MILK
The Importance of Its Source

By Francis M. Pottenger, Jr., M.D.

Nature intended for the human infant to be breast-fed. What happens to its development when it is deprived of this source, and the accompanying cuddling and exercise?

Oscar Erf frequently quoted an experiment in which twin calves were fed the same milk. The one twin of each group suckled, the other drank from a bucket. At the end of the year the marked superiority of the suckled calves was obvious to cattle judges who passed upon them.

The theory subscribed to by Professor Erf was that the oxygen churned into the milk by the act of milking altered the chemical composition of the milk so that it was not as nutritious as that which was squeezed from the teat in the calves mouth directly into its oesophagus. It was this experiment, as I remember it, that induced him to propose a partial atmosphere of CO_2 or nitrogen in the automatic milking machinery.

There is little question that oxygen changes delicate nutritive qualities of milk; on the other hand, is it not possible that the active exercise of suckling at the teat may have provided another growth stimulus as important as the difference caused by oxidation of some trace factor or factors? Is it not equally possible that the muscular effort required to extract milk from the teat may be a factor in the development of the facial, neck, chest, and other musculature of the growing calf? (It might be interesting for us to make such an observation while we are here.)

Superiority of Nursed Infant

Nursing at the breast by the human infant is attended by superior development of the human infant. This is so well recognized by students of anthropometry that it need scarcely be mentioned. Bebber (1) working with X-ray material gathered from our clinic showed statistically that the development of the face is superior in the nursed infant, which from a medical standpoint means better nasal passageways less susceptible to infection, more adequate and better drained sinuses, dental arches of better symmetry, improved occlusion, and less dental damage from forces of mastication. Is this due to fresher milk, unaltered by oxidation or the inventive genius of the chemist? In the case of the bottle-fed baby, what does the damage? Is it the lack of micro-factors that have been destroyed by processing just thru milking, cooling, bottling, and transportation, in the case when raw certified is fed, or is it the heat of pasteurization, the act of condensing, homogenization, or reconstituting, in the processed milk? That the latter three items can be seriously damaging factors was shown by the author (2) in an extensive study of the cat. Does oxygen play a part as well as heat? That these factors play a part in the nutritional development of the average human infant can not be denied.

Deficiencies in Milk

Let us consider a second factor beside the milk itself, because alterations in the metabolism of the mother can quickly reflect in the infant. The alert physician caring for a nursing infant does not take the baby off the breast as soon as an in-

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compatibility arises, but on the contrary, he immediately attempts to treat the mother knowing well that the nursing infant will give him information far sooner than the mother as to the correctness of his judgment. For example, an infant developing a mild eczematoid rash while on the breast merely requires a minor alteration in the mother's fatty acid intake which may react on the infant as early as the next day, sometimes the next feeding. It is obvious that the metabolites from mother's milk may be imperfect and require correction if adequate lactation is to take place. Does it require any stretch of the imagination to understand why commercial milks might produce so-called allergies when we consider the abnormal forced lactation practices of present-day dairy farming?

Feeling of Rejection

Laying aside all consideration of the source and quality of milk supplies, is there any other factor that differs between the bottle-fed baby and the nursed infant? The psychiatrist says that the bottle-fed baby feels rejected by its mother—it does not have the normal sense of security. The mother-infant relationship is broken at the formative period and cannot be re-established.

Infant Develops His Muscles

But now let us consider a little more primitive aspect, namely the aspect of play and sportsmanship. The first round is mother's, showing the infant where the nipple is, but from then on it is his show. The infant pulls, pushes, kicks, pounds with his fists, plays hide-and-seek, and exercises every muscle in his back, every muscle in his face. He juts his jaw forward, pulls it back, using his pterygoids, his masseters, his temporals, his linguals, his nuchal muscles, and the many muscles of the spine and body as he kicks and plays and enjoys his meal. It is a game that two can play—a game that develops a companionship that the male of the specie can never enjoy. The comradeship of mother and child, and the first steps in body building of the future athlete. So, the athlete has his day at the breast, training for the future when his superior muscles can be put to trial, for he has been developing his jaws to chew, not to dawdle. He has developed his neck muscles to support his head and broadened his chest and shoulders accordingly. He has continually used his hands and feet so that their musculature is ready to go to work when called upon.

Bottle Impersonal

What about the bottle baby? His source of supply is dubious unless it comes from a dairy of highest quality. The rubber nipple is cold and stiff; it does not have the soft warmth, the life that causes it to respond to the infant's tug. It is dead: and if it doesn't deliver, there is no flirtive by-play of infant and maternal give and take. It just won't give. After frustration, baby bawls, swallows air, has that cold, lifeless thing thrust into his mouth again and again until someone finds out it won't give. A red-hot pin does the trick, it flows, it rushes out and over and down baby's cheeks while baby almost drowns, but he does get his feeding. He burps up some liquid, is put back in the crib frustrated.

No play, no exercise, no feeling of being wanted—just another squaller with colic. He did use some muscles, but an entirely different group than which his more fortunate cousin used, and so few. He is usually on his back, bottle propped so maximum gravity flow is obtained and all the infant does is suck, suck, suck, and he is a sucker all his life as a result.

How about his neck muscles? He has been spared all of that effort by that labor-saving device, the bottle. His cousin worked too hard. How about his back? Why, it hardly moved for fear the bottle would

roll off and be lost. But why use the back? Back problems constitute the chief nuisance of the industrial medical practice, so why risk injuring the back at this early date by over-work? The feet and hands and their connections, the trunk and arms and legs move helplessly, because action, again, would dislocate the milk tank and bring on more frustration,cryin g, burping, and investigation as to why the nipple and the mouth disconnected.

Bottle babies are plump. Their fat depends on the fatty acid chains and the carbohydrate of the formula.

Better Development

Nursed babies are muscular, usually large of bone and stronger of muscle; even before the year is over the nursed infant shows muscle contour, has developed his shoulder girdle (the girl is in advance about three months by the end of 1 year). By six to nine months, he can hold his weight on a bar. Before a year, he can chin. His strength continues to remain superior. His chest is broader and has a greater air capacity. His face shows better development. He is better developed all around; he is less likely to need orthodontic care; he has fewer caries; he has greater endurance; he has a better disposition and his scholastic standing tends to be better. He adjusts well to society and is not as prone to infections or chronic illnesses of childhood; he has the acute exanthema in his stride and seems to be less liable to complications.