications of a Healthy Child

Dr. Herbert M. Shelton in *Hygienic care of children,* pp57, lists the indications of a healthy child, with their absence indicating an impairment in health:

"Mental alertness, brightness, cheerfulness, and a contented disposition, bright sparkling wide open eyes, a good appetite, absence of vomiting and regurgitations of food, normal bowel movements, with normal colour and consistency, very little crying, a steady gain in weight, from healthy growth and not from the fat-disease, firm elastic flesh with springy muscles, perfect sound continuous sleep, with eyes and mouth closed. Sound sleep all night, constant growth in height and intelligence, with an increase in circumference from healthy growth, symmetrical development of muscular and not fatty tissue, a clear skin with a peaches and cream complexion, and absence of emaciation, no evidences of pain or discomfort."

Sister Joyce Lubke in *I had no say,* pp67, gives her description of healthy children:

"Healthy children are full of energy and vitality, have clear sparkling eyes, shining hair, clear skin, firm muscles, perfectly formed teeth free of caries and are mentally alter. They have a good appetite, do not vomit, have normal bowel movements and gain weight steadily (but not as much as babies who are fed the orthodox way). They cry very little, except for exercise or when hungry, and they sleep soundly at night."

Impaired Health

Naturally, the indications of impaired health are not found in the children of those parents who have adequately prepared for the conception and birth of their child. However, this is quite rare today as a vast amount of misinformation is promulgated. The medical profession are one of the worst offenders, and someone has said 'Consult your doctor and then go away and do the opposite and you are almost assured of success.' Parents must therefore

be personally prepared to recognise and deal with any indications of impaired health in their infants.

Shelton lists the following signs as the early manifestations of impaired health in infants, pp58:

"Mental dullness, stupidity, crossness, fretfulness, irritableness, discontent, dull, half closed eyes, pasty or muddy complexion, lack of appetite, indifference to food, vomiting and regurgitation of food, hiccough, flatulence with eructations of gas and with gas from the bowels, with usually a strong odour, constipation, diarrhoea—loose watery stools, green or other abnormal colour, with milk curds in the stools, stools have a strong odour, colic, colds in the head, stuffing-up, sniffles, much fretting and crying, a loss of weight, even emaciation, fat bloat, disturbed sleep, sleep not sound or continuous, does not sleep all night, grunting and crying in sleep, hard to put to sleep at nigh, restlessness, hard to take care of, pain and discomfort, congestion, excessive redness of cheeks, mouth open while sleeping, mouth breathing, slow or arrested growth, lack of symmetry in development, soft flabby muscles, skin eruptions."

Fretfulness and irritability are usually the first signs of impending illness in a child. Usually there is indifference to food, followed shortly by a rise in temperature, with the child becoming listless and wishing to lie still. If feeding is continued at this stage, a much more serious condition, or even death, will entail, particularly if medication is introduced. What might otherwise have been a slight indisposition, lasting but a few days, can readily be turned into a major drama.

Mother's Milk Only

Some mothers with Hygienic leanings have taken too literally the recommendation by Dr. H. M. Shelton that babies should be fed exclusively on mothers' milk. They find themselves with a baby that does not thrive, is unhappy, and is actually malnourished.

Shelton advocated, as did Tilden, the introduction of fruit and vegetable juices into the diet after the baby is a few weeks old. Dr. Tilden in *Children,* pp 41, writes:

"Those who have normal, healthy mothers, should thrive very well for the first year if kept entirely on mother's milk, plus fruit and vegetable juices. After a child is three months old it should be taking a feeding of fruit and vegetable juices daily."

Jessie R. Thomson in *Healthy childhood,* pp36, supports this:

"After baby is a few weeks old, a teaspoon of orange juice squeezed from a sweet orange—without the addition of sugar—may be given with benefit twice daily between any two feeds."

She further elaborates:

"Gradually increase the amount of juice as baby grows older. All juices must be fresh. Avoid sour fruits and preserved juices. The fruit juice must be palatable without sugar otherwise it is quite unsuitable for the very young [Editorial note: nor even for anyone]."

I cannot overemphasise the necessity for using only freshly made fruit or vegetable juices from organically grown foods whenever possible. Anything less than fresh juices is, to say the least, a crime against our child, and is to be avoided at all costs. Bottled or canned juices are usually largely synthetic or saturated with chemical preservatives. There is also the phenomenon of 'freshly made' juices being sold, which are actually made of reconstituted fruit juice.

Dr. Tilden in *Children,* pp41-42, describes his preferred method for introducing these juices into the baby's diet:

"It (the baby) should have orange juice, or a combination of spinach, tomato and lettuce juices. The spinach and lettuce should be run through a vegetable mill, or bruised, and the juice extracted. A teaspoon of the vegetable juice, with a teaspoonful of orange juice, in four to six teaspoonfuls of water can be given preceding the ten o'clock feeding. From week to week the amount of vegetable juice is to be increased. . . . At a year of age, vegetable and fruit pulp may be given."

Drinking Before Feeding

Many mothers are unaware of the benefits obtained by drinking a large glass of water before feeding their baby. This simple act helps to stimulate the supply and 'letting down' of the milk for the baby, and ensures that adequate supply is available. In fact, many mothers who do not habitually drink water prior to feeding their baby find that their supply is insufficient for the baby's needs.

Increasing the Supply

To increase the supply of milk, the lactating mother should, above all else, ensure that the breasts are sufficiently emptied at each feeding. Any good dairy worker will tell you that the best way to decrease supply is to fail to ensure that all the milk that possibly can be is 'stripped' from the milking animal. This applies to humans just as much as cows. Dr. Herbert M. Shelton in *The hygienic care of children,* pp174, places great importance on this practice (his emphasis):

"If the breasts are not thoroughly emptied at each nursing, the supply of milk will quickly diminish.

"Emptying the breasts at each nursing will increase the quantity of milk more certainly than anything else."

Margaret Brady in *Having a baby easily,* pp136, lists other methods for increasing the quality and quantity of milk:

"To improve the supply of breast milk the mother should:

"1. Go over her diet to make sure it is wise and adequate.

"2. Make sure she is drinking plenty of fluid. She may need more milk, and more other protein foods, e.g. lentil and vegetable soup.

"3. Have a lying down rest after the 2.00pm feed every day, or if this is impossible, always feed the baby lying down on her bed. Alternatively, rest from 11am to 12noon.

"4. Cultivate a calm and unworrying outlook, and see that she is not trying to do too much, either too much housework or too much pleasure and social life.

"5. Increase the length of her nights' sleep.

"6. 'Shock bathe' the breasts twice a day. A good time is after the 10am and 6pm feeds. To do this the other needs two bowls of water, with a separate cloth in each, one containing very hot water and the other very cold water. She first bathes both breasts thoroughly with the hot water, and then with the cold, then returning to the hot bathing again, and then to the cold, and so on, afterwards drying them with a rough towel and giving the breasts a gentle massage by stroking towards the nipple for a few minutes."

Some of these methods are not purely Hygienic. However, I agree with the basic premises, and Hygienic adaptations can be made. For example, where Brady mentions 'milk and other protein foods', more acceptable foods may readily be substituted.

Flatulence

Many of the edible herbs, particularly garlic, onions, shallots, etc. can give the baby flatulence when eaten by the mother. The simplest solution is for the mother to eliminate the offending item from her diet.

Flatulence may also occur when the mother does not discharge the air sucked in with the milk. Jessie R. Thomson, pp36, writes:

"All that is necessary is to allow him to 'break wind' by removing him from the breast or the bottle, lifting him against the shoulder and administering a few firm, slow pats on the middle of the back until he 'burps'. In most cases it is better to give baby a short rest by burping him in the middle of his feed as well as at the end."

Conclusion

To conclude I would like to include the 'Ten Rules for Nursing Mothers' listed by Margaret Brady in *Having a baby easily,* pp 137:

"1. She should cultivate a calm, unhurried and confident attitude towards her job, realising that nearly every mother can feed her baby, and that it is both a privilege and her role to do so.

"2. She should see that she has the essential raw materials needed to carry out her job. These essential raw materials are:

"(a) The right natural unspoiled foods properly chewed up.

"(b) Adequate fluid.

"(c) Fresh air and sunshine.

"(d) Rest.

"3. She should arrange the routine of her day as well as it possibly can be done to ensure adequate time for rest and relaxation as well as work.

"4. She should avoid any question of constipation, acquiring the habit of morning and evening bowel evacuation.

"5. She should go to bed early, and sleep with the windows wide open.

"6. If a very busy person, she should feed the baby lying down on the bed.

"7. She should feed the baby in a quiet, comfortable corner, and never talk to visitors while feeding.

"8. She should feed the baby regularly, usually five feeds at four hourly intervals.

"9. She should use both breasts at each feed, but give twice as long at the first breast, alternating the breast with which she starts, keeping the nipples scrupulously clean.

"10. She should hold up the baby to bring up its wind in the middle of the feed, and again at the end."

Fifteen Growth & Development of the Infant

People vary. Some are thin, others have more weight; some are short, others tall. This variability applies just as much to the growth and development of infants as it does to the characteristics of fully-grown adults; no two children, not even from the same family, will act and develop in precisely the same way.

Dr. Robert S. Mendelsohn, in *How to raise a healthy child,* pp57, writes: "Most baby books dwell at length on the developmental landmarks of early childhood—sitting, standing, crawling, walking—and the host of behavioural concerns that will surface as your child grows older. These milestones are of legitimate interest to proud parents, but only rarely should they be a matter of concern, and I don't need a whole book to give you my advice about them. I'll do it in one sentence: unless there is something obviously wrong with your child, don't worry about how soon he sits, stands, crawls, or walks."

Other authors comment on the same theme. Bernarr McFadden in *How to raise the baby,* pp147, writes:

"While there is, naturally, a different in the development of children, babies who are normal reach certain stages and accomplish certain things at about the same age."

Margaret Brady in *Having a baby easily,* pp114, writes: "Babies vary a little in their development, and boys and girls differ, boys being generally slightly heavier than girls."

Dr. Herbert M. Shelton in *Hygienic care of children,* pp91, writes: "Growth, like embryonic development, is much more than a mere increase in size. Both mentally and physically, it is a 'patterning process'. The transformations of bodily structures as viewed by the embryologist and ontologist are no more complex and intricate than the transformation of thought processes and evolution of behaviour as viewed by the genetic psychologist. Among the many aspects of the full development of the human being are physical growth, motor development, personality and character development, intellectual development, emotional development, and the development of interests, activities, and skills. As the child grows physically, mentally and socially at one and the same time, these divisions are more or less artificial. Motor development is emphatically dependent upon physical structure and on mental development. It is also greatly dependent upon the social environment, which does not produce, but does greatly determine the motor development."

Infant at Birth

In our present society, the average full-term baby weighs about seven to seven and a half pounds (between 3.2kg and 3.4kg), with some being as heavy as ten or eleven pounds (4-5 to 5kg), or even fifteen pounds (6.8kg).

Margaret Brady in *Having a baby easily,* pp114, under the heading 'Baby at birth', writes on the weight and length of the newly born infant:

"Weight 7½ pounds (or a pound lighter or heavier) (3.4kg plus or minus 450g], length 19 to 20 inches [48 to 51cm]."

Lance Townsend in *Obstetrics for students,* pp591, gives the following information about birth weight:

"Birth weight at term varies, but in Victoria averages 3.5kg; length averages 50cm and head circumference is 35cm."

Bernarr McFadden in *How to raise the baby,* pp147, gives the following guidelines:

"The average weight of babies at birth varies from 6½ to 7½ pounds [3 to 3.4kg], the boys being generally slightly heavier than the girls."

Dr. Shelton in *The hygienic care of children,* pp89, feels that infants with a birth weight of 7 pounds [3.2kg] or more are overweight, and that the fault lies with the mother for not regulating her diets during pregnancy and keeping her weight down:

"At birth the offspring of the lower animals are little more than skin and bones, but if our babies are not abnormally large from fat-bloat we are not satisfied. The weight of the full term child at birth should not exceed six pounds [2.7kg], while 5 pounds [2.3kg] would be better."

According to Townsend, pp672, the W.H.O. would consider Shelton's 2.3kg figure to be a low birth weight:

"A low birth weight infant is one weighing 2.5kg or less at birth. . . . In Victoria, the incidence of low birth weight is about 6 per cent, but in some underdeveloped countries, figures of nearly 50 per cent are recorded."

My personal opinion is that 3.2kg is bordering on overweight, 2.7kg is about ideal, and 2.3kg is probably underweight.

At the End of the First Week

It is normal for the baby to lose weight in the first week or so. Keay &. Morgan in *Craig's care of the newly born infant,* pp393, write:

"Most babies lose weight for a few days after birth. This drop in weight is normally less than 10 per cent of the weight at birth and may be termed physiological."

Lance Townsend in *Obstetrics for students,* pp591, writes:

"Normal infants unavoidably lose 6 to 9 per cent of their birth weight in the first 4 days due to poor food intake and loss of urine and meconium."

Margaret Brady in *Having a baby easily,* pp114, writes:

"The baby who may lose a little weight at first, while adjusting himself to his new way of living, and waiting for the breast milk to come in, may still weight a little less than he was at birth."

Bernarr McFadden in *How to raise the baby,* pp147, writes of this period:

"While no hard and fast rule can be laid down, it may be stated that during the first week the baby may be expected to lose an ounce and a half to two ounces of weight [45 to 60g]."

Dr. Shelton in *The hygienic care of children,* pp94, writes:

"It (the baby) loses weight for the first two weeks after which it begins to gain."

Guyton & Hall, in *Textbook of medical physiology,* pp1051, under the heading 'Nutrition of the neonate', write:

"Ordinarily the infant's weight decreases 5 to 10 per cent and sometimes as much as 20 per cent within the first 2 to 3 days of life. Most of this weight loss is loss of fluid rather than of body solids."

Clearly, there is a consensus that it is normal for the newly born infant to lose about 5 to 10 per cent, or even as much as 20 per cent, of its weight at birth. In most cases this weight will have been regained by the second week, or at least be in the process of doing so. Keay & Morgan in *Craig's care of the newly bom infant,* pp393, write:

"A full term baby begins to gain weight about the fourth day of life."

Margaret Brady in *Having a baby easily,* pp115, writes:

"He should have regained his birth weight, or even more . . ."

And Bernarr McFadden in *How to raise the baby,* pp148, writes:

"By the end of two weeks he usually weighs somewhat more than at birth."

Lance Townsend in *Obstetrics for students,* writes:

"Thereafter, a weight gain can be expected with return to birth weight by ten days."

The consensus here is that by the end of the second week, the baby should have at least regained its birth weight. Medical texts place the expectation earlier, while Hygienic texts place it later, with Shelton considering it desirable (but not normal) for the weight gain to not occur until after the second week.

One Month

At one month the baby usually develops a sense of awareness and attention, enjoys moving objects, likes to kick, and becomes more responsive to attention such as caressing and being sung to.

Margaret Brady in *Having a baby easily,* pp115, says that the baby "may raise his head" at this stage, while Bernarr McFadden in *How to raise the baby,* pp150, writes:

"The first hair of the child frequently comes out after about a month and new hair grows in its place. This hair is quite generally of a much lighter hue than the hair it replaces."

Two Months

The normal expectation at this stage is that the baby will commence to recognise his mother. By this stage, too, both eyes can be focussed together; the eyes normally commence to coordinate at about 7 weeks of age. Also at around six to eight weeks we can expect to see the first bright responsive smile.

Three Months

Six to eight ounces (170 to 220g) a week has been considered a normal weight gain.

Lance Townsend in *Obstetrics for students,* pp591, writes of this period: "Thereafter, weight gains of approximately 300 to 400g weekly are expected."

Bernarr McFadden in *How to raise the baby,* pp148, writes:

"During the third and fourth months, the baby should gain about five ounces [140g] a week, or, roughly, three quarters of an ounce [20g] a day, so that by the time he is five months old he will have doubled his original weight."

Dr. Shelton in *The hygienic care of children,* pp94, considers a gain of 170 to 220g a week to be excessive:

"These are the average gains made by overfed babies, and represent considerable fat. Let me emphasise again that a normal gain in weight should represent growth of bone, muscle, and organs, and not merely the rolling on of excess fat. Smaller gains than these, if steady, and if the baby is otherwise healthy, are not to be considered abnormal."

In our society, fat babies are considered healthy, while a baby that does not gain weight according to the 'normal' figures is considered unhealthy and the mother often becomes unduly concerned. Dr. Shelton in *The hygienic care of children,* pp94, warns about this situation:

"Mothers are very often much disturbed because their babies do not weigh as much as some other baby of the same age. They cannot disabuse their minds of the injurious notion that babies must be fat. . . . In most case the mother of the lightweight should rejoice, while the mother of the baby suffering from the fat-bloat should do the worrying."

By the age of three months, the infant should be sleeping soundly all night, with regular daytime naps as well. He should also be enjoying extended periods of 20 to 30 minutes, twice a day, of kicking and playing, thus enabling the development of the muscles.

Jessie R. Thomson, in *Healthy childhood,* pp40-41, writes on the necessity and benefits of sleep and regularity to both mother and child:

"Regular times for sleep, as for all other natural functions, should be encouraged. The mother will be astonished to find how quickly baby falls into a routine which will make all the difference between the supreme joy of the healthy well-satisfied baby and the little tyrant who can upset the general wellbeing and comfort of the entire family."

She continues to address the necessity and value of the baby sleeping through the night, both for the sake of the mother and for that of the child:

"Every endeavour should be made to encourage baby to have the longest period of unbroken sleep at night, not only for the child's sake. Nothing is more exhausting to a mother than to spend half the night trying to coax her baby to sleep, wearily changing him from one arm to the other as she wonders whether motherhood is such an unspeakably joyful experience after all! A little discipline and patience, however, for a few days, and such nights of almost tearful misery become a very rare exception."

Four Months

By about four months of ages the baby should be capable of lifting and holding its head raised. He should be quite aware of, and enjoy, the presence of his parents and other members of the family. There should be much crowing and laughter, along with playing with hands.

Dr. Tilden in *Children,* pp42, advises not to get carried away with the normal advice to introduce cereals and other foods to the infant during the first twelve months:

"Children fed plenty of fruit and vegetable juices at least once a day will thrive very much better than children who are kept exclusively on the mother's milk or fed on cooked cereals. Catarrh, enlarged tonsils, adenoids, gastritis, colds, flu—in fact, all the diseases peculiar to children—are built by the acid of cooked cereals dressed with sugar. Butter, sweet foods and candy are catarrh builders; then add to this improper feeding the stupid custom of removing effects (tonsils and adenoids), and continuing the cause, and we have a picture of today's doings."

At this age, the child should still be sleeping for long periods during the daytime. Jessie Thomson, in *Healthy childhood,* pp43, advises that lack of sleep can have dire consequences on the baby's digestion:

"Many children suffer indigestion or other disturbances because they do not have sufficient sleep."

Five Months

The periods of playing with the hands expands to include the fingers and toes, with much greater vigour in the kicking and exercising of the arms and legs. There is much more awareness and participation in and with those around.

Six Months

The baby should now be able to sit erect for short periods. The two front lower teeth may either have been cut or be visible by this time. He will be playing with toys and enjoying banging them and making lots of noise. The first attempts at crawling usually occur at this age.

Seven Months

The baby continues to be more active, crawling and lifting the arms as a gesture to indicate a desire to be picked up. The range of sounds increases almost daily.

Eight Months

It is not unusual for crawling to not occur until now, or sometimes even much later. All activities continue to increase, with baby now able to sit erect and possibly starting to crawl.

Nine Months

By nine months the infant could be crawling quite vigorously, as well as attempting to pull himself up. Awareness has increased to the point where he will understand a firm but gentle 'no' perfectly well.

Ten Months

At this age babies are usually actively crawling and quite successful at pulling themselves up. The range of sounds that they make, and the spoken words they understand, will have increased considerably.

Eleven Months

Babies are often able to stand with assistance by this age. They are usually starting to take more of an interest in the foods eaten by their parents and those around them.

Some babies begin to show dissatisfaction with a diet of just breast milk and fruit and vegetable juices as early as nine months, while others will be happy with this diet until 12 months or later. I believe that this variation correlates mainly with the quality of the food given. If the mother's food is not organically-grown and nutritious, the baby may not be getting its essential nutrients, leading to it being dissatisfied.

Twelve Months

By this ages the baby has usually cut six teeth: four at the bottom, and two at the top. He most probably will be able to stand for considerable periods, and may in some instances be indicating a desire to walk.

Conclusion

We must always be mindful of the great variation between children, even within the same family. Each child is unique, and where a child may appear to be early in developing in one area, they may just as well be late in developing in another. Margaret Brady in *Having a baby easily,* pp117, writes: "Mothers sometimes make the mistake of comparing their own baby with half a dozen other babies, each of which may be forward in some one particular. The mother may be worrying herself unduly, because each of the other babies is probably not so good in some other way."

Sixteen Artificial Feeding

Artificial feeding produces artificial babies. Children are harmed if they are raised on anything other than mother's milk. Dr. Tilden in *Children,* pp44, writes:

"It is unfortunate when mothers cannot nurse their babies for the first year. Many children get a wrong start for the first year of life, and are more or less perverted in a digestive or nutritional way, throughout life. Real mothers should have a care concerning the future of their children and be willing to make almost any personal sacrifice for their good."

Sister Joyce Lubke in *I had no say,* pp48, under the heading 'New Wonder Drug', underlines the benefits of breast feeding over all substitutes:

"Did you known about the 'wonder drug' which has been discovered to have the following properties:

1. Available free of charge when needed.
2. Always at correct temperature.
3. Always in correct composition.
4. Changes hourly to suit baby's needs.
5. No side effects.
6. Encourages baby to use gums and cheeks.
7. Extends the average length of time between pregnancies.
8. Spurs the growth of 'good' bacteria in baby's intestinal tract.
9. Inhibits the growth of bacteria connected with infant diarrhoea.
10. Contains substances which help fight disease.
11. Reduces the number of infant deaths. What is it?

The answer . . . Mother's milk."

Sister Lubke continues:

"Dr. Moises Behar, head of the World Health Organisation's nutrition unit, included most of the above points in a statement concerning what he sees as a dangerous decline in the popularity of breast feeding in underdeveloped countries."

However good mother's milk is, there are times when it is necessary to feed an infant on food other than mother's milk. It is impossible to produce a substitute that exactly replicates mothers' milk, with all the required constituents at the correct temperature. But even though we cannot achieve perfection, we should nevertheless ensure that any substitute is as good as possible. Jessie Thomson in *Healthy childhood,* pp30, writes:

"Only by the most unremitting care on the part of the mother can we ensure success with artificial feeding."

Bernarr McFadden in *How to raise the baby,* pp116, gives further warning of the difficulty of providing a substitute for breast milk:

"Except for an occasional case among animals in captivity, I have never heard of a mother of the lower creation who was unable to suckle her young. And in the human family it is only among the 'civilised' races that such a condition is found. Here one finds many cases in which there is an absolute deficiency or absence of milk in the mother's breast. In such cases some substitute must be found, and as no chemist was ever able to prepare a food for infants which equalled that provided by nature this is a difficult task."

These words, written over fifty years ago, are still relevant.

We now examine alternatives to the milk of the infant's mother.

Wet Nurse

A wet nurse is the best alternative if the infant's own mother cannot feed it. Wet nursing was a common practice until recently, and was used when the mother was unable or—more usually—unwilling, to feed her baby.

McFadden considers the wet nurse as by far the most preferable alternative, with raw cow's milk next best. He writes, pp117:

"If a wet nurse is obtainable, she should by all means be secured. . . . If such a wet nurse is not obtainable, the best and most easily procurable substitute for mother's milk is cow's milk, raw if possible."

Mare's Milk

I have not found a single authority on child rearing that mentions mare's milk. Yet, according to Andre Domine (ed), in *Organic & wholefoods,* pp33, mare's milk is by far the best of the animal milks, being the closest known to mother's milk:

"The composition of mare's milk is the most similar of any milk to mother's milk. The comparatively small amount of fat in mare's milk contains six times more essential polyunsaturated fatty acids than cow's milk. The protein in cow's milk consists mainly of caseins, whereas that in mare's milk contains almost as many nutritious whey proteins as human milk. The proportion of lactose which can be most readily absorbed is highest in human milk. Next comes mares milk, ahead of all other types of milk."

They continue:

"It also contains many minerals, trace elements, important enzymes, and water soluble vitamins, including, in particular, a high level of vitamin C.

"The exceptionally fortifying and nutritious qualities of mare's milk, its capacity to improve the circulation, combined with a high tolerability, mean that it is of particular benefit to sick people who are very weak. The milk helps the body to regain its strength after serious illnesses or operations."

Goats Milk

Goat's milk has been one of the most popular substitutes for mother's milk in recent years. This is mainly because of its availability in the unpasteurised form, while unpasteurised cow's milk has been unavailable. In addition, it had been found that children suffering from numerous respiratory conditions and eczema are allergic to cow's milk but can tolerate goat's milk.

The fat content of goat's milk is on average between 3.5 and 4.5 per cent, which is slightly higher than that of cow's milk. Goat's milk is more digestible than cow's milk because the fat globules in goat's milk are much smaller than those in cow's milk. The fat in goat's milk is also naturally homogenised.

Nevertheless, replacing mothers milk by goat's milk may cause problems. Jessie Thomson in *Healthy childhood,* pp37, writes:

"We are questioned from time to time regarding the use of goat's milk. Personal clinical observation shows that unless it is handled with the utmost care and amounts adjusted to the finest degree, the resulting effect on the liver may be very disturbing. For that reason we hesitate to recommend it unreservedly for the very young child."

Folic Acid

Goat's milk has insufficient folic acid, which is vitally necessary for the human infant. This lack is readily supplied by supplementation with either fruit or vegetable juices.

Minerals

Goats are naturally browsers, preferring leaves, bark, and shrubby bushes to grass. This makes their milk higher in minerals than many other mammals. Paul Pitchford in *Healing with whole foods,* pp248, writes:

"Goats are very clean animals and, given the opportunity, enjoy browsing on a variety of bushes, herbs, and barks that are rich in minerals and other nutrients usually lacking in the bodies of modern people. For example, goat's milk is one of the best fluorine sources, nearly ten times higher than cow's milk."

Goat's Milk Not For All

As with all the substitutes for mother's milk, not all children will tolerate and thrive on goat's milk. Paul Pitchford in *Healing with whole foods,* pp249, writes:

"Not every infant can tolerate goat's milk, although most do well with it. . . . One very important advantage of goat's milk over cow's milk is its soft curd and smaller fat globules, which make it far more digestible. . . . There are numerous examples of rubicund and robust vegetarian infants and children whose diet is supplemented with goat" milk and its products. Because of the nature of its fat structures, goat" milk is already homogenised in its natural state."

Tuberculosis

One of the prime reasons given for pasteurising cow's milk was the possibility that bovine T.B. could be transmitted to humans through milk or milk products. This has since been disproved, but pasteurisation continues. Margaret Brady in *Having a baby easily,* pp158, writes:

"Goat's milk has the reputation of being free from the danger of tuberculosis . . . If the goat is healthy and the milk carefully and hygienically produced and kept, it is a good food and useful in case of eczema."

Cow's Milk

Compared with human milk, cow's milk is deficient in lactose and vitamins B, C, E, and A. It has three times the minerals of mother's milk, and in far different proportions to their proportions in mother's milk.

Dr. Shelton in *The hygienic care of children,* pp185, quotes Bircher-Benner: "Cow's milk has wrongly been recommended as a complete food for the child. The observations of children's doctors in regard to the nutritional effect of cow's milk upon the child have decided them to recommend from the second year onwards a prudent limitation in the quantity of it that is taken. With cow's milk as its sole food, even the two year old child would soon become sickly."

Sister Joyce Lubke in *I had no say,* pp49, warns of the dangers of using cow's milk as a substitute for mother's milk:

"If children are fed an excess of this kind of mucus forming food, they will develop the usual childhood complaints—infected tonsils, adenoids, catarrh, running noses, asthma, hay fever, eczema, measles, chicken pox, and more."

She continues, pp50:

"Cow's milk, besides being different in composition to breast milk, is also pasteurised . . . which partly destroys most of the minerals and nutriments in the milk to such an extent that even calves cannot live on it. If they cannot, then how can babies?"

Homogenised Milk

The fat (cream) of cow's milk is in large globules that are not well absorbed by the human gut. When unprocessed cow's milk is left to stand, the fat rises to the top. Homogenisation breaks up the fat globules so that they are evenly distributed throughout the milk and no longer rise to the top. It also affects our ability to absorb certain factors in the milk. Paul Pitchford in *Healing with whole foods,* pp247, writes:

"Homogenisation allows the enzyme xanthine oxidase in the milk cream to enter the bloodstream instead of being excreted as would normally occur. When this enzyme enters the hearts and arteries, it damages the membranes, creating scar tissue. Cholesterol accumulates on the scars and gradually clogs the arteries."

Dr. Shelton in *The hygienic care of children,* ppl89, writes about the homogenisation of milk:

"Milk is homogenised to hide the admixture of stale returned milk with fresh. The fact of the mixture is never mentioned to the public. Instead, homogenised milk is advertised to the public in such a manner as to lead the unwary to believe that they are actually getting a more desirable product. Homogenised milk has the taste of separated milk with water added. That such a tasteless and inferior product may be sold to the public in great quantities attests to the seductive power of carefully planned advertising."

Devitalised, Pasteurised, Homogenised & Boiled Cow's Milk

Sister Lubke in *I had no say,* pp50, elaborates the effects on children of this highly unnatural substance:

"By the time babies have been given devitalised, pasteurised, homogenised and boiled cow's milk in liquid or powdered form, or in various tinned formulas (also denatured) which have salt and sugar added, plus all the chemicals from the chemist, is it any wonder they react to the accumulation of these unnatural substances in their bodies? Eliminative efforts are made which take the form of various illnesses such as the common cold, skin rashes, high fevers, asthma, and so on."

She continues:

"When you change to natural feeding for your child you will find a big difference in his temperament and health."

Nut Milk

Nut milks made from freshly ground nuts may be used effectively when no

other substitute is available and if tolerated by the infant. Each infant has

different needs, and tolerance is a very individual matter. Kenneth S. Jaffrey in Rearing *your baby naturally,* pp14, writes: "Nut milks may be made by grinding any nut to a fine powder . . . and then mixing thoroughly with pure water. The vitamiser is the best machine providing it is of good quality."

Milk Extracts, Powders & Concentrates

Many types of artificial formulas are in widespread use. These are very poor substitutes for mother's milk. Dr. Philip M. Lovell, in *The health of the child by natural methods,* pp256-257, writes:

"The experience of thousands of practitioners have attested again and again that where the mother's milk fails, milk powders, extracts and concentrates are very poor substitutes. . . .

"Children raised on these extracts, plus dextro-maltose or lactose, invariably suffer digestive disturbances, gas accumulation, and serious constipation, forerunners of the so-called children's diseases.

"Infants' colic is the rule rather than the exception when children are fed these extracts."

Soya Bean Milk

Soya bean milk has become quite widely used as a substitute for mother's milk in recent times, especially among vegetarians. Its use is controversial. Sally Fallon and Mary Enig, in *The ploy of soy* (reprinted by the Price-Pottenger Foundation), pp15, write:

"Soy protein isolate is the main ingredient of soy based infant formulas. Along with trypsin inhibitors, these formulas have a high phytate content. Use of soy formula has caused zinc deficiency in infants. Aluminium content of soy formula is 10 times greater than milk-based formulas. Aluminium has a toxic effect upon the kidneys of infants and has been implicated as causing Alzheimers disease in adults."

Which is the Best Artificial Substitute?

Any form of milk other than mother's milk constitutes artificial feeding. This is true of all animal milks, such as cow, goat, mare, and sheep milk, and nut milks. Animal milk is superior to nut milk.

The literature contains many different opinions on the best alternative to mother's milk. From studies on the constituents and results of feeding, mare's milk appears to be the best in all respects. However, since mare's milk is rarely available, other sources must be sought.

Kenneth S. Jaffrey in *Rearing your baby naturally,* pp13, writes:

"There is no real substitute for mother's milk, but a close approximation may be had by using nut milks, soy bean milks, unpasteurised goat's milk, or carrot juice."

Dr. J. H. Tilden in *Children,* pp45, writes:

"The milk of cows, goats and mares, 'modified' is the best substitute for mothers milk. Reduction by adding water is about all the modification necessary."

Jessie R. Thomson in *Healthy childhood,* pp31, writes about reduction (dilution):

"For all practical purposes the constituents of healthy cow's milk and milk from a healthy mother are almost identical. So why dilute?

"We differ from the orthodox schools in advising cow's milk without dilution . . . and without additional salt, sugar, or any other mineral element."

Paul Pitchford in Healing with *whole foods,* pp249, writes:

"If mother's milk is not available, or for some reason cannot be accepted by the baby, here are four other options:

"1. Another mother's milk (wet nurse).

"2. Goat's milk, preferably from organically raised goats.

"3. Highest quality milk replacement formula.

"4. Unhomogenised cow's milk from organically raised cows."

Presuming that these alternatives are listed in order of preference, it is interesting that cow's milk comes last, even after formula.

Margaret Brady in *Having a baby easily,* pp156, lists her preferences:

"1. Fresh TT farm-bottled milk.

"2. Full cream, evaporated unsweetened milk.

"3. Goat's milk.

"4. National dried milk."

Summary

I recommend, in order of preference, the following substitutes for the milk of the baby's mother, if and when such a need arises:

1. Wet nurse.
2. Mare's milk, raw and unheated.
3. Either goat's or sheep's milk, whichever is tolerated.
4. Raw, unheated cow's milk.
5. Nut milks.

Seventeen The Feeding of Children

Weaning commences with the introduction of food other than the mother's milk. We consider fruit and vegetable juices to be food, and their introduction into the infant's diet, usually around 3 months of age, marks the commencement of weaning. Over time, more and more solid foods are taken till breast feeding ceases completely by natural attrition. Margaret Brady in *Having a baby easily,* pp139, writes:

"Weaning really consists of teaching the baby to take foods other than breast milk, from some other source than the breast. It should not be regarded as a special and rather worrying time . . . it should be looked upon as something which begins when the baby has his first drink of . . . water, and proceeds gradually, by easy stages, until the very last breast feed has been taken."

In the Hygienic and Naturally raised infant, the weaning period extends over the whole of the three years of breast feeding.

From the beginning, the foods given must be easily assimilable by the infant. This is why juices are used at first. As the child grows, the teeth erupt, the digestive organs develop, and enzymatic action increases, more solid and complex foods may be introduced.

I again emphasise the individuality of each child, and remind the reader that all tables and figures given here are approximate or average; a given child may be very different from the figures given, yet still be normal and healthy. Usually, Hygienically and Naturally raised children fall below the averages which are based on children raised in the orthodox way and who are overweight and over-developed by Hygienic and Natural standards. Dr. zur Linden in *A child is born,* pp113, warns about this precociousness:

"The speeding up of growth and awakening directly concerned with nutrition brings with it a danger of early rigidity and a premature ceasing of development as a result of too rapid and too intensive calcification. The human being needs to progress very carefully in everything. . . . But with present methods of nutrition, children emerge too soon from their dreamy consciousness, they stand, walk and speak too early, the fontanelle often closes at ten instead of eighteen months, and so on."

If we want the child to develop at the correct, natural, rate, we should be careful not to introduce the infant to solid foods too early. The three-year breast feeding regime ensures that this does not happen, and that the infant develops in natural, unforced conditions, in accord with its biological drive.

Raw versus Cooked

This is a highly controversial question in the world of nutrition. Until recently, Hygienic and Natural researchers have been unanimous that almost all food is best consumed in its whole, raw state—this is for adults as well as children. Exceptions were made for some foods, such as starchy foods like potatoes. Dr. Bircher-Benner, in *Children's diet book,* pp30, writes:

"Up until a short while ago it was even believed that heat burst open the vegetable cells which were enclosed by membranes, and thus rendered them susceptible to digestion. Through the researches bearing upon this point which were undertaken by Strasburger and Hiupke it was, however, shown that such a supposition is not correct—indeed, the unboiled vegetable cells are turned to account by the digestive juices just as well as the boiled ones."

Dr. Bircher-Benner continues on pp31 to advise of his experience in the benefits of raw food:

"Forty years ago I made the surprising observation that well-chosen and tastily-prepared raw vegetable food is able to bring healing to very many widely spread disorders of health and serious disease, in a quite astonishing fashion, where all other curative measures have failed. . . . Although I reached this conclusion along the road of the strictest scientific laws of energy, it was derided by contemporary authorities as unscientific, as mere mysticism, and metaglaxis."

These words were written over 60 years ago, and by then Dr. Bircher-Benner's research had covered over half a century, verifying the benefits of raw food over cooked food.

Other researchers who have demonstrated the efficacy of raw food over cooked food are:

• Dr. Edward Howell, in *Enzyme nutrition,* Avery Publishing Group, New Jersey, 1977.

• Dr. Weston A. Price, in *Nutrition & physical degeneration,* Keats Publishing Inc., Connecticut, 1989.

• The story of Dr. Francis Pottenger, Jr and his cats in *Pottenger's cats,* Price-Pottenger Foundation, San Diego, 1995.

• Guy-Claude Burger, in *Anopsology* (instinctive nutrition), available from the Web at: www.geocities.com/HotSprings/Spa/5976/practadv.html

• Dr. Kristine Nolfi in *My experiences with living food,* The Provoker Press, St. Catherines, 1976.

• The research of Dr. O. L. M. Abramowski, former medical superintendant of the Mildura Base Hospital, Victoria, Australia.

And lest we believe that raw food is a new idea or is somehow unnatural, Dr. Bircher-Benner, in the preface to his *Raw fruits & vegetables,* pp IX, writes:

". . . this knowledge is new only to the scientific world; it has been the precious possession of mankind from time immemorial. Putting it into practice does not, therefore, mean introducing a new kind of food, but the food destined to be man's by the wisdom of the Creator. Raw food has, in fact, been known for thousands of years in China and India. It is also mentioned in the Bible."

It is clear from all this that raw food is generally better than cooked food.

Up to One Year

In the early stages of the infant's life, all that is required is breast milk supplemented by small quantities of fruit or vegetable juice. For some children this regime may be suitable for the first twelve or so months. For others, other foods may be desired as early as nine months of age.

Whenever the baby first demands solid food, it is best introduced in a form that does not have the potential to choke the child. Sister Lubke suggests feeding fruit in a mosquito net:

"Give apple tied in mosquito net when teeth appear. Other fresh fruit in season can be given in net after each feed, except at 6:00am."

This technique for dispensing fruit ensures that the child will not choke. In the early stages it is best if the fruits provided are of the crisp variety, such as apple, to ensure that their nutritive value is small so that overeating is obviated.

Ptyalin

Ptyalin is an enzyme present in the saliva of older children and adults that is necessary for the digestion of starchy foods. Infants do not have this enzyme in their saliva until they are at least 15 months of age, but usually about 18 months of age. Paul Pitchford, in *Healing with whole foods,* pp250, writes:

" . . . until the age of eighteen months the most acceptable foods in addition to milk are those that are low in carbohydrates."

On pp251 he continues:

"After the age of about eighteen months (with the appearance of the first molar), non-sprouted cereals, legumes and starchy vegetables can be introduced into the diet gradually."

If suitable foods are not available, the harm from less suitable foods can be minimised by having an adult pre-chew the food to be fed to the child. This method has used for many generations by Asian peoples.

One to Two Years

If the mother is following an Hygienic or Natural lifestyle and is breast feeding her child, this period of the infant's life will usually see a gradual expansion from almost total dependence on breast milk for nutrition to introduction of other foods, although breast milk will still be the bulk of the food. The other foods will consist of fruits and vegetables, preferable in their whole raw state. In the beginning they may be pre-chewed or pureed until the child can chew them adequately himself.

Three Feedings a Day

It is common to observe children eating 'one meal a day'—that is, eating all day. Some excuse this as necessary due to the needs of a growing child. However, this habit of 'snacking' or 'browsing' is just as detrimental for young children as it is for adults; it leads to overeating and is a potent factor in the production of childhood complaints. To prevent this habit from developing, I advocate limiting the child to three meals a day as being a healthy alternative.

Remember that digestion of food is the hardest work we will ever do. If a child 'snacks', its system is not given enough time for rest and recuperation between meals. The result is enervation, leading to incomplete digestion, then putrefaction and poisoning of the system. The poisoning requires further action on the part of the organism, which is commonly termed 'disease'—the remedial process for the organism to heal itself from the damage that has occurred.

Dr. Shelton in *The hygienic care of children,* pp150, outlines the effects that commonly occur in overfed children:

"At my father's dairy we fed the calves twice a day and they thrived well. I do not recall that we ever had a calf die and one or two to ever be sick. I recall an occasion or two when a calf escaped from the pen and got too much milk, whereupon it would develop a severe diarrhoea, known among farmers and dairymen as 'the scours'. In our home the babies were fed every two hours during the day and every time they cried at night. Colic, constipation, diarrhoea, hives, feverishness, croup, colds and more severe types of disease were as frequent among the children as they were rare among the calves."

Many studies have shown that under-nutrition is not nearly as harmful as over-nutrition. Except where the quality of the foods chosen is poor, limiting food intake to three meals a day can only be beneficial.

However, too little food can eventually lead to malnourishment. Bernarr McFadden in *How to raise the baby,* pp184, writes:

"Because of their smaller bodies, greater physiological activity, and larger nutritive requirements, children need food more frequently than adults. The conventional three-meals-a-day schedule often means too frequent eating for the adult, but is usually ideal for the child."

Dr. Bircher-Benner, in *Children's diet book,* pp35, also discusses the benefits of three meals a day:

"With regards to the number of meals, let us remember that the Greeks of classical antiquity regarded a man who ate more than twice a day as a barbarian. The physiological process involved in the digestion of a full meal teaches us that the human organism would suffer no distress with only a single meal in the day. The organs which control the process of digestion, no less than other organs, need their times of rest and regeneration.

"I have reached the conclusion that three meals a day, a chief meal and two frugal secondary meals, are not only sufficient, but also advantageous to health."

James & Garrow (eds) in *Human nutrition and dietetics*, pp394, address the problem of correct quantity of food:

"Parents need to become sensitive to their child's way of expressing hunger, so that both over- and underfeeding are avoided. Poor appetites may be associated with growth, teething, growing independence, attempting to change too many aspects of the child's diet at once, or illness."

It is quite normal and natural for the body to divert its energies from the digestion of food to more important matters, especially if there are adequate reserves. The healing that occurs with any acute illness is usually more important than digestion of food.

Organic Foods

I cannot overstress the importance of feeding, where possible, the infant only whole raw foods that have been organically grown. This is the only way to ensure the best possible conditions for the healthy growth of the child. Such a diet also minimises the need for the body to activate the common childhood complaints variously known as chicken pox, measles, mumps, whooping cough, etc. Dr. Bircher-Benner, in *Children's diet book,* pp11, writes:

"The truth is slowly being made plain that man is what he eats; that defects in the architecture of the human edifice are largely due to defects in the quality of the food, especially during the growing period of life. These defects are often at the root of disease processes which manifest themselves clinically in later life, but they can (if not too far advanced or complicated by superimposed infection) be rectified, by correcting defects in the composition and balance of the dietary."

Parental Role

Society has moved away not only from the extended family, which was common in almost all societies until recently, but also from the traditional two-parent family. James & Garrow (eds) in *Human nutrition and dietetics,* write:

"Family structure and lifestyle today present new challenges in ensuring that nutritional needs of young children are met. These include alterations in sex roles relating to child care, increases in the care of the children outside the home with more working mothers, more single parent families, and more strains on working parents in both single and dual wage earning households. Child feeding is less likely to be solely a maternal affair than it was formerly."

Family structure and roles affect how a child is fed. Parents have a choice. They can remain at home and care for the child and ensure its ongoing welfare. Or they can bow to increasing economic pressures and hand over these vital years to another whose interest in the child's welfare, as well as whole philosophy of life, may be different to that of the parent.

McCann, in Dr. Bircher-Benner's *Children's diet book,* pp21, makes the decision easier:

"But the badly nourished child often shows abnormal qualities which clever people call 'evil'.

"Many a little heart pumping impoverished blood to hungry tissues, feeding starved nerves with an unhealthy stream, nourishing a tired little body and a wearied little brain with debased foods, goes for correction to the children's court, or is 'punished' for the pranks over which it has no control.

"You have seen 'bad' children, 'cranky' children, 'peevish' children, 'cruel' children, 'reckless' children, 'nervous' children, and 'delinquent' children. Many of them after a diet of six months on the food God intended they should eat, can preach sermons to their elders."

Vegetables

Many parents have problems introducing vegetables into the child's diet. Jessie R. Thomson, in *Healthy childhood,* pp57, writes:

"Someone asked me a short time ago how it was possible to inveigle children into eating vegetables when they really didn't like them. In handling the diet question with children, the greatest deficiency we experience is not with the food but with the parents—either or both."

The reaction of a child to the introduction of vegetables into its diet has as much to do with the attitude of the parents as it does with the individual preferences of the child. Any conflict between the parents, or those who are playing the parental role, may manifest in the child adamantly refusing to cooperate.

Jessie Thomson continues:

"Certainly the greater influence is that of the mother, but when she has successfully prepared an attractive meal the father can cancel all her efforts by saying simply, 'Awful cooking stuff you give these children to eat', or 'How do you expect to rear children on rabbit food?' There are any number of things he can and does say, and the poor mother, with the children almost won over, has to start again!"

In case this appears sexist, Thomson goes on to present the picture from the father's point of view.

Conclusion

In the second year of life, infants develop best if meals, including breast milk or artificial feeding are limited to three times a day, following the schedule suggested by Sister Joyce Lubke in *I had no say,* pp54:

"On rising: fresh fruit juice 50/50 with pure water.

"Breakfast: breast milk (or substitute) and fresh fruit.

"Lunch: breast milk (or substitute), followed by 120ml each of carrot juice and water, fresh fruit.

"Dinner: as for lunch.

"Give only water between meals.

"The fruit used will be full, ripe and fresh, from those in season. Remember that tomatoes and cucumbers are both a fruit and a vegetable."

Eighteen Two to Three Years of Age

Food Refusal

Refusal of food on numerous occasions is neither unusual nor unnatural. This is particularly true in today's society with its surfeit of food, excess of psychological stimulation, and stress from undue expectations. It can be physiologically caused, or may be the child's way of expressing its emotional needs. James & Garrow (eds) in *Human nutrition and dietetics,* pp397, write:

"Parents and others who feed children need to avoid counterproductive behaviour as well as acting to promote good nutrition by more active means. Parents must distinguish between expressions of real physiological need on the child's part and other emotional and physical needs that are sometimes expressed in food terms."

I deplore the use of force. It was common in the past—the 'dark ages'—but regrettably is still sometimes seen today. Any parent resorting to such methods is to be pitied, as not only will the desired results not be achieved, but it will be counterproductive, building within the child revulsion for not only the food being forced on it, but also for the person doing the forcing. Jessie R. Thomson, in *Healthy childhood,* pp59, writes:

"Some time ago I learned that a conscientious governess who was in charge of a patient—a highly strung little boy—in order to enforce her authority, and to compel the child to eat the vegetables which I had advised, sat over him for an entire afternoon until he consumed them. The governess was triumphant, but it was utterly inexcusable and sadistic, achieving nothing but hysteria and hate."

Clearly, the attitude of the carer is vital to the eventual outcome of these situations. A healthy attitude to adopt is that food refusal is normal and natural, and that it will resolve itself. It is best not to even comment on it, but certainly it should not become an issue. James & Garrow (eds) in *Human nutrition and dietetics,* pp397, write:

"Parents should handle such food related struggles calmly and without becoming emotionally involved in the issues themselves, to avoid the development of long term feeding problems in their children. Appropriate parental behaviours include recognising that child appetites wax and wane from day to day; that some food waste is inevitable; taking a child dawdling and playing with their food in their stride; and developing a 'take it or leave it' attitude toward feeding the child."

They continue by emphasising that we should never resort to any form of punishment:

"It is best to avoid counterproductive measures such as forcing, coaxing, nagging, and above all, physical punishment or emotional isolation, to remedy food refusal, which is unlikely to be a serious problem to begin with."

Dr. Shelton in *The hygienic care of children,* pp227, writes:

"There is no indispensable food. If a child does not like spinach, and many of them do not, there are other foods just as good, or better, that he will like. I have seen a baby's nose held to force it to swallow a poisonous drug prescribed by a physician, and I don't believe in this method of forcing a distasteful food down a child's throat any more than I believe in its use to compel the child to swallow the physician's poison."

Feeding

To successfully raise children on a Natural or Hygienic diet, two things are important. First, the parents should agree on the types of foods and the methods used to introduce them to the infant. Second, the regimen followed should be basically the same as that practiced by the parent or parents; even a very young child can detect hypocrisy if it is forced to eat only raw food when the parents are eating cooked food, ice cream, or chocolate. To be entirely successful in rearing healthy children we should 'practice what we preach'.

Another important rule, to avoid mistakes or accidents, is to not have in the home any foods that we do not want our children to consume. Sister Joyce Lubke in *I had no say,* pp58, writes:

"When you decide to bring up your children on natural foods, you will need to have a positive attitude towards your children, relatives and friends. If you and your partner decide that this is the way you want to rear your children, make a start before conception, if possible, you will find it much easier. Your children will see only natural foods at home and this is what they will expect to have."

Fresh & Whole

The simplest way of choosing the right foods for our infants is to choose only fresh, whole, and primarily raw foods. Foods are suspect if they have been tampered with in any way, that come out of a tin, a packet, or are prepared in any way. We should always begin with the whole food, and any preparation, such as grating, chopping, pureeing, that is required should be performed immediately prior to its consumption. Dr. Bircher-Benner, in *Children's diet book,* pp25, writes:

"This 'whole' means every food in the complete state in which it leaves God's workshop, whether as a fruit, as a green leaf, as root, as grain, as seed, or whatever it may be."

By the time the child is two years of age they will have the majority of their first teeth, with the last of the molars appearing in the second to third year period. During this stage the diet can expand to include a greater range of foods, with more and more foods being given in their whole, chewable state.

Often children will be quite happy to munch on foods like carrot sticks and celery sticks. There will be many times, though, that these simple things will not appeal to the child. At such times a little extra care is required to prepare food that looks attractive, as well as smelling and tasting good. The extra time required to attractively prepare food is never wasted. Jessie R. Thomson, in *Healthy childhood,* pp58, writes:

"At all times in dealing with children let us use our imagination. Make the food look pretty . . ."

Dr. Bircher-Benner, in *Children's diet book,* pp25-27, writes:

" . . . to achieve in our diet a harmony of the different factors, we need to fulfil the following requirements:

"1. Vegetable organism which can be eaten fresh and raw should preferably be so eaten . . .

"2. As heat weakens or destroys nutrients according to its intensity and duration, cooked, baked or roasted foods have lost more or less of their wholeness . . .

"3. Our diet ought to contain the whole grain with its germ and inner husk . . .

"4. The supply of sugar should be confined . . . exclusively to the natural association of the sugar-containing foods—fruits, honey, root vegetables, and so on . . .

"5. The protein factor in the balance of the diet should not be disproportionately increased through arbitrary addition to the diet of foods rich in protein, such as meat, eggs and cheese, since a continued excess of it gives rise to severe disturbances in health.

"6. The consumption of fat is also to be reduced to moderation, since a continued excess of fat disturbs the balance of the diet, with harmful consequences to health . . .

"7. In a diet of full value, cooking salt should be used only in moderate quantities . . . [Editorial note: Salt should not be included in the diet of either the child or the adult. Paul Pitchford, in *Healing with whole foods,* pp257, writes: "There is sufficient natural salt for children in grains, vegetables, and small amounts of sea vegetables. Excess salt is too hard on their kidneys, and also tends to inhibit growth."]

"8. Fermented drinks of every kind containing alcohol should be completely excluded from the children's diet.

"9. Stimulants such as ground coffee, black tea, cocoa, and chocolate—which furthermore are usually taken with refined sugar—are in no way beneficial to the growing child; their effect is only to excite the nervous system and the most delicate blood vessels. They deceive the nutritional instinct, which seeks to play its part in the sense of taste, and thus the instinctive regulation of the food balance is disturbed.

"10. Special mention should be made of the problem of the consumption of cow's milk in children's diet . . . Cow's milk has wrongly been recommended as complete food for the child. . . . With cow's milk as its sole food, even the two-year-old child would soon become sickly."

These factors should be self-evident even to the average person. Yet, in our society they are generally ignored. Long after respected authorities have declared certain habits and practices as harmful, media and social inertia ensure their continuance.

Dr. Shelton in *The hygienic care of children,* pp226, outlines his recommendations for the feeding of children:

"The great secret of feeding children is well expressed by Tilden thus:

'FIT CHILDREN TO THE FOOD AND NEVER ATTEMPT TO FIT THE FOOD TO THE CHILDREN' How? Easy! Watch these few simple rules:

'1. Feed the child natural, that is, uncooked, unprocessed, unsterilised, unadulterated, undrugged foods.

'2. Do not stuff the child. Feed it three moderate meals a day.

'3. Feed simple meals. Do not feed foods that are mixed in such a way as to cause fermentation.

'4. Do not feed between meals, nor at night.

'5. If the child is upset or feels bad, or is excited or tired, or overheated, or chilled, or in pain, or distress, or sick, don't *feed it; if there is fever, give no food.'*

He continues by warning us about the harmfulness of feeding foods to the infant for which it is not ready:

"The child should be taught early to thoroughly masticate all food. This is best done by giving it foods that require chewing when the child first begins to eat solid food. Many mothers feed their children mushes, gruels, and foods that have been put through a sieve . . . which may be swallowed without chewing. The result is they never learn to chew. Never give a child

mashed food or mush. If the child can't chew its food it is not ready for that kind of food.

"In the choice of foods we must, to some degree, learn to trust the natural instincts of the child, provided that the foods we are providing them with from which to choose are natural foods in their natural, unadulterated form."

Immunisation & Vaccination

To avoid any misunderstandings, let us begin with some definitions:

Term	***The American Heritage Dictionary***	***The Macquarie Dictionary***	***Dorland's Medical Dictionary***
Immunisation	To render immune	To make immune	The production of immunity
Immune	Not affected or responsive	Protected from a disease or the like by inoculation	Resistance of a body to the effects of a deleterious agent, such as a pathogenic micro-organism
Vaccination	Inoculation with a vaccine in order to protect against a given disease	Inoculation with a vaccine	To inoculate, especially with vaccine virus
Vaccine	A suspension of attenuated or killed micro-organisms, as of virus or bacteria, incapable of inducing severe infection, but capable when inoculated counteracting the unmodified species	The modified virus of any of various other diseases, used for preventative inoculation	A suspension of attenuated, or killed micro-organisms (bacteria, viruses, rickettsiae), usually administered hypodermically for the prevention or of treatment of infectious diseases
Inoculation	To unite, as to be continuous, blend	To implant (a disease) in a person or animal, by the introduction of germs or virus, as through a puncture, in order to produce a mild form of the disease and thus secure immunity	Introduction of pathogenic micro-organism into the body to stimulate the production of ntibodies and immunity

Clearly, the terms *immunisation* and vaccination are almost synonymous, with immunisation being more commonly used in the USA and vaccination, originally at least, common to the UK and Australia. The language boundaries are quickly being eroded, however.

To summarise, our definition of immunisation and vaccination is that they are essentially synonymous and define the act of "inoculation of the human or animal body by pathogenic organisms". This act is defined medically as "producing antibodies and thus immunity".

Naturally and Hygienically we consider this act to cause further pathology. Dr. Robert S. Mendelsohn, in *How to raise a healthy child,* pp209, supports this viewpoint:

"The greatest threat of childhood diseases lies in the dangerous and ineffectual methods made to prevent them through mass immunisation, {author's italics]

"I know as I write this line, that this concept is one that you may find difficult to accept. Immunisations have been so artfully and aggressively marketed that most parents believe them to be the miracle that has eliminated many once feared diseases. Consequently, for anyone to oppose them borders on the foolhardy. For a paediatrician to attack what has become the 'bread and butter' of paediatric practice is equivalent to a priest denying the infallibility of the Pope . . .

"Much of what you have been led to believe about immunisations simply isn't true. I not only have grave misgivings about them; if I were to follow my deep convictions in writing this chapter, I would urge you to reject all inoculations for your child."

Dr. Walter R. Hadwen of the UK was one of the early opposers of vaccination. He is reported in Dr. Philip M. Lovell's *The health of the child,* pp151, as follows:

"Inoculation is the latest medical craze. It is the panacea for every ill. It will prevent disease in the case of typhoid and tetanus, but it will not cure. It will cure in the case of tuberculosis and boils, but it will not prevent. And it will prevent as well as cure in the case of diphtheria, cholera, plague, and a few other diseases. That is the claim.

"When a patient is inoculated against a certain ailment and does not subsequently contract it, the inoculation gets the credit. If, after inoculation, a mild attack supervenes, it is the inoculation which saved the patient from a severe one; but should the attack assert itself and the patient just escape with his life, it is the inoculation which preserved him from death.

"When however death itself claims the subject of inoculation, we are informed that there must have been something wrong with the prophylactic, or that the patient was inoculated too soon, or too late, or in an unskilled manner.

"The operator is often thus given away to save the credit of the nostrum. Nothing must be said against inoculation. It is the fashion of the hour and resembles the image which Nebuchadnezzar set up; for everyone must bow down to it and worship, or the fiery furnace awaits him.

"The history of medicine is largely the history of changing medical fashions. We have universal bleeding at one time; mercurialisation at another; huge doses of alcohol for fevers at another."

Vaccination is one fashion we have yet to grow out of. However, while it remains the 'bread and butter' of paediatrics, physicians won't abandon it without a struggle.

Dr. Arche Kalokerinos and Dr. Glen Detman give some advice that will help parents overcome any problems that might arise when considering whether to vaccinate their child:

"If your doctor suggests immunisations, then it should be your right to either accept or refuse. Should you accept, then ensure that your doctor fully acquaints you with all the dangers. Ask him to sign a form that will guarantee the effectiveness of the immunisation and an agreement that in the event of any damage he will compensate you up to a million dollars. After all, if it's as effective and harmless as the high priests of medicine proclaim, he will have absolutely no hesitation in conceding with your wishes."

The wisdom of this approach is self-evident. As caring parents, the welfare of our children should take precedence over all else, including all forms of dogma, be it ours or that of so-called scientific medicine.

Nineteen Teeth

We begin with a brief overview of the work of Dr. Weston A. Price. His superb book *Nutrition & physical degeneration* is even more relevant today than it was when it was written in 1938, since our eating habits have deteriorated over those sixty-odd years, with detrimental effects on our health in general and our teeth in particular.

Our teeth are not dispensable—they are an essential part of our ability to digest food. Mastication mixes food with saliva and grinds it up to expose as large a surface area as possible to the activating action of the digestive enzymes. This process cannot be duplicated artificially to the degree or complexity achieved by our natural teeth, be it by grinding, chopping, blending, or using false teeth.

When proper mastication does not occur, the food is not efficiently utilised and the digestive organs will waste much energy as they attempt to process this food in a less than ideal condition. Further, as these particles of food will be far larger than can be adequately digested they can cause excessive irritation to the gastrointestinal tract. In the short term this may manifest in indigestion and diarrhoea. In the long term, inflammation, ulceration, and conditions like coeliac disease may result.

As well as our dentition affecting our health like this, our dental health reflects our overall health. It is therefore possible to be trapped in a vicious cycle of deteriorating general health causing deteriorating dental health, which causes further deterioration of general health. To avoid this, we need to adopt a lifestyle that maintains both general and dental health. In the introduction to *Nutrition & physical degeneration,* ppXXVII-XXIX, Dr. Abraham Hoffer writes:

"Dr. Price found that peoples eating fresh, whole foods, uncontaminated by additives such as sugar and salt, grown on soils still rich in essential minerals, grew and maintained healthy jaws and teeth. In modern terms, people should consume foods they have adapted to over 100 000 years, because these foods are essential for health.

"He describes the onset of degeneration of people in many societies. Were he to repeat his studies today, he would find that the situation is no better, and probably is much worse. The food is even worse: more high tech, polluted, corrupted and even farther removed from the food to which we have been adapted . . .

Dr. Price believed in the innate wisdom of primitive people. I believe in this he was wrong. I do not think there is any inborn wisdom when it comes to nutrition. The best evidence for this is that primitive people who come in contact with high-tech foods soon give up their own diets and adopt high-tech foods . . .

"There is no innate wisdom because, until chemistry was discovered and applied to food technology, there was no need for it. Early peoples had little choice but to eat foods that they had adapted to, for no other food was available. The local animals, fish, whole grains, vegetables, some fruits and nuts, provided a limited choice. They could not browse in supermarkets containing 15 000 items of which 90 per cent, or perhaps more, are junk. If primitive peoples had obtain their food from a supermarket, they would have consumed as much junk as high-tech people."

Price eloquently illustrates and elaborates on this consumption of high-tech foods by modern-day primitive peoples, with its devastating effects on

their health as manifested in their dentition. Leon Abrams, Jr., further elaborates on the importance of Price's work, ppXXX-XXXI:

'In 1930, following a brilliant career in dentistry, including teaching and the publication of many scientific articles and several processional dental textbooks, Dr. Weston A. Price returned to devote full time to cross-cultural medical and nutritional anthropological research. He set out to verify that there is a decided and direct relationship between diet and health or disease. In his practice over several decades he hypothesised that dental caries and other periodontal diseases must be related to diet. He had arrived at the conclusion that the primary factor in diet that led to caries is the ingestion of refined carbohydrates, especially sugar, white bread or polished rice, in which practically all the vitamins, minerals and other nutrients have been removed, leaving what has been aptly termed 'empty calories'.

"For nine years, until the outbreak of World War II in 1939 terminated his field work among primitive societies, he covered some 150 000 miles over the world studying the diets of primitive societies and also what happened when those primitive peoples adopted the diet of the modern world. His research took him to many of the then relatively inaccessible parts of the world in this search for primitive groups that were still following their primitive modes of living and their native diets. In all, he studied 14 primitive societies in Africa, Asia, the South Pacific, Australia, and many Indian groups of the Americas. Although the native diets of these societies were radically different from one another, he found that they provided almost complete immunity from caries and other periodontal diseases.

"Dr. Price discovered that the native diets of these 14 primitive societies consisted of whole grain, ample fresh animal protein, fresh fruits and vegetables and nuts. These diets, though different, depending on the geographical locale, climate and ecology of the area, provided nutrition that resulted in sound dental and gum health, as well as good health in general. He noted that these diets of natural foods also resulted in admirable physical physiques and rendered the population less susceptible to infectious diseases.

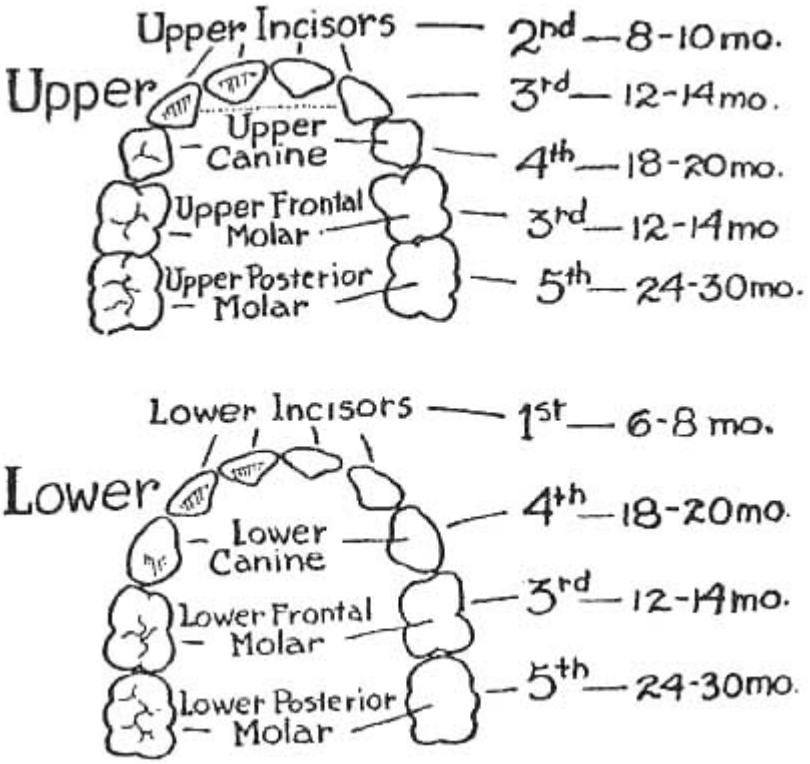
". . . Dr. Price concluded that, if modern humankind is to survive, the fundamentals of primitive nutritional wisdom must be adopted, i.e. natural foods must be substituted for the present day highly processed and junk foods that presently comprise the major portion of the diets of modern societies. He warned of the harmful effects of chemical fertilisers, pesticides, herbicides, and other deleterious chemicals. He further called for breastfeeding of all babies, as there is no really ideal substitute for mother's milk. He also discovered that when those people who had been on the diet of modern humankind returned to their original native diet, the incidence of caries not only stopped, but also that open caries ceased further decay. In other words, Dr. Price discovered that when people change from our unhealthy modern diet to a diet of natural, wholesome foods, their general health will improve. To reiterate, very simply, for optimal health one should eat only natural foods, that is fresh vegetables and fruit, whole grains, nuts, and wholesome animal protein."

Childrens' Teeth

Sister Joyce Lubke in *I had no say,* pp78, writes:

"The baby's teeth are formed in the gums in the first six to eight weeks of pregnancy . . . "

We should keep this in mind if we want our children to have the benefits of good teeth. Calcification of the baby's teeth commences in the fifth month, and is completed at about three years of age.



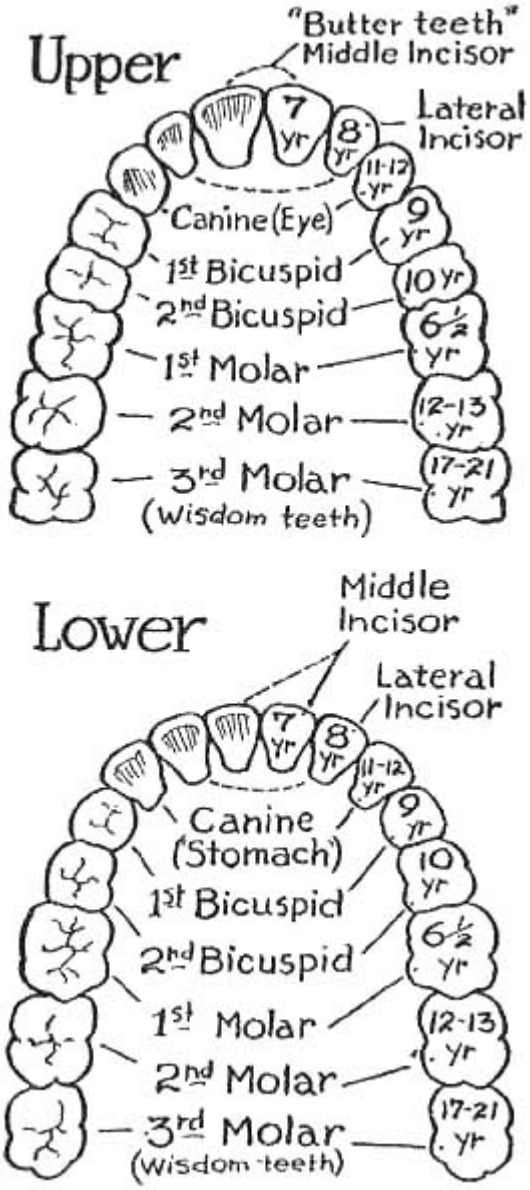
The temporary or 'milk' teeth, and order of their appearance

Dr. Shelton in Science *& fine art of food &* nutrition, pp458, describes this period:

"It is well to bear in mind that every tooth a man will ever have (except false ones) is already formed or being formed in his jaws at birth. The teeth actually begin to be formed before any of their supporting structures in the bony alveolar process.

"The anlage or germ appears as the dental ridge developing from the cells of the ectoderm, as early as the seventh week of foetal life. Out of this ridge the tooth buds of the temporary teeth with the enamel organs begin to be differentiated about the eighth week. These structures invade the underlying mesoderm and together they form the 'dental papilla', which becomes distinguishable during the ninth and tenth week."

The 'seed' for the permanent teeth is also laid during this embryonic period, shortly after the deciduous teeth. Guyton & Hall in *Textbook of medical physiology,* pp1000, write:



The permanent teeth and the ages at which they appear.

"During embryonic life, a tooth forming organ also develops in the deeper dental lamina for each permanent tooth that will be needed for each after the deciduous teeth are gone. These tooth producing organs slowly form the permanent teeth throughout the first 6 to 20 years of life."

Dr. zur Linden in *A child is born,* pp165, writes:

"The second teeth, which appear in healthy children about the sixth or seventh year, are already present in their rudimentary form at birth. The calcification starts four months after birth . . ."

If the child is to have healthy teeth, it is therefore imperative that the mother take every possible care in the foods she eats, even prior to conception and certainly throughout pregnancy and breastfeeding. Dr. zur Linden comments on the effect on the teeth of the diet during pregnancy:

" . . . so from four months onwards they too (the permanent teeth) can be damaged by a wrong or deficient diet."

Tooth Decay

Tooth decay, otherwise known as *dental caries,* is related to the diet of the mother prior to conception, during pregnancy, and while breastfeeding, and to the diet of the infant after weening. With regard to the prevention of dental caries, Guyton & Hall in *Textbook of medical physiology,* pp1000, write:

". . . the deposition of salts in the early forming teeth is affected considerably by various factors of metabolism, such as the availability of calcium and phosphate in the diet, the amount of vitamin D present, and the rate of parathyroid hormone secretion."

Malocclusion

Dental caries and malocclusion are the most common dental abnormalities. Malocclusion a failure of the projections of the upper and lower teeth to interdigitate properly. Although malocclusion is considered to be hereditary, the research of Dr. Weston A. Price and Dr. Francis Pottenger, Jr. indicate that diet is a major factor in its incidence.

Twenty The Hopewood Children—Section One

The data from a group of 85 war orphans who have become known as the 'Hopewood Children' provides convincing evidence of the relationship between diet and health, with particular reference to dental health. We reproduce two articles regarding the Hopewood children.

Twenty-one Every Doctor a Dietitian

From *The Medical Journal of Australia,* 20 February 1960, pp285.

By N. E. GOLDSWORTHY, M.B.
Institute of Dental Research, United Dental Hospital of Sydney

It is, I think, safe to state that medical practitioners, whether general or specialist, will be interested in any condition of the human body which is a departure from the "ordinary", although the oral or dental field is generally vacated in favour of the dental practitioner. This attitude of not wanting to poach on another's preserve is perhaps too facilely, although understandably, assumed.

Parents are almost certain to delay seeking the. dentist's advice on a child's teeth until the child has teeth that need attention. Before that time only a medical practitioner, and those who act. directly or indirectly under his instruction, are in. a position to advise on measures for the maintenance of health of the pregnant woman and the foetus, the mother and her young child; and let it be emphasised here that the human -body is not healthy if the teeth or other oral structures are diseased.

Because of the medical practitioner's unique and, indeed, responsible relation to the health of the developing foetus and child, this brief resume of the general (and particularly the dental) health of the children at Hopewood House Children's Home, Bowral, is offered in the hope that it will appeal -to him as a record of health (Asher, 1958), a state which, unfortunately, is recorded far less often than is disease.

The nation as a whole is so accustomed to dental decay that it has come to accept it as almost inevitable and, therefore, as more or less normal or "ordinary". No data are available to show what proportion of the population has a full set of sound teeth, but it must be very small indeed, because a recent survey (Barnard, 1956) has shown- that in the age group 6 to 16 years only 1.5% of persons had teeth free from decay. Moreover, decay is non-healing and generally progressive, so that even that small percentage certainly diminishes with increasing age.

A roughly similar condition exists in other countries exhibiting -the phenomena of modern western civilisation. It is therefore little short of miraculous that this State of New South Wales, in which the above-mentioned survey was made, should have within its borders a group, of children aged 9 to 16 years who are relatively free from dental decay. The obvious question is: "Why are they so different in this respect?" I believe that an answer can be given on the basis of the published reports of Lilienthal et alii (1953) and of Goldsworthy et alii (1958), and believe also that this answer has significance for the medical profession, although the detailed evidence for this cannot be set out here. Some of this evidence was presented by me before the Ninth Session of the Australasian Medical Congress (B.M.A.) in 1955.

Twenty-two The Biology Of The Children Of Hopewood House, Bowral, New South Wales: I. Observations On Dental Caries Extending Over Five Years (1947 To 1952)

From *The Medical Journal of Australia,* 20 June 1953, pp878-881.
By B. Lilienthal, N. E. Golds-worthy, H. R. Sullivan and D. A. Cameron
From the *Institute of Dental Research, United Dental Hospital of Sydney, Australia.*

Among the numerous facets of the unsolved problem of dental caries perhaps none has stirred more acrimonious debate than has diet. Unfortunately the word "diet" is often used loosely, and more often still it is confused with "nutrition". Admittedly diet and nutrition are closely linked, but they are by no means identical.

Many observations have been made (for example, Pickerill, 1912; Bunting 1936; Colyer and Sprawson 1938; Price 1945; Mack and Urbach, 1948) on the relationship between diet and the incidence of dental caries, and it is generally accepted that no one particular diet is a *sine qua non* for the development and maintenance of sound teeth. Thus the Eskimo on a diet of protein and fat, the South American gaucho on a diet of protein, the South Sea Islander on a vegetable diet and the Australian aboriginal on a very mixed diet all enjoy a relatively large measure of freedom from dental caries. A mixed diet is also used by so-called civilised peoples, and from time to time observations have been made that, even in those civilised communities where as a rule the prevalence [2] of dental caries approaches 100% (with a correspondingly high D.M.F. [3] value), it is possible so to modify the dietary pattern that the people living on such diets approach or even surpass in excellence the dental conditions of primitive peoples.

The object of this paper is to describe the condition of the teeth of a group of white children living under such controlled conditions in New South Wales.

Hopewood House and its Children

The 81 children (boys and girls in practically equal numbers), who are the subject of this report, live in rural surroundings on the southern highlands of New South Wales at an elevation above sea level of approximately 2000 feet. The living quarters are in what was formerly a country mansion and its spacious annexes; the buildings are set in 750 acres of undulating grassland. The staffing of the home is more than adequate, and earlier, when as infants the children required more attention, it was on an almost lavish scale.

The children now (February, 1952) range in age from four to nine years. The majority of them have been in the home since the earliest months of life.

[1] Prevalence is used to indicate (i) the proportion of persons in a given population who are affected by the disease, or (ii) the number of D.M.F. teeth per child.

[2] D.M.F. value is the total number of decayed missing and filled teeth. The expressions D.M.F. and D.F. are used in relation to the dentition present at the time of examination, whether or not this was wholly temporary or mixed temporary and permanent. Exfoliated temporary teeth have not been taken into account.

They are not a selected group, but are almost certainly what is genetically a heterogeneous group of European stock.

The type of life led by the children is what is generally described as "healthy"; that is to say, they are well housed and well clothed, and have regular meals and regular exercise under supervision. Those of school age attend school; the younger ones attend a kindergarten within the home itself. As far as possible, the children are made to feel that they are a large family living in what is virtually their own home.

Observations

Diet

A study of any group of children living under controlled conditions is likely to prove interesting, but our interest in the Hopewood House group was considerably heightened by the fact that these children were "protected" from refined carbohydrates. We therefore made frequent visits to the kitchens, food- stores and dining rooms at meal times, and, although we have not kept a complete record, the diet consisted mainly of wholemeal bread, wholemeal biscuit, wholemeal porridge, fruits (fresh and dried), vegetables (cooked and raw), a small amount of meat [4], butter, cheese, eggs, milk, fruit juices, honey or molasses as a sweetening agent on occasion, and nuts (Youth Welfare Association of Australia, Annual Report, 1949).

As far as possible, food was taken uncooked and/or with a. minimum of preparation, the idea being to present the food in its natural state. Notable for their absence from the diet were such items as sugar (white and brown), white flour products (including cakes and sweet biscuits) and any combination of these items. No tea was used. The water was drawn from the town supply. This water has been examined (Jones, 1949) for the presence of fluoride, but none was detected. We have not attempted to determine the fluoride content of the foods.

In order to maintain the kind of diet outlined above, those children who attended school were given at midday an appropriately prepared lunch before being allowed to mix with the other children. This was done with the aim of minimising the danger of their exchanging items of food with other children.

When we began to study the children, attention was given primarily to dental caries. However, the scope of the observations is being broadened so as to obtain, for example, data on their general physical condition and on their haematological and biochemical condition. It is enough to state here in general terms that the physical status is (February, 1952) approximately the same as that found in a comparable group of the general population (Clements and Dowd, 1952).

Examination of Oral Structures

When work began in February, 1947, the teeth were examined by one of us (B.L) in the ordinary way with mirror and probe. On that occasion also plaster casts were made from the older children. It was not possible (at that time) to make radiographic examinations. In addition to the clinical examination, saliva was collected for bacteriological tests, with special reference to the occurrence of lactobacilli. The technique was similar to that described by Hadley (1933). The saliva was always collected in the early morning before any food had been eaten, and was transported rapidly to the laboratory in Sydney and examined within a few hours of its collection.

[4] Practically no meat has been included in the diet since 1948-1949.

Subsequent examinations of the children's teeth have been made approximately twice a year, and from time to time bitewing X-ray pictures have been made to check the results obtained with mirror and probe. The carrying out of the various examinations has been considerably facilitated in recent years by the use of a mobile laboratory-cum-clinic.

Continues next lesson . . .

Twenty-three The Hopewood Children—Section Two

. . . Continued from previous lesson

Results

The results of the various examinations are set out below. The figures are based on the results of the last series of examinations made. These were all completed in the period from September, 1951, to February, 1952. It is possible that on occasion there may have been a difference of some months between the last radiographic examination and the last clinical examination. However, in view of the extremely low rate of initiation of new lesions and the slow progress of established lesions, we feel that it is justifiable to group these results together.

Prevalence [5] of Dental Caries [6]

Table I shows the distribution of the children and the prevalence of caries according to age and sex.

Table II shows the prevalence of dental caries expressed in terms of D.F. values.

The distribution of the lesions shows a mode of 2.0.

Although the data presented above are concerned with the state of teeth at the end of a five-year period, we have examined the children's teeth at intervals during this time. It has therefore been possible to observe the development of the lesions.

[5] See footnote (2).

[6] Pits and fissures were considered to be carious if the probe could be forced into them and remained fast. Smooth surfaces, such as approximal surfaces, were considered to be carious if the probe encountered a softened area or the radiograph revealed decalcification. No lesions were detected on the gingival third of labial and buccal surfaces.

TABLE I

Distribution of Children and Prevalence of Caries According to Age and Sex

Age in Years	Number of Children		Children with Caries		Children without Caries	
	Boys	Girls	Boys	Girls	Boys	Girls
4	3	8	0	0	3	8
5	4	6	0	0	4	6
6	0	3	0	0	0	3
7	13	9	4	3	9	6
8	13	12	4	1	9	11
9	6	4	2	4	4	0
Totals	39	42	10	8	29	34
Totals		81		18		63

TABLE II

Prevalence of Dental Caries (Expressed as D.F. Value) in Each of the 18 Affected Children According to Age and Sex

	Number of D.F. Teeth		
Age in Years	Boys	Girls	D.F. Total
7	1*; 1; 2; 3;	3; 4; 6;	20
8	3; 2; 5; 2;	1;	13
9	2; 3;	2; 1:4; 2;	14

* This was a deciduous tooth and had been replaced by a permanent tooth at the time of the last examination. No other exfoliated deciduous tooth was carious.

Throughout the examinations, difficulty has been experienced in establishing with certainty the existence of some lesions. It was the practice firstly to examine the children's teeth with mirror and probe and then to examine the teeth radiologically; any possible lesion detected by either method was recorded. At the next examination particular attention was paid to those areas about whose condition doubt still remained, because of lack of proof from one or other of the methods of examination: radiographs were made at the time and were available to supplement the clinical examination.

Despite these precautions, certain areas remained in the category "doubtfully carious". Thus in six of the 18 children recorded as having caries the existence of lesions has not with certainty been established, and of the 47 D.F. teeth shown 20 were affected by conditions which belonged to the category of being "doubtfully carious". However, in Tables I and II any tooth which showed such a condition is included as being carious, and all children in whom it was not possible to establish with certainty the absence of caries are classified as having caries. Only three teeth developed lesions which involved more than one surface: these lesions were on the mesial surface and extended onto the occlusal surface. Six amalgam fillings had been inserted, three of them in first permanent molars, apparently by school dentists, as a prophylactic measure. These, with the exception of two doubtful lesions, were the only evidence of involvement of the permanent dentition. No lesion had advanced far enough to expose the pulp of the tooth. In view of these observations over the five-year period we feel that it is justifiable to state that the rate of development of lesions was very slow; indeed, in some teeth the disease may have been arrested.

Lactobacillus Counts [7]

Lactobacillus counts were made at somewhat irregular intervals, but at' least once each year, if the child was old enough to cooperate in the procedure. Table III shows the distribution of children without lactobacilli (that is, children who have never given evidence of the presence of lactobacilli), and Table IV the distribution of children with lactobacilli in their saliva (that is, children not certainly free of lactobacilli at the last examination).

[7] A lactobacillus count is the number of lactobacilli present per millilitre of a standard 10 millilitre sample of activated saliva. The sample, after measurement of its volume, is serially diluted in broth orpreptone water and distributed in 0.1 millilitre quantities over- a series of tomato-peptone-agar plates (Hadley, 1933). The colonies are counted after three or four days' incubation at 37 degrees C, and the count is adjusted to represent the number of lactobacilli in a 10 millilitre sample of saliva.

TABLE III

Children Without Lactobacilli in Their Saliva at All Examinations: Distribution According to Age and Sex

Chil-	Age in Years '						
dren	4	5	6	7	8	9	Totals
Boys	2	2	0	2	2	2	10
Girls	8	6	1	1	4	0	20
Total	10	8	1	3	6	2	30

TABLE IV

Children not Certainly Free of Lactobacilli in Their Saliva at the Last Examination: Distribution According to Age and Sex

Chil-	Age in Years '						
dren	4	5	6	7	8	9	Totals
Boys	1	0	0	7	9	2	19
Girls	0	0	2	6	5	4	17
Total	1	0	2	13	14	6	36

The remaining 16 children not shown in Table III or IV were free from lactobacilli in their saliva at the last examination, but lactobacilli had been demonstrated in their saliva at some time previously.

TABLE V

Distribution of Lactobacillus Counts According to Magnitude

	Lactobacilli per Millilitre of Saliva				
Chil dren	1 to 10	11 to 100	101 to 1000	More than 1000	Totals .
Boys	4	9	2	4	19
Girls	6	7	2	2	17
Total	10	16	4	6	36

Table V shows the distribution of the counts according to their magnitude and according to the sex of the child. Thirty-six children are recorded as having lactobacilli, the counts ranging from less than 10 to more than 1000. Of these 36 children there were eight in whom the nature of the organism so designated is somewhat doubtful. Only 28 of. the 36 children therefore with certainty harboured lactobacilli. Of the 36, 26 had counts of 100 or less.

Association of Lactobacilli and Caries

The association of lactobacilli and caries is shown in Tables VIA, VIB and VII, on the basis of which was calculated the chi-squared figure of 13.8 indicating statistical significance in the association ($P < 0.001$). From Table V it appears that of the 36 children with lactobacilli in their saliva, 26 had 100 or less per millilitre. Of these 26, 20 were caries-free, while six were affected by caries to the extent of 14 cavities. This is for these 26 children an average D.F. value of 0.54 per child. Of six children with counts of more than 1000 per millilitre, all had caries—20 cavities in all. This is for these six children an average D.F. value of 3.33 per child. These D.F. values are in a ratio of 1:6.

The three highest lactobacillus counts and the corresponding D.F. values are as follows: (i) 400,000 lactobacilli per millilitre, D.F. value six; (ii)

100,000 lactobacilli per millilitre, D.F. value two; (iii) 46,000 lactobacilli per millilitre, D.F. value four. The average D.F. value is four per child.

Discussion

Occurrence of Caries

The figures given by Cameron (1953) are probably the best for purposes of comparison because they are based on the examination of children resident in Sydney, New South Wales. He found that 96%, of the children in the age-group four to nine years had dental caries and that the average number of D.M.F. teeth per child was approximately nine. Likewise an examination of groups of children aged from five to eight years in New Zealand revealed that 94.5% were affected, and that the average number of D.M.F. teeth per child in a group aged seven to nine years was approximately 11. Figures of the same order are avail able for the city of Brantford, Canada.

TABLE VIA

*Caries Experience of Children According to the Presence of Lactobacilli During the Five-year Period. (Caries Experience Expressed at D.F. Value of Each Child)**

Age In Years	Lactobacilli Present on												Total number Children
	No Occasion		One Occasion		Two Occasions		Three Occasions		Four Occasions		Five Occasions		
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	
4	0;0	0;0; 0;0; 0;0; 0;0;	0	-	-	-	-	-	-	-	-	-	11
5	0;0	0;0; 0;0; 0;0;	0;0	-	-	-	-	-	-	-	-	-	10
6	-	0	-	0	-	-	-	-	-	-	-	-	3
7	0;0	0	0;3;	0;6	0;0	3;0	0	-	1;0	4;0	-	-	22
8	0;0	0;0; 0;0 2;0	0;0; 0;0	0;0; 0;1;0	0;0	0;0;0	5	-	2;1	-	3	-	25
9	3;0	-	0;2	-	0	2;1	-	4	-	2	0	-	10
Total	10	20	17	8	5	1	2	1	3	3	2	0	
No of children	30		25		15		3		6		2		81

* It should be noted that owing to a variety of circumstances (for example age), not every child has been examined five times. Hence the younger children will tend to show less evidence of the presence of lactobacilli in addition to being less likely to have caries.

TABLE V1B

Summary of Data Presented in Table VIA

Number of Occasions when Lactobacilli Detected	Proportion of Children with Caries
0	1 in 30
1	1 in 3.6
2	1 in 5.0
3	1 in 1.5
4	1 in 1.5
5	1 in 2

TABLE VII

Relation at the Last Examination of the Presence of Lactobacillus to the Occurrence of Caries

Lactobacilli	Carries Present	Carries Absent	Totals
Present	15	21	36
Absent	3	41	44
Totals	18	62	80*

From these figures chi-squared - 13.8 and $P < 0.001$.

"The disparity between totals 80 and 81 is due to the fact that complete data were not available for one of the 81 children.

In three New Guinea villages the prevalence among children aged six to ten years was 43%, 85% and 42% respectively, and the average number of D.M.F. teeth per child in the age group six to ten years was 1.64, 3.62 and 1.74 respectively. The corresponding figures for Hopewood House are: prevalence 22.2% (18 out of 81) and 0.58 D.F. teeth.

Table VIII shows that the children of Hopewood House have approximately one-twentieth the amount of caries experienced by similar groups of white children in Australia and New Zealand and that their freedom from dental caries is even greater than that enjoyed by the children of three villages in New Guinea. The small size of the lesions deserves emphasis, and their slow rate of development is noteworthy.

Lactobacillus Count

From Table III it can be seen that 30 out of the 81 children had never had any lactobacilli in their saliva, whereas (Table IV) 36 of the children had not been proven certainly free of lactobacilli at the last examination made.

Frequently the numbers were very small, and Table V shows that 26 out of 36 children had counts of 100 or less, and only six of the 36 had counts of more than 1000. It is generally considered (Hadley, 1933) that such low counts of 100 or less do not indicate susceptibility to the disease. Some authorities (Dewar, 1949, 1950) have even suggested that counts of less than 1000 lactobacilli can be regarded as compatible with relative immunity to caries.

Association Between the Occurrence of Lactobacilli and Caries

Table VII is a simple four-fold table which establishes statistical significance in the association between lactobacilli and caries. In the construction of the table, all possible lesions (certain and doubtful) have been included. Likewise figures for the occurrence of lactobacilli include doubtful results. In adopting this procedure we have weighted the evidence against ourselves. Similarly no attempt has been made to exclude the low lactobacillus counts of 100 or less, despite the fact that such small numbers are frequently regarded as having no significance in relation to the existence of carious lesions.

Further, the figures given at the end of the section "Results" appear to indicate a quantitative relationship between the lactobacillus count and the D.F. value, when a group rather than an individual is being considered. The foregoing conclusion is drawn with a realisation that the lesions are probably in their initial and active phases—there were no large, open cavities.

Association Between Diet and Caries

As was mentioned in the introduction, a number of authorities have drawn attention to the apparent association between diet and the development and maintenance of sound teeth. In the majority of cases the kind of diet compatible with sound teeth is one in which the food is eaten in as natural a form as possible—that is to say, with as little processing, refinement and cooking as possible. This is precisely the situation at Hopewood House. A brief description of the types of food eaten has been given earlier in the paper.

Summary and Conclusions.

1. In a population of children living under certain controlled conditions, 63 out of 81, whose ages range from four to nine years, were free from caries (Table I). The proportion of children without caries is far in excess of the proportion of children without caries in three New Guinea villages and in groups examined in Australia, New Zealand and Canada (Table VIII).

2. The teeth of the children in this group of 81 are remark- able for the very small number of carious lesions. The average D.F. value per child (0.58) is lower than that for the children of approximately the same age group in three New Guinea villages (Table VIII).

3. No child had more than six lesions (Table II)

4. The rates of initiation of new lesions and of the progress of established lesions are very much below the rates in the general population.

5. Lactobacilli are present in the group and occur in some children as permanent components of the oral flora and in others apparently as transients. From one child with caries no lactobacilli could be isolated, and in 16 without caries lactobacilli had been detected on more than one occasion. Despite these discrepancies there is a statistically significant association between the occurrence of lactobacilli (irrespective of the count) and caries.

6. The outstanding difference in the environment as between this group of children and groups living in the population at large is in the nature of the diet. Foods containing refined carbohydrates (for example, sugar, white flour) are either excluded from the diet or eaten in very small amounts.

Acknowledgements.

We wish to thank especially Mr. L. O. Bailey, President and Founder of the Youth Welfare Association of Australia, under whose direction Hopewood House is conducted, and the staff of the home for their generous assistance in making possible the observations reported in this paper; also Dr. H. O. Lancaster, Honorary Consultant Statistician, who has kindly read the manuscript and checked the calculations. We also acknowledge assistance given in the laboratory by several members of the graduate and technical staff of the Institute of Dental Research.

TABLE VIII

Comparison of Prevalence of Caries and of D.M.F. Values for Various Groups of Children in Approximately the Same Age Groups

Place and Authority	Prevalences of Caries			D.M.F. Values		
	Age Group (Years)	Number of Children in Group	Percentage of Persons Affected	Age Group (Years)	Number of Children in Group	Average Number of D.M.F. Teeth per Child
Sydney, Australia (Cameron, 1953)	4 to 9	554	96.0	4 to 9	554	9.57
New Zealand (Hewat, 1948, 1952)	5 to 8	923	94.5	7 to 9	313	11.38
Hopewood House, Bowral, Australia	4 to 9	81	22.2	4 to 9	81 0.	58
Brentford, Ontario, Canada (Huttonetalii, 1951)	5 to 9	2712	92.1	5 to 9	2712	8.00
New Guinea Villages (Sinclair Et alii, 1950):						
Patep II	6 to 10	14	42.9	6 to 10	14	1.64
Kayataria	6 to 10	13	84.6	6 to 10	13	3.62

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Postscript: *The Medical Journal,* Issue of February 20th, 1960, attested that after a ten year examination period, the Hopewood children continued to show a "remarkable" freedom from dental caries:

"At the end of the ten-year period the dental decay experience was conspicuously less than in the general child population of the State of New South Wales, an observation in line with those made in earlier years (1947 to 1952 inclusive). Thus State school-children had 10.7 (mean value) decay, missing or filled permanent teeth per child at age 13 years, whereas the corresponding figure for Hopewood House children was 1.6. The proportion of children having no dental decay at age 13 years was 0.4% for the State school-children and 53% for Hopewood House children. Such a contrast is truly remarkable.

Twenty-four Teething

In civilised communities, teething is a time that causes a great deal of concern for most mothers. It is accepted as normal that during teething the child will be irritated and suffer frequent and on-going periods of ill health. The Natural and Hygienic viewpoint is that it is unnatural for teething to be considered as an illness or as the cause of illness.

Fretfulness & Irritability

Although fretfulness and irritability often occur at the same time as teething, we should not allow this coincidence to mislead us into neglecting the underlying causes. Doing so only perpetuates the condition, and the symptoms will recur with the eruption of the next tooth. As the source of the problem has not been dealt with, the symptoms will be exacerbated with each recurrence. What commenced as a simple bout of fretfulness may shortly become vomiting and diarrhoea, followed by fever and loss of appetite. If the root cause is still not being dealt with, the result may be convulsions or 'fits'.

This is the outcome that can be expected if we persist in believing that these so-called effects of teething do not have a much deeper underlying cause.

Penelope Leach in *Baby & child,* pp155, writes:

"The fact that a baby is in the process of cutting a tooth is too often used to explain fretful or irritable behaviour or even illness. A baby who cries a lot and is difficult to keep cheerful is very hard to bear. . . . Deciding there is a physical cause for crying may make it easier to stay patient with the baby, but at this age putting it down to teething is neither accurate nor safe."

She continues:

"Teething cannot cause fever, diarrhoea, vomiting, loss of appetite, or 'fits' . . .

"A few babies each year reach hospital in a serious condition because parents assumed that signs which were really symptoms of illness were only due to teething . . ."

This scenario does not occur in children raised according to Natural and Hygienic principles.

Dr. Shelton in *The hygienic care of children,* pp127, writes about teething:

"It was until a few years ago the almost universal opinion among civilised man, and it is still the prevailing opinion among most of those, that when an infant begins to teethe it is peculiarly liable to intestinal and other disorders and many deaths are attributed to this cause. Any disorder which may occur while an infant is teething is at once ascribed to the teething, and it is thought that the baby's illness is an unavoidable misfortune.

"Never was there a greater mistake. The ignorance of parents, attendants, and physicians, is the real misfortune in these cases.

Jessie R. Thomson, in *Healthy childhood,* pp45, further elaborates on teething as a natural process that should not be unpleasant:

"Teething should not be a time of sickness and anxiety. When a baby has been reared along Nature Cure lines and the prenatal period has been one of care and forethought, baby will cut his teeth with the minimum of discomfort, and certainly without fever, sickness, or any such unnatural accompaniment."

Chewing

In later childhood, a diet requiring vigorous chewing will benefit the teeth by stimulating the flow of blood and lymph to the gums. But even before the teeth have erupted, the infant will be helped to have healthy teeth erupt by having something to chew on that is non-toxic and will not break into pieces. During meal times when the infant indicates a desire for food other than mother's milk, an opportunity for chewing may be provided by giving it a piece of hard fruit or vegetable such as a carrot stick, apple or celery, placed in mosquito netting to bite and suck on.

Dr. zur Linden in *A child is born,* pp165, writes:

"It has been found that wherever people still eat a diet which requires vigorous chewing, the bulk of the population also have healthy teeth and jaws. Increasing dental decay occurs where so-called 'civilised' food replaces the original natural foods."

Treat the Mother

There is an old saying: "Treat the mother, not the child". Where the infant is being fed as nature intended—at the mother's breast—any problems that manifest are usually in the habits mother, usually in her diet.

Twelve Months to Two Plus Years

As the child grows older, from twelve months up to two or even two and a half years of age, as the milk, or first set of teeth are erupting and more and more foods are being introduced into its diet, it will be necessary to consider the new foods as a factor in teething.

Dr. Shelton in *The hygienic care of children,* pp127-128, writes:

"Multitudes of infants do become sick with stomach and bowel disorders during this time, and mothers and grandmothers, and sometimes even physicians, blame these troubles on the teething, when the trouble and the teething are merely coincidental and are not related to each other as cause and effect. Cutting teeth never causes a normal child one day of sickness, but teething does trouble children already miserable from errors of diet."

Although teething is considered to be problematic in our culture, many children have been noted to not experience any trouble at all. Behrman, Kliegman & Jenson in *Nelson Textbook of Pediatrics, 16th edition,* pp416, write:

"Teething can lead to intermittent localised discomfort in the area of erupting primary teeth, irritability, low grade fevers, and excessive salivation; many children have no difficulties. . . . Similar manifestations can also arise when the first permanent molars erupt at about age 6 years.

Most experts agree that any discomfort experienced by children during teething is caused by incorrect or over feeding. These practices lead to inability to digest food, resulting putrefaction of the food in the gastrointestinal tract, leading to irritation of the mucous membranes and nervous system. This results in colds, sore throats, fevers, irritability, diarrhoea—in fact, all of the symptoms that are commonly attributed to the eruption of the teeth.

Another cause of teething troubles that is mostly overlooked is psychological trauma, due to the child abuse which is unfortunately so prevalent in our society. This can affect the ability of children to digest even the best of foods, and thereby lead to the same symptoms mentioned above.

Dr. Tilden in *Children,* pp36, writes:

"If children have trouble at teething time, it is due to overfeeding which brings on indigestion."

Dr. Shelton in *The hygienic care of children,* pp129, quotes Dr. Tilden:

"Dr. Tilden says: 'The great sensitiveness of the gums in teething children is cause by the general systemic derangement. When these little folds are properly cared for they will not be sick, and if they are not sick they will surprise their mothers by showing them a tooth every little while without the slightest suspicion of any kind.' Again he says: 'When a child is fed too much, too often, and fed varieties of food that should not be given to it until past two years of age, indigestion and irritation of the stomach result; it becomes irritable, nervous, and half sick all the time; constipation becomes habitual. Children in this state suffer teething; indeed everything causes them to be unhappy, for they feel miserable.' "

Behrman, Kliegman & Jenson in *Nelson Textbook of Pediatrics, 16th edition,* pp416, support this viewpoint:

"No evidence shows that diarrhoea, rashes, or fever is related to teething. . . . Most infants tolerate teething without difficulty if offered a firm object to bite such as a teething ring."

Timing

As with walking and talking, the timing of teething is a very individual thing. It would therefore be misleading, and lead to unnecessary anguish, to lay down hard and fast rules on the timing of tooth eruptions. Nevertheless, I shall give approximate timings here, with the understanding that much variation is normal, natural and acceptable.

The First Set: Deciduous, Primary, or Milk Teeth

The first teeth to appear are the lower incisors at around six to eight months.

The upper incisors and lower and upper frontal molars then appear commencing about the eighth month to the twelfth to fourteenth month.

Then, at about the eighteenth to the twentieth months, the lower and upper canines erupt.

In the twenty-fourth to thirtieth months, the lower and upper posterior molars appear.

The Second Set: Secondary, or Permanent Teeth

Guyton &. Hall in *Textbook of medical physiology,* pp1000, describe the development and eruption of the second or permanent set of teeth:

During embryonic life, a tooth forming organ also develops in the deeper dental lamina for each permanent tooth that will be needed after the deciduous teeth are gone. These tooth-producing organs slowly form the permanent teeth throughout the first six to 20 years of life. When each permanent tooth becomes fully formed, it, like the deciduous tooth, pushes outward through the bone. In so doing, it erodes the root of the deciduous tooth and eventually causes it to loosen and fall out. Soon thereafter, the permanent tooth erupts to take the place of the original one."

The middle incisors commence to appear at 6-7 years of age.

The lateral incisors commence to appear at 8-9 years of age.

The first bicuspids commence to appear at 9-11 years of age.

The first molars commence to appear at 6-7 years of age.

The second molars commence to appear at 12-13 years of age.

The third molars (wisdom teeth) commence to appear at 17-22 years of age.

Behrman, Kliegman & Jenson in *Nelson Textbook of Pediatrics, 16th* edition, pp60, write about dental development:

"Dental development includes mineralisation, eruption, and exfoliation. . . . Initial mineralisation begins as early as the second trimester (mean age of central incisors is 14 weeks), and continues through 3 years for the primary (deciduous) teeth and 25 years for the permanent teeth. Mineralisation begins at the crown and progresses toward the root. . . . Exfoliation begins at about 6 years and continues through age 12 years. Eruption of permanent teeth may follow exfoliation immediately, or may lag by 4-5 months. The timing of dental development is poorly correlated with other processes of growth and maturation."

Crowding & Failure to Erupt

The crowding of the teeth in young children is becoming almost endemic in civilised countries. A large percentage of children are requiring to have both first and second teeth removed to allow the uninterrupted eruption of all of the teeth. Often if this is not done, those teeth that have erupted are often so misplaced and misaligned that some will subsequently need to be removed and the remaining teeth braced to enable efficient mastication.

Behrman, Kliegman & Jenson in *Nelson Textbook of Pediatrics, 16th edition,* pp60, write:

"Individual teeth may fail to erupt because of mechanical blockage (crowding, gum fibrosis)."

They further elaborate on pp1108-1109:

"The teeth that are most commonly absent include the third molars, the maxillary lateral incisors, and the mandibular second premolars."

This crowding of the teeth has its main cause in the faulty or lacking development of the facial and dental arches. This, in turn, has its origin in

faulty nutrition. Dr. Weston A. Price in *Nutrition and physical degeneration,* pp2, writes:

" . . . a group of affections have expressed themselves in physical form. These have included facial and dental arch changes which, heretofore, have been accounted for as results of admixtures of different racial stocks. My investigations have revealed that these same divergences from normal are reproduced in all these various racial stocks while the blood is still pure. Indeed, these even develop in those children of the family that are born after the parents adopted the modern nutrition."

It is also possible for more than the normal number of teeth to occur. These supernumary teeth usually occur in the area between the maxillary incisors. It is thought that this happens where the ossification of the cranial bones and in the area of the cleft palates has been defective. It is a congenital problem.

Other Abnormalities

Other abnormalities that often occur are:

1. Macrodentia, the occurrence of overly large teeth.
2. Microdentia, which are the opposite, being small teeth.
3. Twinning, in which two teeth are joined together. This occurs mostly in the mandibular incisors.
4. Amelogenesis *imperfecta,* in which there is a faulty production of the organic matrix, causing an abnormally thin layer of enamel through which the yellow underlying dentin can be observed.
5. *Dentrenogenesis imperfecta* and *osteogenesis imperfecta,* in which an opalescent dentin is formed due to the odontoblasts failing to differentiate.
6. Localised disturbance of calcification may occur. This is correlated with periods of illness, malnutrition, premature birth, or birth trauma.

7. Mottled enamel is often observed where the concentration of fluoride in the drinking water exceeds 2ppm.

8. Discoloured teeth can occur from the ingestion by the mother of certain drugs prior to birth. The tetracyclines have the highest chance of current drugs of causing this, with the period of risk being from the fourth month of gestation.

The research of Dr. Weston A. Price and that of Dr. Francis Pottenger, Jr. indicate that the vast majority of these conditions are nutritionally related.

Teeth & Weaning

The eruption of the teeth has often been considered by mothers to be an indication that weaning is imminent. Sometimes the mother may fear that the baby will bite her nipples. Both these are false. It will be many months before the infant will have sufficient teeth to be able to sufficiently chew foods, or for that matter to be biting the nipple. In fact, it is even rare for older children to bite the mother's nipple. If it does occur, no permanent damage is usually done, and gentle reproval will prevent its recurrence.

Precociousness

As mentioned earlier, there is a wide variation in the age at which children cut their teeth. Too often, though, we hear of mothers proudly claiming that their child cut its first tooth at a very early age. As with all other development, this precociousness be a harbinger of untoward effects later in life. Dr. zur Linden warns about "premature development", saying that the "human being needs to progress very carefully in everything."

Penelope Leach in *Baby & child,* pp155, writes:

"Babies cut their teeth in a particular order and roughly at certain ages. But there is a wide variation in those average ages. A baby who cuts teeth earlier than average is not brighter or more forward than the baby who cuts them later. The actual age at which they appear has no importance . . .'

I disagree with that last sentence, however: the actual age at which teeth appear is important in the sense that teeth that appear earlier may presage problems later in life.

Twenty-five Sun, Air & Light Baths

We are children of the sun, light and fresh air. Without these ingredients in our lives it is impossible to be healthy. Although their necessity is almost universally accepted, we continue reduce their availability by polluting our environment. Exposure to sun, light, and fresh air is even more important for infants than it is for adults, and is essential for their healthy development.

Dr. Shelton in *The science & fine art of food &* nutrition, pp577, under the heading 'Man shall not diet with food alone', writes:

"Radiant health depends on a number of factors. It is not a matter merely of adequate vitamins or correct diet. Fresh air, sunshine, exercise, sufficient rest and sleep, emotional poise, freedom from devitalising habits—these are all essential to recovery of health as well as the maintenance of health."

It is never too early to expose a newborn infant to the beneficial rays of the sun. Naturally, care must be taken not to over expose the relatively delicate body to the sun's direct rays, especially in the heat of summer. To begin, it is best to confine exposure to the morning, before the heat of the day, and for no longer than five to ten minutes.

Dr. Tilden in *Children,* pp29, advises the following method:

"As soon as is possible, put the child on its face—I mean allow it to be on its stomach. When the weather is warm and the room comfortable, and the sun shines through the window, very young babies can be given sunbaths. . . . The sunbaths, to start with, should not be of long duration—say five or ten minutes."

He continues, suggesting a way to combine a sunbath with an air bath:

"The babies can be left nude on the floor out of the sun for quite a while if awake. When a child goes to sleep, or appears sleepy, it should be put in its bed."

It is of utmost importance not to allow the child to become chilled during a sun or air bath. Particular care must be taken in the colder climates and during the cooler months in the tropics and sub-tropics. Infants are particularly susceptible to and affected by any excesses, such as extremes of heat or cold. Jessie R. Thomson, in *Healthy childhood,* pp24, writes:

"Next in importance to the daily cold sponge is the daily sun and/or air bath. If the room is warm and sunny, your baby will get nothing but good by being allowed to remain unclothed for some time every day and he will love it!

"If baby's vital reserve is low, the little body will grow cold, and in such a case he should be given a quick hand rub down and dressed rapidly. But each day try again. If necessary, make the room warmer. Baby should not be allowed to chill—if a child is to thrive he must be kept warm."

She continues, reminding us of the benefits of sunlight, which increases skin activity and leads to improved overall health:

"In our northern climes, sunlight is not always in itself sufficiently warming, but its action is nevertheless beneficial—always stimulating and conducive to more healthy skin activity."

Delicate & Sickly Infants

In the past, any child who was obviously not thriving was described as 'delicate' or 'sickly'. Today, these terms have been replaced by more sophisticated, but not necessarily more appropriate ones. Nevertheless, it is of

inestimable value to expose such ailing children to the beneficial rays of the sun and to the fresh air. Bernarr McFadden in *How to raise the baby,* pp202, writes:

"The more delicate the child, the more it needs the air bath, but, naturally, the more prudence must be observed in giving it. Five to thirty minutes or more may be given to the bath, depending upon the degree of vitality possessed by the child, and the temperature of the air."

McFadden continues under the heading 'Sunlight necessary for pale children and others':

"Still greater benefit will result if the rays of the sun can come in direct contact with the body while the air bath is being taken. The sunshine brings colour to the pale, cellar grown light-starved leaf. It will also bring colour to the pale flesh of the child whose body has been just as effectively starved for light and air by burdensome clothing. Care must be taken to avoid sunburning. The sunbaths should be given nude, and daily if possible, and direct—not through glass—for real benefit."

I want to emphasise that advice to not give sunbaths through glass. Glass filters out the beneficial ultraviolet rays from the spectrum, and the only benefit comes from the infrared, which warms the person. Some exposure to ultraviolet light is essential for the body to synthesise vitamin D, and possibly other factors yet to be discovered.

Sir Hugh Gauvin, writing in the foreword of Dr. Rollier's *Heliotherapy,* ppXI, says:

"A child before the age of reason instinctively seeks the light and abhors darkness. Light and laughter synchronise-darkness and depression do likewise."

He continues, ppXIV:

"The mental alertness and accompanying striking physical improvement which follow heliotherapy suggest that the intensive use of light—and especially of natural light-might be judiciously extended to almost all conditions and spheres of human activity."

Morning Sunlight

The rays of the sun are more beneficial in the morning than at the heat of midday. On ppXX, Dr. Saluby writes:

". . . the natural practice of the animals . . . who seek the early morning light of the sun but avoid its midday heat."

Noel Coward, the renowned English playwright, wrote "Mad dogs and Englishmen go out in the mid-day sun," reminding us of the harmfulness of the sun's rays at midday.

Physiological Basis for Sun Bathing

Exposure of the body to ultraviolet rays increases the oxygen content of the blood. This is of inestimable value to the newly born infant, as many internal organs come to full maturity during the early months of life.

Dr. Zane R. Kime, in *Sunlight,* pp35, writes:

"A striking increase in the oxygen content of the blood has been shown to follow a single exposure to ultraviolet light. This effect lasts for many days."

He also lists the following other benefits, pp34:

" . . . it has also been demonstrated that a patient's resting heart rate will decrease and return to normal much more rapidly following exercise if he includes sunbathing in his physical fitness program . . .

" . . . a patient's respiratory rate not only decreases following an endurance exercise program, but it also decreases following sunbathing, and the patient's breathing is slower, deeper, and seems to be easier.

" . . . less lactic acid accumulates in the blood during exercise following sunbathing . . .

" . . . both exercise and sunlight increase the oxygen in the tissues."

It is often claimed that the observed benefits are due to the production of vitamin D by the body when exposed to sunlight. This may be true, but the extrapolation that supplementation with vitamin D will restore homoeostasis in the absence of exposure to sunlight is false, as Dr. Kime points out on pp45:

"Contrary to some investigators' opinions, it is not the vitamin D produced by the body by exposure to sunlight that is responsible for the increased physical strength. It has been demonstrated that vitamin D-deficient animals develop muscular strength just as rapidly as animals that are not deficient. So it is some, as yet unknown, factor in sunlight that produces the increased muscular strength."

Summary

It has been conclusively shown that exposure to sunlight has the following beneficial effects:

1. Reduces the resting heart rate.
2. Reduces the rate of respiration.
3. Reduces the lactic acid in the blood following exercise.
4. Increases the ability of the blood to absorb and convey oxygen.
5. Increases energy and strength.
6. Reduces blood pressure.
7. Reduces blood sugar levels.
8. Increases tolerance to stress.

Pigmentation

Some Hygienic literature claims that the increased pigmentation of the skin by exposure to sunlight indicates that harm is being done. For example, Dr. Alec Burton, in his correspondence course, *The Australian College of Hygiene,* pp40, writes:

"Adaptation always represents a departure from the ideal. If we love to sunbathe, the body's adaptation is to acquire a tan. This indicates an excessive exposure to sunlight, and the skin is permanently damaged by it."

My feeling is that labelling the tanning process as an 'adaptation' is a complete misunderstanding of the natural processes involved. My experience and understanding are that, far from causing permanent damage to the skin, judicious exposure of the skin to the rays of the sun, and the subsequent build-up of pigmentation, is a process that is both natural and beneficial. For example, *Harrison's principles of internal medicine (14th edition),* pp329, reports:

"Melanin is a complex polymer of tyrosine that functions as an efficient neutral-density filter with broad absorbance within the UV portion of the solar spectrum.

"Melanin is synthesised in specialised epidermal dendritic cells termed *melanocytes,* and is packaged into melanosomes that are transferred via dendritic processes into keratinocytes, where they provide photo protection."

Simply put, the body has a natural filtering process involving melanin, the pigment that causes tanning. This enables it to use the sun's rays without being harmed. Dr. A. Rollier, in *Heliotherapy,* pp24, goes even further,

claiming that far from harming the body, the sun's rays can be an agent for healing:

" . . . I find that patients with deep-seated tuberculosis are cured when they have become pigmented. I must logically conclude that it is just this pigmentation that renders deep penetration of the long rays possible."

Overexposure to the Sun's Rays

If the rays of the sun are so beneficial to us, is it possible to be over exposed to them? The answer is a resounding YES. We can have an excess of any elements, including those that, in smaller doses, are essential for our health. This includes wholesome foods, exercise, rest, and sunlight.

As with all elements, the optimum dose of sunlight depends on circumstances. For example, the very elderly, the chronically ill, and newly born infants, must all be exposed to the sun's rays very carefully. Initially, exposure would be for only a few minutes in the early morning—in the colder climates, before 1 lam in the middle of winter and before 10am in the summer months; in the sub-tropics and tropics, before 10am in the middle of winter, and before 9am in the summer months.

Those who are ill and have lowered vitality may need to commence by exposing only a part of the body, say the upper or lower part, or even just one limb, such as an arm or a leg. Each day, further areas of the body may be slowly and judiciously exposed for longer and longer periods, ensuring at **all** times to avoid overexposure and the resulting sunburn.

Chronic Overexposure to the Sun's Rays

Behrman, Kliegman & Jenson in *Nelson Textbook of Pediatrics, 16th* edition, pp1998, warn of the dangers of chronic overexposure to the sun's rays:

"the long term sequelae of chronic and intense sun exposure are not often seen in children . . . paediatricians have a pivotal role in educating patients and their parents about the harmful effects, potential malignancy risks, and irreversible skin damage that result from unduly prolonged exposure to the sun and tanning lights. Premature ageing, senile elastosis, actinic keratosis, squamous and basal cell carcinomas and melanomas all occur with greater frequency in sun-damaged skin. In particular, blistering sunburns in childhood and adolescence significantly increase the risk for development of malignant melanoma."

Unduly Prolonged Exposure

We live at a time when there is a great fear of sunlight, and popular literature from 'health departments' would have us believe that almost any exposure to the UV rays of the sun is potentially harmful and therefore 'undue'. In fact, while acknowledging that there is a maximal exposure beyond which our health will be harmed, we need a certain minimum exposure to be healthy.

How to Sunbathe

The question of how long to sunbathe is superficially simple, but an accurate answer must consider many factors.

Drugs, Cosmetics, Soaps, Sunscreens, etc.

The sensitivity of each individual is the primary consideration. Generally, sensitivity is related to natural skin colour: red headed people are

the most sensitive, then those with blond hair, and those with dark hair and skin are the least sensitive. Even people with black skin can be over-exposed and develop sunburn where the skin is first exposed.

Other factors that affect the sensitivity of the skin to the rays of the sun include certain drugs, cosmetics, and soaps. Dr. Zane R. Kime in *Sunlight,* pp225, writes:

"Many drugs sensitise the skin so that it burns easily."

He continues by listing eighteen of the most commonly used drugs. The list includes sulfa drugs, tranquilisers, antibiotics, antihistamines, and certain sunscreens.

Behrman, Kliegman & Jenson in *Nelson Textbook of Pediatrics, 16th edition,* pp1999, in Table 662.2, 'Cutaneous reactions to sunlight', under 'Photo-allergic drug eruptions', list a number of drugs, soaps, perfume oils, and sunscreens. They continue by listing certain conditions that lead to cutaneous reactions:

"1. Genetic disorders.
2. Inborn errors of metabolism.
3. Skin disease exacerbated or precipitated by light.
4. Deficient protection due to lack of pigment."

Soaps, Antiseptics & Sunscreens

Dr. Zane R. Kime in Sunlight, pp226, writes:

"Careful studies have shown that under conditions of normal use, even dark-skinned individuals who are sensitive to these products can suffer severe sunburn after have been in the sunlight for only a few minutes. Many of these people probably feel they are allergic to sunlight and avoid it completely, when actually the antiseptic in their soap or cosmetic is causing the problem."

On pp243 he continues, addressing the problem of sunscreens: " 'What kind of cream, lotion or screen do I put on my skin while sunbathing?' This question must always be answered with an emphatic 'NO kind'. Clean skin is the best (skin washed with plain water to remove soap films and cosmetics that may sensitise it)."

Location, Season, Time & Surroundings

There are a number of other factors to consider when determining the appropriate period of time to expose an infant's body to the sun. They include:

1. Location on earth, ie the elevation and latitude.
2. Season of the year.
3. Time of day.
4. Surrounding environment.

The following table shows that the approximate time required to produce redness in untanned skin differs considerably from 20 degrees latitude to 60 degrees latitude. The table also shows the effect of time of day and season of the year.

Location	**8 am – 4 pm**	**10 am – 2 pm**
	March-October	November-February
20° N	15 minutes	30 minutes
20° S	30 minutes	15 minutes
40° N	30 minutes	1 hour
40° S	1 hour	30 minutes
	April-September	October-March
60° N	30 minutes	Limitless
60° S	Limitless	30 minutes

The following table shows the reflectance of ultraviolet rays from a variety of different surroundings.

Surroundings	Proportion of ultraviolet rays reflected
Snow	85%
Dry sand	17%
Grass & trees	3-5%
Water	3-5%

Wind

For ongoing health and well being, it is essential that there be a free circulation of fresh air around the infant. As in all things, moderation is necessary. Exposure to the gentle breezes of summer is beneficial, but at other times exposure to the wind can be harmful.

Hot summer winds can be both dehydrating and burning, and can easily lead to heat prostration and burning in infants, even when they are not exposed to the direct rays of the sun. When there is exposure to direct or reflected sunlight, as well as wind, such as at the seaside, extra care must be taken.

The cooler breezes of the spring and autumn, and the cold breezes of the winter must also be guarded against, since it is the chill factor rather than the air temperature that is most important.

The young infant, or an adult for that matter, may be comfortable unclothed in the winter sunlight if protected from the cooling influence of the wind. Yet, even though they are protected from the wind, if the sunlight is cut off by a passing cloud the person will become chilly and should immediately be covered to avoid harm.

In summary, we must be careful to avoid both overheating and chilling by excessive exposure. Dr. Spock, in *Baby & child care,* pp161-162, makes the following recommendations:

"In the summer you can begin exposing the baby's body to the sun as soon as the weather is warm enough. . . . In the winter you can, if you wish, give him sunbaths at an open window, if the room is warm enough and the wind does not blow on him.

"Begin with 2 minutes and increase the exposure gradually—adding 2 minutes each day is fast enough. Divide the time between back and stomach. I wouldn't suggest going beyond 30 to 40 minutes of full exposure, especially in the summer."

Dr. Spock also suggests that at a certain stage you should "turn him so that the top of the head is toward the sun." Nature Cure and Natural Hygiene both recommend against this practice for young infants, as the delicate membranes covering the fontanelles are not able to protect the brain from the powerful direct rays of the sun. In fact, I do not recommend that anyone expose the top and back of their head to the sun, particularly when sunbathing. In my experience, a stroke can be caused in those who are so susceptible if even the mild rays of winter sunshine fall on the top and rear of the head.

Sunlamps

In recent years we have seen a proliferation in the replacement of natural health maintaining methods and elements by artificial ones. Often the artificial ways have become accepted as being, for all intents and purposes, as

good as the natural ways. Sunlamps fall into this category. Dr. Zane R. Kime in *Sunlight,* pp248-249, warns against the habitual use of sunlamps:

"Sunlamps are for those who cannot get the natural sunlight—those who live close to the north or south poles, or in inclement weather areas, or in the glass jungle of the big city. The artificial rays may be better than nothing, but they do not approach the value of actual sunlight."

Twenty-six Physical Culture & Development in Infancy

Parents generally seem to have the idea that early development—"forwardness"—of any kind in their children is a sign of enhanced intelligence. This is especially so with walking.

It is quite normal for a child to begin to sit up at seven to eight months of age. At nine or ten months he may attempt to support his own weight. At a year or so of age he will be able to stand alone, with a gradual development of his locomotive ability to the point where at fifteen or sixteen months he will usually be able to walk without assistance.

Dr. Benjamin Spock in *Baby & child care,* pp225, advises:

"Rarely does slow development have anything to do with inadequate care or inherited defects or the sins of the parents (real or imaginary).

"Every child's development is different from every other child's and is a complex mixture of patterns. . . . These are determined mainly by his inheritance—normal inheritance, not faulty inheritance. Slow or fast, walking or teething, talking early or late, puberty development, tallness or shortness, tend to run in families. But all these characteristics vary in the same family, because each family's inheritance is a great mixture."

Undue Haste

It is important for the body to develop at its own rate. Any undue forcing stresses the infant, both psychologically and physically. If a child is able to do something by himself, be assured that he most certainly will do it. Bernarr McFadden in *How to raise the baby,* pp156, writes:

"There should be no undue haste about encouraging a child to walk. Therefore, none of the contrivances recommended to help teach a child to walk should have a place in your home. If he is able, he will do it of his own accord. And if he is not, he may develop 'bow legs' from too early use of these members.

"There is no material gain in bringing about a precocious development of a child, either physically or mentally. Aid your child to get a normal, firm foothold upon life, and when this is assured you can be certain that growth and development will be natural and sufficient."

All parents should understand that the baby's body will develop normally and naturally only if it is allowed free exercise. Jessie R. Thomson, in *Healthy childhood,* pp76, writes:

"There is little need for any special list of exercises if the child is ordinarily fit. Everyday jumping about, running and climbing, to which one could, with great benefit, add swimming (but not in chlorinated baths) are all that are necessary to keep the average child's body in vigorous condition."

She also writes of the benefit of any activity that takes the child's arms well above the head:

"When it is obvious that such daily activities are insufficient, then try to encourage any exercise or game which takes the child's arms well above his head. The greatest possible benefit will be derived from the resulting free movement of the ribs—in the marrow of which a high proportion of the red corpuscles are born."

Holding the Baby

Bernarr McFadden in *How to raise the baby,* pp170, lists an interesting observation by Dr. Page on preventing the internal organs from sagging:

"Naturally enough, the earlier in life the abnormal position of sitting is adopted and the more continually it is practiced, the more serious the later results must be. It is all wrong for mothers or others to hold babies on their laps in a sitting position. A baby should always be held face down."

Indeed, all the infants I have had contact with, including my own, have preferred to lie face down. Often they showed distress when lying in other positions, but almost immediately became tranquil when turned and placed face down.

Nakedness

In some circles nakedness is considered the natural state of man. It was common among indigenous peoples before the encroachment of western civilisation and religious morality. The peoples of Tierra del Fuega, at the tip of South America, lived unclothed in a climate where fully-clothed white men were known to freeze to death in the middle of summer. And there is the story of a North American Indian walking naked in the snow being accosted by a white man who asked him, "Why don't you cover your body?". The Indian replied, "You no cover your face and hands? My body him all face and hands."

Bernarr McFadden in *How to raise the baby,* pp168, writes:

"Dr. Charles O. Page of Boston says that nakedness and the movements of four footed animals, are the proper conditions for a young baby."

Dr. Philip M. Lovell, in *The health of the child by natural methods,* pp31-32, also supports the principle of nakedness and its benefit to the infant:

"A healthy child, nude in the sunlight, will not catch cold if the garden hose be turned on him and if he be permitted to remain in the warmth of the sunlight."

To further encourage parents who may still be hesitant about allowing their infant to go unclothed, particularly in the cooler climes, Jessie R. Thomson, in *Healthy childhood,* pp75, writes:

" . . . all encouragement must be given to out-of-door play of all kinds, and advantage taken of every glimmer of sunshine. Whenever possible, and the heat of the sun warrants it, allow your child the indescribable pleasure of going without clothes."

Barefootedness

Barefootedness is really just one aspect of nakedness, but it is so important that we consider it separately here.

Encasing an infant's feet in coverings or shoes of any kind unduly restricts its ability to freely move and exercise these very important appendages. It also prevents the natural development of the feet.

Bernarr McFadden in *How to raise the baby,* pp207, writes:

"The average mother in cities and towns never allows her children the luxury of going barefoot. One reason is that she thinks it immodest, and another is that she thinks that going without restricting shoes leads to the development of a larger, wider foot. This is a mistake, for going barefoot can only tend to make the foot normal and act in their normal capacities as arches, supports and manipulators of the foot and supporters of the body."

In fact, feet do tend be broad and the toes well spaced when allowed to develop naturally. Unfortunately, broad feet have come to be associated with lowered economic and education standards, and many people therefore

interpret broad feet as a sign of neglect. This has been a subtle, but powerful, reason that infants and children have been forced to wear shoes as early as possible. Our societies are gradually outgrowing such limiting thinking, but vestiges of it still appear.

Certainly, the medical profession has recognised the desirability of going barefoot. Behrman, Kliegman & Jenson in *Nelson Textbook of Pediatrics, 16th edition,* pp2064, write:

"The foot requires mobility to function normally. It has been demonstrated that populations that are predominantly barefoot have better feet than those that wear shoes."

Dr. Benjamin Spock in his well known book, *Baby & child care,* pp234-235, supports the necessity of allowing infants to walk barefooted, especially during the early stages of their development:

"After a baby is standing and walking, there's real value in leaving him barefoot most of the time when conditions are suitable. A baby's arches are relatively flat at first. He gradually builds his arches up and strengthens his ankles by using them vigorously in standing and walking. . . . Walking on an uneven or rough surface also fosters the use of the foot and leg muscles."

Flat-Footed

Spock continues to warn of the harm in not allowing children to walk barefooted:

"When you always provide a baby with a flat floor to walk on and always enclose his feet in shoes (with their smooth insides), especially if the soles are stiff, you encourage him to relax his foot muscles and walk flat-footed."

Dr. Hugh Jolly in his *Book of child care,* pp236, also favours the barefoot regimen:

"When your child starts to walk, let him go barefoot whenever possible so that he can feel the ground until he is better at balancing."

And Penelope Leach in *Baby & child,* pp333, emphasises the important role of the toes:

"Don't make your child wear shoes at all until he is walking out of doors. Bare feet are safer as the child uses the toes to help balance."

Clearly, all authorities agree that children should be permitted to go barefooted in infancy, at least until they are venturing outside. The Hygienic and Natural viewpoint is that for best development and use of the feet it is natural to go barefoot through the entire lifespan, wearing footwear only under extremely adverse conditions.

Footwear

Although I have discussed extensively the benefits of going barefooted, it is also appropriate to address the choice of footwear for those times when it must be worn.

Although the design of adult shoes is still subject more to the whims of fashion than to considerations of health, the situation is not so bad with children's shoes. Children's feet are easily deformed by inappropriate or poorly designed shoes. Manufacturers are listening to the public and to podiatrists and are producing children's shoes that allow for the normal and natural development of the feet.

When choosing shoes for children we should be aware of the normal and natural shape of the child's foot. We should also be aware that much of the footwear for sale has a very different shape. Bernarr McFadden in *How to raise the baby,* pp206, writes:

"Put the foot of your baby or young child on the floor and make an outline of it, and you will see something entirely different from what you would expect if you were judging by the shape of your own shoe, or, probably, from your own more or less malformed foot. If your child's foot is an average healthy, normal foot, it will be a little less than half as wide as it is long. . . . In securing shoes for children, care should be taken to have them long enough, as well as wide enough."

Behrman, Kliegman & Jenson in *Nelson Textbook of Pediatrics, 16th edition,* pp2064, write:

"Clothing is worn for comfort, to enhance appearance, and for protection. Shoes should be selected on the same basis. . . . The foot requires mobility to function normally."

Deformity

Children's feet may easily be deformed by incorrectly fitting footwear. Footwear must give room for the feet to spread normally and allow for the rapid growth that occurs in childhood. Hugh Jolly in his *Book of child care,* pp511, writes:

"The bent toes with which many adults are afflicted were not there at birth; they can be the result of wearing badly fitting or too small shoes during childhood when the bones of the feet are still soft and can literally be bent out of shape."

Parents are often advised to choose special corrective footwear to ensure that their children's feet do not become deformed, or—if they are already thought to be deformed—to aid in the correction of the deformity. However, it has been conclusively demonstrated that shoes do not correct deformities, and more often than not have the opposite effect. Behrman, Kliegman & Jenson in *Nelson Textbook of Pediatrics, 16th edition,* pp2064, write:

"Shoes are not corrective and the foot does not 'need support for normal activities'. . . . The best shoes for children are those that simulate the bare foot."

Shoe modifications may, however, be appropriate, not as a corrective agent but as an aid to normal function, where there is a shortened limb or similar deformity.

Choosing Shoes

We must take care to select adequate and appropriate footwear for our children to avoid harming their feet. Sandals, much favoured by peoples of the past, such as the Greeks and Romans, would do much to improve the health of our children's feet. Bernarr McFadden in *How to raise the baby,* pp206-207, writes:

"Sandals are the best kind of footwear, and should be warn much more than they are at present. Except during rainy and snowy weather they could, and should, be worn practically the year round, except that a child should go barefoot in summer."

Taking Care

As children's feet grow at an extremely fast rate, they can easily outgrow their shoes in a few weeks. It is therefore imperative to continually check that the children's feet have not outgrown their existing footwear. Dr. Benjamin Spock in *Baby & child care,* pp235, writes:

"Small children outgrow their shoes at a discouragingly fast rate, sometimes in 2 months, and a mother should form the habit of feeling the shoes every few weeks to make sure they are still large enough."

He gives details of the checks to ensure that the children's feet are not unduly crowded:

"There must be more than just enough space for the toes as when the child walks his toes are squeezed up into the front of the shoe with each step. There should be enough empty space in the toes of the shoe as the child stands, so that you can get about half your thumbnail onto the tip of the child's shoe before running into the child's toe. You can't judge while he is sitting down; the feet don't fill as much of the shoe unless he is standing up. Naturally, the shoes should be comfortably wide too."

Dr. Hugh Jolly in his *Book of child care,* pp511, warns us not to leave it too long to replace shoes the child has outgrown:

"Take trouble in choosing shoes, buying new ones before they pinch (this applies to socks too)."

Socks

Much of what has been written about too tight shoes applies also to socks, as they too can deform the bones of the foot if not large enough to permit normal and natural development. Penelope Leach in *Baby & child,* pp332, writes:

"Once shoes are worn your child will need socks to prevent rubbing and absorb sweat. The fit matters: socks which are too tight will soon distort toes. Watch out for shrinkage in cotton socks. When the child is standing, there should be at least 3.2mm (1/8 inch) spare material over the longest toe.

Summary

1. Children's feet develop best where the child is permitted to go barefooted as much and as often as possible.
2. When footwear is worn, it should allow adequate room for the normal and natural spreading of the feet and toes.
3. Footwear should always be chosen to simulate barefootedness as closely as possible.
4. Shoes do not correct deformities and abnormalities, but can contribute to them.

Twenty-seven Germs & Bacteria

Most people today, including those in the medical professions, believe that pathological states are caused by specific germs (bacteria). This idea comes from the theories of Pasteur and Metchnikoff. However, *The Heritage Dictionary* suggests that the association of pathological states with germs may be less specific:

"Medicine: A micro-organism; especially a pathogen. Synonyms: germ, microbe, bacteria, bacillus, virus. These nouns denote minute microorganisms or agents, invisible to the unaided human eye, some of which are related to the production of disease. They are not interchangeable in careful usage, except as indicated. Germs and microbes are non-scientific terms for such micro-organisms; in popular usage they usually refer to disease-producing bodies. *Bacteria* (plural of bacterium) is the scientific term for a large group of micro-organisms, only some of which produce disease. Many others are active in processes beneficial or not harmful to human, animal, and plant life. *Bacillus* is the scientific designation for a specific class of bacteria that includes some disease-producing organisms; only in loose popular usage is the term employed as the equivalent of any bacterium or any pathogenic bacterium. Virus is the technical term for any group of extremely small infective agents capable of producing certain diseases in human, animal and plant life."

Professor Béchamp, a contemporary of Pasteur and Metchnikoff, showed that micro-organisms, far from being harmful, are in fact beneficial. Dr. Henry Lindlahr, in *Natural therapeutics, Vol II,* pp2-3, writes:

"Professor Béchamp, a contemporary of Pasteur and Metchnikoff, taught as long as sixty years ago that normal cells of living bodies as well as bacteria and other micro-organisms, were not the smallest living bodies, but that they were made up of infinitely more minute beings which he called 'microzymes'—minute ferment bodies. He proved that these microzymes are the primal units of life which, under normal conditions, develop into the normal cells of living bodies, but which under abnormal conditions, as in dead bodies or in accumulations of morbid materials in living bodies, may develop into bacteria and parasites whose natural function it is to consume and decompose putrefying materials into their component elements.

"In other words, it can be said that every disease germ lives on its own particular kind of disease matter, and if it does not find this it has to leave for pastures new (or it is eaten up by its own microzymes). For when the morbid material is consumed, the microzymes feed on the protoplasm of their own bacteria until there is nothing left but the microzymes themselves . . . instead of being the deadly enemies of living beings (bacteria and parasites) are nature's scavengers on whose activity depends the removal of dead and putrefying matter, and therefore the very existence of living beings . . . they are nature's provision for keeping the earth clean and sweet." So, according to Professor Béchamp, 'germs' are not only our friends but our saviours. When their beneficial activities are thwarted by our 'lifesaving' drugs, we drown in our own effluvia. I have seen friends and acquaintances, chronic sufferers of asthma and emphysema, who drowned in their own mucus after they took medications to suppress the outpouring of their mucous membranes.

Jessie R. Thomson, in *Healthy childhood,* pp32, writes:

"Germs are everywhere. After the first feed they swarm in the intestines of even an infant. It is all a matter of whether the surroundings are more

suitable for friendly or for 'disease' germs. In a body sufficiently encumbered with toxic matter, disease germs flourish. Dr. Tilden held the view that there are at least a thousand friendly germs for every so-called 'disease' germ, and one French bacteriologist claims to have isolated every known disease bacillus from the mouths of quite healthy infants only a few days old."

Bacteria are a normal and natural part of our existence, and play an extremely important and beneficial role in almost every aspect of life. They are essential to the ongoing conversion of matter, both organic and inorganic, from one form to another. Without bacteria there would be no life as we know it.

According to Professor Béchamp, one role of bacteria is to scavenge pathogenic material and expel it from the body. The process by which they do this manifests itself as disease symptoms.

If we want to avoid disease we must avoid the build-up of pathogenic material in the first place. The present-day medical approach is to attack the bacteria, which permits the pathogenic material to build up yet further (let alone adding to it with harmful drugs), leading to the need for even more serious disease in the future.

Preventing the build-up of pathogenic material requires us to practice internal and external cleanliness.

Cleanliness, *not* Sterility

Cleanliness is not the same as sterility. Cleanliness is freedom from waste or putrefying matter, but does not require complete freedom of minute or invisible specks or dirt or micro-organisms such as 'bloom'.

Sterility, on the other hand, means an absence of micro-organisms. However, it does not require absence of waste matter. In fact, something may be sterile even though it harbours the kind of waste matter on which micro-organisms thrive. Since micro-organisms are pervasive, such a situation can be maintained only with considerable vigilance.

In our bodies and in the food we prepare and eat, we should strive for cleanliness, but not for sterility. The natural bloom found on all fruits and vegetables takes the form of a dullness or lack of shininess, and is an important source of beneficial bacteria. If the fruits and vegetables have been grown without poisonous sprays and artificial fertilisers, this bloom has beneficial properties and it should be preserved by only washing or soaking the fruits and vegetables by the minimum amount necessary.

However, if the fruits and vegetables have been grown by the conventional methods using artificial fertilisers and poisonous sprays, the bloom on them will be spray bloom and every effort should be made to remove it. Even then, the food is not completely safe, since many sprays and dips are designed to penetrate the skins of the foods, even reaching the core.

Clearly, for the health of our children and ourselves, we should strive to obtain only organically grown food.

Twenty-eight Education of the Child

The Macquarie Dictionary defines:

"Education: The imparting or acquisition of knowledge, skill, etc.; systematic instruction or training."

The Heritage Dictionary defines:

"Education: The act or process of imparting knowledge or skill; systematic instruction, teaching."

These definitions imply that education of a child commences at birth and involves both discipline and punishment.

Dr. Peter Breggin in *Toxic psychiatry,* pp333, emphasises the importance of giving our children the best possible education:

"Nothing measures the quality of a society better than how it treats its children. Nothing predicts the future of a society better than how it nurtures and educates its children."

Education is the whole process by which we acquire our practices, values, and beliefs. This includes our relationship with our environment and our reaction to different stimuli. According to Dr. Ralph Borsodi, education can be either 'right education' or 'mis-education'.

Education usually brings to mind the formalised education given by professional teachers, but the most important education a child receives is that given at home by its parents. After all, a child spends its most formative years, when it is most impressionable and is learning instinctively, at home.

Dr. Benjamin Spock in *Baby and child care,* pp332-333, defines the role of parents in the education process:

"Though children do the major share in civilising themselves, through love and imitation, it still leaves plenty for parents to do, as all of you know. In automobile terms, the child supplies the power but the parents have to do the steering. The child's motives are good (most of the time), but he doesn't have the experience or stability to stay on the road."

Discipline

Unfortunately, our society gives parents (or potential parents) little education on the care and raising of children. Worse, the small amount of such education given is directed at the treatment of effects rather than the removal of causes. Dr. Shelton in *The hygienic care of children,* pp380, writes:

"We are frequently reminded that this is a difficult age for youth to grow up in. And so it is. From infancy up, our children are overstimulated and undernourished. From the first day of their extra-uterine life, they are subjected to unnatural influences and conditions which mar their natural unfoldment. Dire poverty on the one hand and gross luxury on the other is an unhealthy condition for any nation to get into."

He continues to describe the attempts to treat the effects of raising children under unnatural conditions, including the unnatural environment of cities and parents affected by drugs, alcohol, etc.:

"To meet the problems created by this wholly unnatural state of affairs we have a growing army of child psychologists, child guidance clinics and policemen who are busily engaged with both psychology and the billy club, trying to assist children in 'adjusting' themselves to a state of affairs that nobody in his right mind can ever adjust himself to. By their methods they are

making as many neurotics as are the anti-natural conditions that the children are forced to grow up under."

Clearly, much of the discipline that occurs in the modern home is misdirected. It would be far preferable if our society recognised that these problems are mostly social problems, and that we parents are the product of these societies. Since societies are just groups of individuals, it is therefore up to us to change ourselves. If we parents learn and practice healthy habits, our children will do likewise in their natural emulation of us.

Behrman, Kliegman & Jenson in *Nelson Textbook of Pediatrics, 16th* edition, pp17, write of discipline and families' knowledge of it:

"This common subject of well child care is one of the most controversial. Families have little knowledge about the most effective techniques of modifying child behaviour, and parents have a tendency to apply the same discipline strategies used by their parents."

Dr. Hugh Jolly in his *Book of child care,* pp269, writing under the heading 'Discipline and punishment', supports this viewpoint:

"To a very large extent, how you start to discipline your child will be based upon how you were handled by your parents. If you were smacked a lot as a child, you will probably find yourself doing the same to your own children."

Actions are Louder than Words

"Actions speak louder than words." The example we set for our children influences their development more profoundly than all the words we say. A healthy example gives our children a healthy education. Dr. Philip M. Lovell in *The health of the child by natural methods,* pp222, writes:

"Mothers should understand that it is not so much what they say to baby as what they do in his presence that determines his conduct."

Discipline commences in the home with the parents. Since the child will imitate the parents, it is important for the parents themselves to be disciplined.

As I have mentioned earlier, we tend to treat our children the same way we ourselves were treated as children. Ernie Larsen in *Stage II recovery,* pp30, writes:

"What you live with you learn
What you learn you practice
What you practice you become
What you become has consequences."

The consequence of setting a healthy example to our children is healthy, well-adjusted children. Conversely, the consequence of setting an unhealthy example to our children is unhealthy, poorly adjusted children. Dr. Shelton in *The hygienic care of children,* pp382, writes:

"It is in the home that parents and their children meet and mingle. If the home influences are good, it will require a vast amount of unfavourable influence outside of the home to counteract these. . . . Children quite naturally have great faith in their parents. . . . When children do not trust their parents, the fault lies with the parents. They have proved to their children in many ways that they are untrustworthy."

This loss of trust occurs precisely when we expect behaviour of our children that we do not exhibit ourselves.

Dr. Benjamin Spock in *Baby and child care,* pp332, writes:

"The main source of good discipline is growing up in a loving family-being loved and learning to love in return . . . (Habitual criminals are people

who in childhood were never loved enough to make much difference to them, and many of them were abused besides.)"

Similarly, Hugh Jolly in his *Book of child care,* pp270, writes:

"Direct 'teaching' of behaviour and actual punishment play only a minor part in bringing up children. You teach your child indirectly through living with him and only rarely will it be necessary to think consciously about 'discipline'."

Child Psychology

The practice of 'child psychology' may be of dubious quality, and counterproductive in the long term. Rather than teach us better values, it may only teach us to tolerate questionable values. Dr. Shelton in *The hygienic care of children,* pp383, writes:

"The child psychologist is, of course, a businessman or tradesman and is in full sympathy with the evils that unfortunately are. He does not want to see our crazy-quilt socio-economic system changed to meet the needs of man; he is anxious to 'condition' man so that he may 'adjust' himself to the prevailing social insanity, including its ever-recurring wars."

Emphasis

Too often in education the intellectual development of the child is emphasised over developing his physical stature. In nature, the playing and gambolling of the young helps their physical development, with intellectual development occurring much later.

Bernarr McFadden in *How to raise* the *baby,* pp238, writes: "And do not be in too great a hurry to begin the 'education' of your child. The best education you can possibly give him is to teach him first to be a good human animal—with a well-developed physique."

This philosophy is supported by the teachings of Dr. Rudolf Steiner, the Austrian philosopher, educator, and founder of the Goetheanum College in Switzerland. Marjorie Spock in *Teaching as a lively art,* pp9, writes about this

viewpoint:

"Man is not to be hurried into premature adulthood. The human spirit, making its way into the alien element of earth, cannot at once lay hold upon the body provided by heredity. For years it must labour to remodel the inherited form into a shape more suited to its individual needs and character. With the cutting of the second teeth at six or seven this task is brought to completion."

Roy Wilkinson in Questions 6s. answers on Rudolf Steiner education, pp546, elaborates further:

"The Steiner education seeks essentially to develop human qualities and all learning is a means to this end.

"The material body of the human being is replaced every seven years. Every seven years there is also a change in the mental processes. This is most marked in childhood . . .

"Dr. Rudolf Steiner describes the young child as living essentially in the will element. The small child is active, waiting to do things. He has the urge to imitate. These factors give the key to the method of education during these years. The child is essentially concerned with the development of his physical body and this reaches a certain stage of completion with the coming of the second teeth at the age of six or seven."

Punishment

'Spare the rod and spoil the child' was a common precept of our forefathers, and habitual whippings were the order of the day. Physical punishment is counterproductive because it cultivates fear and resentment. Today's society has gone to the opposite extreme, and we have children litigating against their parents. Neither of these extremes is healthy.

Jessie R. Thomson, in *Healthy childhood,* pp78, writes:

"I have as yet to see good arise from the physical punishment of children. I have seen many evil after-effects. One is almost moved to tears on examining a child, obviously suffering from a disturbed nervous condition with the consequent inevitable irritability to discover that the mother has been smacking him for disobedience or peevishness. Her action not only aggravates the child's nervous state but builds up such resentment and antagonism against herself as would shock and amaze her if she fully understood."

We should always remember that our children mirror ourselves—'see the child, see the parent'. Usually, the very things we react to in our children are to be found in ourselves. Dr. Shelton in *The hygienic care of children,* pp384, writes:

"Punishment cannot make children good. It may make slaves and puppets—but not moral beings. There are example, persuasion, advice; and the greatest of these is example."

He continues:

"Children pattern after their parents as naturally and spontaneously as they eat and sleep. This is the reason the right kind of home influences are so important. The child does what his parents do, and says what he hears the parents say. The parent is the natural teacher of the child. An ounce of parent is worth a pound of teacher or preacher. See that you are a real parent to your child and not merely a boarder at the same house with him."

Spanking (Smacking)

Spanking, like all forms of corporal punishment, is a form of physical violence, and more often than not results only in a sore hand and frayed tempers. Nevertheless, Dr. Spock in *Baby and child care,* pp334, says spanking is appropriate under certain circumstances:

"In the olden days children were spanked plenty, and nobody thought much about it. Then a reaction set in, and many parents decided it was shameful. But that didn't settle everything. If an angry parent keeps himself from spanking he may show his irritation in other ways, for instance by nagging the child for half the day, or trying to make him feel deeply guilty. I'm not particularly advocating spanking, but I think it is less poisonous than lengthy disapproval."

Some people think that spanking may lead to anti-social behaviour and aggression in the child, and is therefore always counterproductive. Behrman, Kliegman & Jenson in *Nelson Textbook of Pediatrics, 16th edition,* pp17, write under the heading 'Discipline':

"Punishment is an alternative method of discipline. In the United States, surveys have shown that up to 90% of parents use spanking as a regular method of discipline. Behavioural research on corporal punishment is inconclusive and conflicting about the long-term impact of spanking on subsequent behaviours, such as antisocial actions and aggression.

Dr. Shelton in *The hygienic care of children,* pp411-412, comments on the effects of spanking:

"Spanking is resorted to by parents, not because it is effective, for it is not, but because it is the custom to spank and because they seem to know no other means of 'controlling' children or are unwilling to take the time to deal with them properly. Some children have their feelings hurt and are heartbroken when spanked, others become sullen, defiant, resentful, angry, destructive, belligerent. Some fight back, others run away. All of them are afraid of the punishment and seek to avoid it by lying or 'passing the buck' to other children in the household. A few get over it quickly and come up smiling."

He continues:

"The injury to the 'heart' of a child is often permanent. Feelings of bitterness, hatred and revenge rankle in his breast. His self respect is destroyed. No child can ever amount to anything when his self respect is gone. The fear created in the child is hopelessly bad. 'Children who have been asked how they felt', says Alice Park, 'after being spanked or whipped have said that it made them want to hit somebody, anybody. Since they didn't dare hit their mothers and fathers, they had a strong impulse to hit other children or to kick the dog or cat. One boy said it made me feel ugly all day.' Think of the influence on the nervous system it must have had to create this last effect."

Spanking (smacking) should definitely not be used as a 'last resort'. A frustrated parent who uses spanking in this way can lose control and possibly injure the child. This loss of control can easily become habitual and be accepted by both the parent and the child.

Margaret Brady in *Having a baby easily,* pp172, writes:

"Some people genuinely feel that smacking is an essential part of any good nursery training. This, however, is not borne out by the facts, and where the rudiments are given in the first twelve months of life there should be no need to smack a child. Smacking should be discarded as an 'instrument of policy' from the nursery. If, however, the child is very tiresome and exhausts the mother's patience to the point of a slap or shake, the wise mother will try to make amends. She will realise that she has given her child an example of a loss of self-control which the child is liable to copy, so that she should at once apologise to the child for losing her temper and smacking it, and show that such actions are wrong for grown ups as well as for the child. This may sound absurd to some people, but a child is an accurate little mirror of its mother's behaviour, and only if she is herself gentle and controlled and thoughtful for others, can she expect her baby to be so. A smacked toddler will smack other toddlers."

Dr. Robert S. Mendelsohn, in *How to raise a healthy child,* pp63, under the heading 'Punishment is Not the Solution', emphasises the psychological factors:

"Virtually all disturbed childhood behaviours stem from some emotional cause. Your response is not to punish the child but to isolate the cause."

He continues:

Emotional support and constant displaying of love and affection are more apt to be the cure."

I agree wholeheartedly with this. Instead of spanking your child, find and eliminate the cause of your child's misbehaviour. Then not only will your child behave well, he or she will also be healthy, well-balanced, and free of unnecessary neuroses and related illnesses.

Unjust Punishment

Because most of the actions we deplore in our children are just mirrors of our own habits or traits, it is unjust for us to punish our children for exhibiting them. Jessie R. Thomson, in *Healthy childhood,* pp79, writes:

"When we criticise our children we criticise ourselves. I think we should keep particularly quiet when our child's conduct offends us. How often do we punish a child for our weaknesses? It comes as rather a shock to recognise some particular trait—'Why that is just me of course.' With such an admission there is hope—hope that the offending conduct will be handled with affection and humility. It is when we do not recognise these faults as our own, when we blame Providence for inflicting such extra-ordinary ill behaved children on such 'holier-than-thou' people as we, that it is quite impossible to help."

Twenty-nine Habits

Many children develop habits, commonly referred to as 'bad habits'. Bernarr McFadden in *How to raise the baby,* pp245, writes:

"The bad habits developed by children are a source of constant worry and anxiety to the mother and family. And well they may be, for they are very difficult to correct, and if not corrected may be followed by most grave and disfiguring consequences."

Some of these habits are considered to be tension discharging phenomena, and are a form of sensory solace. These 'internal stroking' behaviours are used to replace human contact, particularly when the child is feeling uncared for or otherwise neglected.

Behrman, Kliegman & Jenson in *Nelson Textbook of Pediatrics, 16th edition,* pp75, write:

"Habit disorders include tension-discharging phenomena, such as head banging, body rocking, thumb sucking, nail biting, hair pulling (trichotillomania), teeth grinding (bruxism), hitting or biting parts of one's own body, body manipulation, repetitive vocalisations, breath holding, and air swallowing (aerophagia). Tics, which involve the involuntary movement of various muscle groups, are also included. Stuttering is discussed with the habit disorders, although it is not generally regarded as a tension-relieving activity."

Jean Liedloff in *The continuum concept,* pp26, discusses the need to provide infants with physical contact so that tension does not build up, or is relieved if it has:

"The lack of sense of the passage of time is no disadvantage to an infant in the womb, or in arms; he imply feels right, but to an infant not in arms, the inability to postpone any part of his suffering by means of hope (which depends on a sense of time) is perhaps the crudest aspect of his ordeal. His crying therefore cannot even contain hope, though it acts as a signal to bring relief. Later as the weeks and months pass, and the infant's awareness increases, hope is dimly felt and crying becomes an act connected with a result, either negative or positive. But the long hours of waiting are hardly improved by the dawning of a sense of time. Lack of previous experience leaves time to seem intolerably long for a baby in a state of want."

Thumb Sucking

Although thumb sucking is not rare, it is not a habit of most children, and I do not consider it 'normal' as suggested by Behrman, Kliegman & Jenson in *Nelson Textbook of Pediatrics, 16th edition,* pp75:

"Thumb sucking is normal in early infancy."

Dr. Benjamin Spock in *Baby and child care,* pp207, says that there is little agreement about the cause and cure of thumb sucking:

"Thumb sucking is a subject about which there is as yet no final agreement. . . . The main reason that a young baby sucks his thumb seems to be that he hadn't had enough sucking at the breast or bottle to satisfy his sucking need."

Many authorities consider thumb sucking to be related to physical abnormalities such as deformation of the dental arch from the undue pressure on it when the thumb is sucked. Thumb sucking also affects the flow of saliva. Bernarr McFadden in *How to raise the baby,* pp245, writes:

"Such habits as lip biting or lip sucking, tongue protrusion, thumb sucking, finger sucking, or nail biting, are a very frequent cause of facial deformities. . . . Still another evil result of the sucking habit is that it unduly stimulates the flow of saliva, thus not only wasting this fluid, but changing the character of the stomach secretions."

Thumb sucking does not seem to affect the teeth unless it is continued beyond the age of six years, when it may affect the alignment of the permanent teeth.

Dr. Hugh Jolly in his *Book of child care,* pp523-524, writes:

"Since the habit is harmless and cannot affect the second teeth unless you child still sucks his thumb persistently after the age of six, there is no need to do anything about it . . ."

He continues, pp524-525:

" . . . the only time to worry is . . . when persistent sucking after the age of six starts to affect the alignment of his second teeth."

Dr. Spock in *Baby and child care,* pp210, writes:

" . . . if the thumb sucking is given up by 6 years of age—as it is in the great majority of cases—there is very little chance of its hurting the permanent teeth."

Dealing with the Cause

Parents often react strongly when their child begins to suck its thumb, and show their disapproval in many ways, including speaking harshly to the child and even pushing the child's hand violently away from its mouth. Jessie R. Thomson, in *Healthy childhood,* pp140-141, writes:

"The habit of thumb sucking, the commonest substitute for the lost pleasures of breast feeding, cannot be corrected by a parent's disapproval, nor is it overcome by typing up the child so tightly that his hands cannot be freed, or by smearing the thumb with alum or any other evil-tasting stupidity."

She continues:

" . . . as with other undesirable habits, we must exercise forbearance and patience. Give you child time to outlive the intense emotional pleasure of breast feeding. It may be that he has been weaned too suddenly or even a little too soon. Either way, let us allow him this comforting makeshift—it is the least we can do."

Dr. Hugh Jolly in his *Book of child care,* pp525, gives further insight:

"If the child needs the comfort of sucking for a large part of his waking hours, the problem is not the sucking of the thumb, but why he needs so much comfort. It is unlikely that the thumb in his mouth is the only sign of insecurity—and it is the insecurity that needs the treatment and not the thumb-sucking."

Some authorities consider that insecurity is only one minor cause among many possible causes of thumb sucking. Bernarr McFadden in *How to raise the baby,* pp246-247, considers that malnutrition is often the cause:

"Many people, even doctors, do not seem to know that one of the principle causes of the sucking habit is malnutrition. If the nursing mother indulges in an excessive amount of animal foods, or of highly seasoned foods, if she uses such products as refined sugar and vinegar, the child will have unnatural cravings which it will try to satisfy by thumb-sucking."

The nursing mother should keep in mind that what she eats, the baby eats. And whereas her digestive tract may have become habituated to foods which are harmful to it, and no longer react adversely, the same cannot be said for the infant's.

We should also realise the beneficial side of thumb sucking: it is a warning that something is wrong. If we deal only with the symptom (thumb sucking) without treating the cause, we could be building a more chronic condition with serious ramifications.

Margaret Brady in *Having a baby easily,* pp184, writes:

"Though a little thumb sucking will not do harm, it is best prevented if possible, otherwise the baby may develop such a habit that it is hard to overcome it. . . . It is usually compensation for indigestion, or under-feeding or emotional dissatisfaction, and so the mother should see that her baby is correctly fed and has enough love and caressing, through breast feeding and wise mothering."

Conclusion

Thumb sucking seems to be the child's way of substituting for breast feeding when the breast feeding ceases in such a way that the child is not psychologically prepared for it. This often happens when the child is weaned too early—at less than two to three years of age—or is summarily deprived of the breast due to the birth of another child or a whim of the mother, or if the milk supply dries up prematurely.

The cessation of breastfeeding is often accompanied by a withdrawal of physical contact as the mother directs her energies to caring for a newborn or some other activity. This is perceived by the child as rejection, and further exacerbates the situation.

Stammering & Stuttering

Stammering and stuttering are distinct problems with distinct causes. Stammering is the inability to pronounce words, and is not confined to childhood. Stuttering, on the other hand, is the repetition of the consonant at the beginning of each word, such as 'c-c-c-cat', and is of nervous origin.

Stammering naturally occurs as an infant is commencing to learn to speak and is trying to pronounce more and longer words.

Dr. Spock in *Baby and child care,* pp354, writes:

"We don't understand stuttering or stammering, but we know several things about it. It often runs in families and it's much commoner in boys. . . . We know that a child's emotional state has a lot to do with stuttering. Most cases occur in somewhat tense children."

Some authorities consider that stuttering and similar speech defects are normal and temporary phenomenon, usually occurring only between two and three years of age. Dr. Hugh Jolly in his *Book of child care,* pp539, writes:

"Problems such as stuttering, lisping, mispronouncing and reversing words are often temporary and normal stages."

Behrman, Kliegman & Jenson in *Nelson Textbook of Pediatrics, 16th edition,* pp76, describe stuttering:

"Primary stuttering usually begins as an atypical development during the learning of speech. It starts gradually, initially with the repetition of consonants, often followed by a repetition of words and phrases. . . . About 5% of children stutter. Most cases resolve spontaneously; although about 20% continue to suffer the disability in adulthood. A strong family incidence has been noted, and the disorder seems to remit more readily in girls than boys."

Summary

Stammering is quite normal and natural, and occurs not only in infants but also in adults when difficulty is experienced in pronouncing certain words. Stammering is only a problem when it has become habitual, which can

happen when parents place undue emphasis on correct speech while their children are too young. This can also lead to further neuroses and stuttering.

What to Do About Stuttering

Although stuttering is generally considered to be an habitual disorder, I personally believe it has an anxiety component. In either case, the treatment is similar. Penelope Leach in *Baby & child,* pp332, writes:

"Listen to what the child is saying, not to how it is said. Don't hurry him; don't finish sentences for him, and don't tell him to speak more slowly. Speech is conscious, but the processes which produce speech sounds are not. If you make him think about how he produces a word, you will cause him to stumble just as you become breathless the moment you try to count or control the rise and fall of your chest."

Dr. Benjamin Spock, in *Baby and child care,* pp355, thinks that stuttering is mostly psychological and, if given half a chance, will disappear as readily as it appeared:

"I think nine out of ten of the children who start to stutter between 2 and 3 outgrow it in a few months time if given half a chance. It's only the exceptional case that becomes chronic. Don't try to correct the child's speech or worry about speech training at 2½. Look around to see what might be making him tense."

Bernarr McFadden in *How to raise the baby,* pp250, gives some interesting suggestions on the causes and treatments for stammering and stuttering:

"Breathing exercises are of great value inasmuch as the disorder seems, in part, to be due to lack of control of the diaphragm."

He also says:

The use of verse is a great help in overcoming the tendency to stammering, as is also recitation in concert with other children, as is practiced in most of our public schools."

Bed-Wetting (Enuresis)

Most parents are very disturbed if their child habitually bed-wets, and they are often embarrassed to admit it to others. This causes conflict between the parents and the child, often resulting in guilt and neuroses in the child.

There are many and varied causes of bed-wetting. Jessie R. Thomson, in *Healthy childhood,* pp137, emphasises the psychological aspects:

"There are many reasons for bed-wetting, some psychological, some purely physical, and probably most a little of both."

Dr. Benjamin Spock in *Baby & child care,* pp503-504, agrees:

"There are a number of different causes. A very few are due to physical disease. . . .

"The commonest occasion in early childhood is the arrival of a new baby in the home."

In their anxiety to cure bed-wetting, many parents make the problem worse. Dr. Hugh Jolly in his *Book of child care,* pp530, advises patience:

"Although bed-wetting problems disappear, given time, it is hard for you to stay calm and confident about this and it is natural for you to want to hurry the process. The situation is all the more frustrating because you are usually dealing with a child who would like to cooperate, but cannot. . . .

"Worry over wetting the bed may make a child anxious, but he may not have been beforehand. A child may wet his bed for emotional reasons, but there may be a perfectly 'respectable' reason such as the size of the bladder, a family trait, or unavoidable stresses in his life."

Here we see how the problem may initially be purely physical, but it can be exacerbated by psychological considerations. Among the non-psychological causes of bed-wetting are those connected with the diet, which may be either inadequate, or allergy producing. Dr. Robert S. Mendelsohn, in *How* to *raise a healthy child,* pp194, writes:

"Children are particularly susceptible to allergic reactions that may produce such diverse symptoms as . . . bed wetting. . . . Bottle-fed babies are at least 20 times as susceptible to allergies as children who are breastfed."

Dr. Shelton in *The hygienic care of children,* pp278, agrees with the idea of an initial physical cause, with psychological exacerbation:

"Children with nerve derangement will involuntarily void the urine while asleep, long after they should have complete voluntary control over urination—sometimes for years. Digestive disturbance, overfeeding, feeding between meals, excess of sweet foods, and excess of fluids, are among the chief causes."

Bernarr McFadden in *How to raise* the *baby,* pp277, believes that there are a number of irritants which may contribute to the bed-wetting problem:

"It frequently happens that the habit of bed-wetting is formed or continued because of the fact that the child is anaemic and in a generally run-down condition. In such a case it will be necessary to give the child plenty of nourishing food, a proper exercise in the open air." He continues:

"Phimosis or worms, each sometimes a cause of bed-wetting, must receive appropriate treatment. If the condition is found to be due to gastro-intestinal irritation, give a short fast or greatly reduce or simplify the diet."

Jessie R. Thomson, in *Healthy childhood,* pp139, also writes about non-psychological causes:

"If the condition of enuresis is not psychological, then we must turn our attention to general physical habits. We find that children troubled in this way usually have inordinate appetites. They eat too much at meal times, and they eat between meals. . . . When food is taken in excess of the body's needs and proper digestion rendered impossible because of this and food bolting, then inevitably there will be considerable gaseous distension of the bowel. This exercises great pressure on the bladder and makes bed-wetting all too easy."

She also suggests that contributing factors include the hour of feeding prior to retiring, the type of food fed, and the bed and bedding:

"The last meal of the day should be taken not later than five o'clock. Condiments and highly spiced foods should not be allowed. Luxurious soft beds are not advisable. A reasonably comfortable, but fairly hard, fibre mattress is most healthful for children, and particularly so for those who suffer from enuresis. And not too many bedclothes. He should be discouraged from sleeping on his back, as overheating of the spine tends to weaken control of the bladder."

Summary

Bed-wetting is generally considered to be caused by either:

1. Undue psychological stress, which is most commonly due to:
    (a) Birth of another child.
    (b) Illness.
    (c) Parental break up.
    (d) Any condition that puts the child under stress.
2. A physical cause, such as:
    (a) Ingestion of inappropriate foods.
    (b) Overeating.

Of course, in dealing with bed-wetting, punishment or humiliation of the child should not be resorted to under any circumstances.

Nose Picking

Nose picking is mostly related to a catarrhal condition due to inappropriate feeding. If a breast feeding mother is eating inappropriately, her milk may give the baby the catarrhal condition. This situation can only be properly corrected by adjustment of the mother's diet.

Dr. Shelton in *The hygienic care of children,* pp305, puts it succinctly:

"Picking at the nose is the result of irritation of the nostrils. It is evidence of a catarrhal condition. Correct the catarrh."

According to Bernarr McFadden in *How to raise the baby,* pp251, nose picking can also be an indication of intestinal irritation by worms:

"Constant picking at the nose in infants and young children is almost invariably associated with some form of intestinal irritation. Not infrequently it arises as a result of the presence of worms . . . in the intestinal canal."

Dirt Eating (Pica)

It is quite normal and natural for infants to experiment putting into their mouths almost everything they encounter—including dirt. Placing dirt in the mouth is only a concern if it becomes habitual and chronic. Behrman, Kliegman & Jenson in *Nelson Textbook of Pediatrics, 16th edition,* pp72, write:

"Mental retardation and lack of parental nurturing (psychological and nutritional) are predisposing factors. Although tasting or mouthing of objects is normal in infants and toddlers, pica after the second year of life needs investigation. It is often a symptom of family disorganisation, poor supervision, and affectional neglect."

"He wouldn't eat it so I put in some dirt and made it look like mud."

Dr. Hugh Jolly in his *Book of child care,* pp526, thinks that eating dirt may be a symptom of anaemia:

"Sometimes a child with pica is anaemic; possibly his habit is a symptom of iron deficiency. But other children show no dietary deficiency and are healthy."

Bernarr McFadden in *How to raise the baby,* pp250, states categorically:

"Dirt eating is usually classed as an abnormal condition, an essentially morbid craving—hardly every to be found in a normal child. This is true if we consider the result of faulty nutrition as a manifestation of abnormality. For I am convinced that the main cause of dirt-eating is mineral starvation, brought about by a diet deficient in alkaline bases."

Nail Biting

Nail biting does not often occur with infants, but is frequent with older children. Some authorities think it begins when the child copies other

children, and continues when he finds it enjoyable. Dr. Hugh Jolly in his *Book of child care,* pp525, writes:

"Babies do not bite their nails, but many school-age children pass through a phase of nail biting. It may start with coping another child or when the nails are long and tempting; the child finds the habit enjoyable and soothing and goes on with it. Sometimes a child bites his nails whenever he is worried or feels shy, stopping when the difficult moment is over."

Generally, nail biting is believed to be primarily associated with stress. Jessie R. Thomson, in *Healthy childhood,* pp142, writes:

"The nail biting habit is closely associated with thumb-sucking. A child may register his resentment by using 'tooth and claw', but that is not the whole story. Nail biting belongs to the nervous, secretly 'upset' child. His self confidence is easily shaken and he could without difficulty develop a neurosis. We must guide this particular kind of child into a really good state of health, as there are usually nutritional disturbances. We must help him in the sense of being his friend and making it easy for him to share his worries and difficulties and so release his nervous tensions. The habit then usually automatically ceases."

Thirty Common Childhood Ailments

Many conditions which develop in later life have their genesis in inappropriate care during childhood. For example, many recent studies show that fat, chubby babies develop into overweight adults with their related health problems.

Similar problems occur when the simple cleansing and healing efforts of the body are dealt with by medicating them into submission, rather than finding and removing the root cause. The result is the first steps of Bright's disease, cancer, heart ailments, and a host of other chronic and terminal conditions.

Dr. Shelton in *The hygienic care of children,* pp276, writes: "The important thing for us to get firmly fixed in our minds is that disease is an evolution, beginning in small imperceptible stages, and advancing step by step to cancer or tuberculosis, or Bright's disease. We will then realise the extreme importance of preventing the development of these early stages of disease by the proper care of infants and children."

Dr. Tilden in the *Foreword to Children,* further elaborates: "Disease, so-called, is nature's way of curing. A cold is an elimination of toxin. To stop the symptoms means to stop elimination, which means forcing the organism to retain the toxins and gradually grow a larger toleration, until life is overwhelmed by a so-called acute disease or a chronic organic disease, which may end in the destruction of some important organ, or life itself."

If we grasp the simple fact that acute disease is part of the healing process we will approach the problem of illness in our children more intelligently. To do so, however, we must overcome the fear engendered by the prevailing medical approach to health and disease. This requires a major effort, since to answer the objections of the medical profession to our approach—even in our own minds—we must educate ourselves in the processes, methods, and philosophy of Natural and Hygienic care.

Attention Deficit Hyperactivity Disorder (ADHD)

The American Psychiatric Association's *Diagnostic and statistic manual (DSM*-III-R), 1987, says that Attention Deficit Hyperactivity Disorder (ADHD) is a single diagnostic category that combines Attention Deficit Disorder (ADD) with hyperactivity.

Behrman, Kliegman & Jenson in *Nelson Textbook of Pediatrics, 16th edition,* pp100, write about ADHD:

"Attention deficit hyperactivity disorder (ADHD) is characterised by poor ability to attend to a task, motoric overactivity, and impulsivity. Oppositional and aggressive behaviours are often seen in conjunction with ADHD . . .

"The cause of ADHD is unknown."

The Merck Manual (15th edition), pp1979, reports that the diagnosis of ADD is 'difficult':

"No particular organic signs or set of neurological indicators are specific. Although organic factors may have a role in diagnosis, the primary signs are behavioural, varying with situation and time. Rating scales and checklists, the predominant mode of identification, often are unable to distinguish ADD from other behavioural disorders."

Paul Pitchford, in *Healing with whole foods,* pp650, writes:

"Excessive activity and inability to pay attention often have a common root in Oriental medicine: insufficient Yin, where Yin represents the calm and receptive dimension of human personality. In such childhood disorders, Yin deficit frequently affects the kidneys and liver. (In Western terms, this could translate into a deficiency of liver and kidney metabolites and hormones which are produced from a rich and balanced supply of vitamins, minerals, amino acids, fatty acids, enzymes and so on.)"

Pitchford continues by describing studies which show that "parents who are themselves subject to depression, attention deficit, hyperactivity, and other developmental imbalances" are the ones most likely to have children with ADHD. He also considers that ADHD is often exacerbated and found in conjunction with parasitical infestation.

Hypoglycaemia

Hypoglycaemia, or low blood sugar, is thought by some authorities to be a major possible cause of hyperactivity.

J. I. Rodale in *Encyclopedia for healthful living,* pp76, under the heading 'Blood sugar', writes:

"Joseph A. Wilder, M. D. of New York City, observed as long ago as 1943 that a chronic state of low blood sugar produces mental symptoms in individuals which are not only characteristic of persons committing crimes, but also quite common among people we generally think of as 'neurotic', or unbalanced, or even just 'difficult'."

Food additives

Artificial colourings and flavourings have also been implicated in hyperactivity. According to *Prevention's food & nutrition,* pp478, the late Dr. Feingold promoted a diet free of artificial colours and flavourings to help calm overly wound-up kids. *Prevention* also quotes a study at the Yale University School of Medicine:

" . . . the adrenaline levels of 14 children and 9 adults were monitored after they were fed sugar . . . the adrenaline levels of the children increased dramatically. . . .

"This suggests, says one of the researchers . . . that the adrenaline surge from sugar could affect behaviour in some children."

Abuse & Neglect

Parental abuse and neglect also appear to be major causative factors in ADHD and related disorders. Peter Breggin, in Toxic *psychiatry,* pp339, writes:

"A chapter entitled 'Physical and sexual abuse of children' by psychiatrist Arthur H. Green in the *Comprehensive textbook of psychiatry (1989),* discloses that all commonly diagnosed disorders of childhood can be linked to abuse and neglect. These include not only the traditional diagnoses, such as depression and anxiety, but popular school related ones, such as attention deficit disorder (ADD), or the newer attention-deficit hyperactivity disorder (ADHD), and a variety of learning disorders (LD)."

He continues:

"Abuse and neglect produces 'difficulties in school', such as cognitive impairment, particularly in the areas of speech and language, combined with limited attention span and hyperactivity."

Summary

ADHD is related to the following factors:

1. Food additives, including foods refined sugar, artificial flavourings, and artificial colourings.

2. Processed foods, where vital elements are missing, disorganised, or destroyed. This includes some methods of cooking, and the refining of foods, which removes vital balancing elements such as vitamins, minerals, essential fatty acids, and amino acids.

3. Abuse and neglect.

4. Intestinal parasites.

Care of the Child

Behrman, Kliegman & Jenson in *Nelson Textbook of Pediatrics, 16th edition,* take an almost Natural or Hygienic approach to ADHD. The exceptions are lack of recognition of dietary factors, and advocacy of psychopharmacologic agents. On pp101 they write:

"A programme that gives structure to the child's environment enhances the adaptive function of children afflicted with ADHD. Such children should have a regular daily routine that they are expected to follow promptly and for which they are rewarded with praise. Rules should be simple, clear, and as few as possible. They should be coupled with firm limits enforced fairly and sympathetically through the use of concrete rewards (e.g. prizes) for adherence, and restrictions (loss of privileges) or negative consequences (time out) for transgressions. Overstimulation and excessive fatigue should be avoided. Time should be et aside for relaxation after play, particularly after vigorous activity. The period before bedtime should be quiet, with the avoidance of exciting television programmes and rough and tumble games."

I must emphasise that the Natural and Hygienic approach is always aimed at treatment and removal of the cause. Only where the cause is so remote that it cannot be directly addressed, such as in some instances of abuse and neglect, is any emphasis given to remedying the effects.

Dietary causes are a good example that can be treated directly. All non-foods, processed foods, refined foods, packaged foods, those containing artificial colouring or flavouring, in fact all foods that are not whole and raw, and preferably organically grown, should be removed from the diet.

Intestinal Parasites

Any foods that may contribute to the ongoing presence of intestinal parasites should also be stopped. Most obviously in this category are foods of animal origin, such as milk, cheese, butter, and eggs. Less obviously, all cooked foods promote intestinal parasites, since the byproducts of their metabolism provide a medium in which intestinal parasites can thrive.

Jessie R. Thomson, in *Healthy childhood,* pp98, writes:

"Excess of any food, but particularly of breadstuffs and starches, plus the bite-and-work-it-down habit is all that is necessary to make it possible for these parasites to become established."

She further warns, pp99 not to use drugs to expel or destroy worms:

"Above all, do not use a vermifuge . . . to expel or destroy worms. All too often these drugs create damage within the intestinal wall or so damage the nervous system as to bring on epileptic fits or other convulsive seizures."

Allergies

Most authorities are in accord in their definition of allergy.

Dorland's Medical Dictionary defines allergy as "altered reactivity of an individual to a specific substance usually resulting from prior experience with the same or a chemically-related substance."

The Macquarie Dictionary defines allergy as "a state of physical hypersensitivity to certain things as pollens, foods, fruits, etc., which are normally harmless. Hay fever, asthma, and hives are common allergies."

The Heritage Dictionary defines allergy as "hypersensitivity or pathological reaction to environmental factors or substances, such as pollens, foods, dust, or micro-organisms, in amounts that do not affect most people."

The Merck Manual (15th edition), reports "The terms hypersensitivity and allergy are often used synonymously to mean an immunological response to an antigen, leading to host tissue damage."

Hugh Jolly in his *Book of child care,* pp482, writes about allergy:

"A child who suffers from asthma, eczema, hay fever, allergic rhinitis (hay fever is a variety of this), or urticaria (nettle rash or hives) probably has an allergy. This means that his body overreacts to something eaten, inhaled or touched. The cause of this reaction, 'the allergen', is a substance, usually a protein, though not necessarily in the form of food, that ordinarily produces no symptoms."

Although the various authorities agree on the definition of allergy, they are in conflict about the cause of allergies. Often, symptoms (which are effects) and triggering agents are labelled as causes. A good example of this confusion is Dr. Benjamin Spock in *Baby & child care,* pp477:

"The treatment (of allergies) is different in each case, and depends on the causes. It it is goose feathers, you change the pillow. If it is dog hairs you may have to give away the dog and substitute some other play thing."

According to Natural and Hygienic philosophy, the agents which are identified as the 'cause' of allergic reactions are usually only triggering agents, and the fact that there is an allergic reaction at all is an indication of a toxic overload. Even when the triggering agent is part of the cause, as in the case of refined, incorrectly prepared foods, colourings, flavourings, etc., the reaction is still that of toxic overload. An example of this is in *The Merck Manual (15th edition),* pp296, in reference to food additives as a factor in producing the symptoms of hypersensitivity:

"Food additives such as tartrazine yellow, sodium benzoate, bisulfites, and monosodium glutamate, also have been demonstrated to produce Type 1-like reactions."

Dr. Robert S. Mendelsohn, in *How to raise a healthy child,* pp194, provides support of the toxic overload theory of allergies:

"Children are particularly susceptible to allergic reactions that may produce such diverse symptoms as headache, migraine, eye pain, and blurred vision, vertigo, hearing loss, tachycardia (rapid heart beat), nausea, vomiting, heartburn, diarrhoea, abdominal pain, allergic cystitis (blood in urine), fatigue, muscle weakness, bed wetting, learning disorders, insomnia, hyperactivity, and poor memory. Bottle fed babies are at least 20 times as susceptible to allergies as children who are breastfed."

Such diverse symptoms are caused by toxic overload. If the triggering agent alone was responsible for the allergic reaction, one would specific systems in the body to be affected, producing a small and well-defined range of symptoms.

Bronchial Asthma

Most medical authorities feel that allergic conditions such as bronchial asthma cannot be alleviated except by medical intervention. For example, Dr. Benjamin Spock in *Baby & child care,* pp477, writes:

"Allergy symptoms usually can't be eliminated completely. You have to be satisfied with partial improvement."

On the other hand, Dr. Shelton in *The hygienic care of children,* pp279, writes:

"Bronchial asthma is a catarrhal condition and, together with hay fever, is the easiest of all so-called diseases to remedy.

Treatment of Allergies

To effectively treat any form of allergy, we have to realise that the basic cause is toxic overload, or toxicosis. Even if there is an hereditary predisposition orpsychological stress, the toxicosis will be a major factor, and without its elimination there is little or no hope of recovery.

Paul Pitchford, in *Healing with whole foods,* pp232, writes: "Looked at in the most basic terms, an allergic reaction to food is simply a message from the body that a particular food is not appropriate. Reactions to denatured, refined and unbalanced foods are actually helpful, since then we know that these foods are damaging our health, and can choose to avoid them."

Note Pitchford's use of the word 'reaction', when referring to what Naturally and Hygienically speaking is action by the body to deal with an unwholesome or unhealthy situation. Recognising that such action is 'right action', Dr. Isaac Jennings, a founding father of Natural Hygiene in the early 1800s, coined the term *orthopathy* for it, which he defined as 'right or correct suffering'.

Dr. Robert S. Mendelsohn, in *How to raise a healthy child,* pp196, writes:

"If you suspect your child's illness is allergic in origin, look carefully for the source. You don't need a doctor to do this. First consider all the potential causes that exist in the child's environment, eliminate them one by one to the extent you can, and observe whether the symptoms are ameliorated or disappear. Begin an elimination diet in which suspect foods are eliminated from the diet one by one to determine whether one or more of the things he eats are responsible. The odds that you will find the cause and solve the problem are substantially in your favour."

Dr. Shelton in *The hygienic care of children,* pp279, writes about treating bronchial asthma and related catarrhal conditions:

"A fast or fruit juice diet, until breathing is normal and the chest is clear of all abnormal sounds, followed by correct feeding and care, will remedy all cases, even supposedly hereditary ones. Asthma developing in infancy or early childhood is often more difficult to overcome than asthma developing later in life, but persistence in the right way will give results."

Immunity

Immunity is often referred to as if it were some special blessing bestowed upon us by a benevolent being, or a fortuitous circumstance. But it really isn't that hit-or-miss. The only real immunity is health, and health does not just happen'. It is something which each of us must earn every moment, for the consequences of each action are experienced reasonably quickly. The Persian philosophers called this process 'eternal vigilance'.

Immunity is not simply the cessation of symptoms. It includes the ability to act when necessary, often called the 'vis medicatrix naturae'. Such action should never be suppressed, as it ensures our ongoing health and so-called immunity. Rather, it is incumbent on us to work with our bodies to assist this natural process of healing.

For example, if a healthy person is bitten by a snake, they will most likely experience severe, but temporary, symptoms while the body deals with

the poison. It would be harmful to suppress these symptoms with, for example, drugs, medications, or salves.

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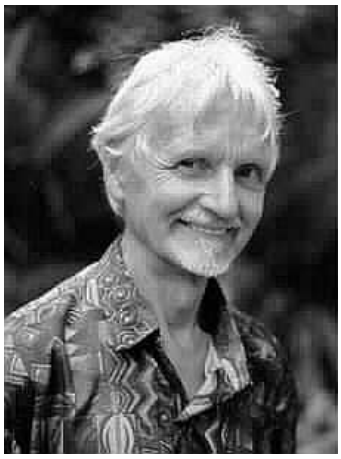

Dr John Fielder, Osteopath, Chiropractor, Lifestyle Consultant, author, and broadcaster lives on his 300 acre farm in the hinterland from Cairns in North Queensland Australia where he has been demonstrating the principles of Natural Living and Natural Hygiene for more than 30 years. During that period he has helped hundreds of people regain their health, many from so-called incurable diseases, as much by his own personal example as by the advice he has offered.

Dr Fielder eschews the use of all forms of medication whether they be so-called 'natural' or otherwise, including supplementation. He believes solely in the self-reparative nature of the organism and its ability to heal itself given the necessary care, attention and environment. The only exception being in the case of major trauma where reparative surgery is necessary.

Dr Fielder describes the natural approach to healing as being "An Alternative to Medicine, not Alternative Medicine".