

REARING BABIES BY SCIENTIFIC METHODS.

THE nursery of a scientifically reared baby nowadays has much of the equipment and system of a chemical laboratory. The old-fashioned mother, with only her affection and devotion to guide her, finds herself utterly bewildered in such a system.

Every time the baby cries, eats, sleeps, or so much as gurgles he must be observed exactly the same as any chemical reaction, and the scientific deductions entered in the several records and charts which record the baby's day. Obviously the old-fashioned mother, with her blind devotion and enthusiastic approval, is no fit person to make scientific observations.

An excellent contrast between the old methods and the new in the nursery is afforded by the system of weighing. Before the days of a scientific up-bringing, the weighing of the baby was purely an accidental affair.

The scientific baby is weighed always in the nursery with the same scales. Readings are taken to the quarter of an ounce. The clothing worn at the time must be weighed separately and deducted. These observations must be made at least daily, and at a fixed hour. But this is not enough. The readings must be treated like any other serious scientific data. They are entered on a chart, and a curve thus plotted which will tell at a glance if the increase in weight is normal.

The slightest variation from the proper

sweep of such a curve will catch the doctor's eye, while the chart will supply him with the date of the retarded movement. Incidentally, the scientific baby scales do not suspend the baby or submit it to any strain even for a moment.

The baby's cry again is eloquent to the ear of the scientific nurse or mother. The layman in such matters may imagine that one scream is very much like another. To the trained ear the strident note indicates the exact mental and physical condition. There is the hungry cry, a whimpering, fretful cry, interrupted by long intervals which the scientific nurse never mistakes.

Most families cherish the recollection of the baby's first word, but the early vocabulary of the scientific baby is not left to the accident of memory. The first word, all the early words in fact, are kept in a careful record with the exact date of their utterance.

Words of two letters may be expected by the eighth month, even earlier. By the eighteenth month the youngster should have acquired a vocabulary of about 300 words, and by the end of the second year 475 words. If this chart does not progress at the proper rate it may be concluded that something is wrong, and a serious delay may indicate that the alienist should be consulted.

The vocabulary of the nursery again has undergone a complete change. The abbreviation and contortion of familiar words, in the attempt to imitate the

baby's pronunciation and inflection, has no place in the scientific nursery.

The baby's food is ordered in scientific terms, and the records of the diet, as entered in the daily record, read like scientific formula. The value of protoids or nitrogenous foods is compared with that of the hydro-carbon or the inorganic materials. The fond mother enters the fact that baby received a limited quantity of carbo-hydrates, perhaps giving the exact weight to the fraction of an ounce, whereas the old-fashioned mother would have remarked that baby had had a piece of sugar.

The care of babies has changed greatly from the time when a meal was provided at any chance hour to suit the convenience of the parent or merely to quiet the baby's protests. In the scientific nursery the meals are served according to a definite time table, which is arranged months in advance. The exact hour of the meal, the number of meals, the weight of the food to the fraction of an ounce are determined according to scientific rules. The feeding bottle is graduated like the measures of a chemical laboratory. Even the exact temperature of the food is carefully ascertained.

Here, for example, is one of the tables which is found in many such nurseries:

	Amount		No. Meals	Total Qu'n'ty
	Weight	Each Meal		
Birth to six months.	Ozs. 6-8	1-2	10	10-20
Birth to six weeks.	8-10	8-4	8	24-30
Six weeks to 3 mos.	11-14	4-5	7	28-35

The number of respirations when the baby sleeps is entered in the diary with unfailing regularity. Naturally if the number varies it is a new anxiety for the mother. The doctor who examines the charts kept in this way will have important data in diagnosing any complaint.

During the first year the baby should breathe from thirty-five to forty times to the minute while asleep, and in the second year the number will be reduced to from twenty-five to thirty. As long as the baby's chart shows this average there is no cause for anxiety. The practice of overanxious mothers, who waken their babies in the middle of the night to see if there is anything the matter with them, may thus be avoided.

The baby's temperature again is taken at regular intervals, much the same as with a patient. The ordinary thermometers are not suited for the purpose, since they are too fragile and by no means delicate enough for such readings. The temperature of a baby is usually taken in the groin by folding the leg over. It is well to remember that the temperature of babies is likely to be lowest in the small hours of the night between 4 and 6 A. M.

The slightest gesture of the movement of the little arms or legs has some significance for the trained observer. The ordinary mother might imagine her baby was simply enjoying himself, as he kicked and rolled, but the scientific mother will analyze these movements,

draw important deductions and write them down in the diary. The crowing or bubbling, to employ a merely popular definition, would be set down as a spontaneous or random movement. The kicking of the legs would be classified as a reflex movement, and their regularity would indicate something of the mental processes of the brain.

The exact form the first locomotion takes, whether it be a rolling or a creeping motion, is also considered important. The first attempts at locomotion, the first step and so on must, of course, be definitely recorded. The first time the baby imitates the movements of the hands by knocking a spoon against a cup should be included in these records.

What a change, again, has come about in the matter of selecting the baby's shoes. There was a time when the fond mother was guided in making her choice merely by her taste in colors, ribbons, or bows. The scientifically reared baby is not shod in any such chance fashion. The foot is first carefully x-rayed, and the exact needs of the foot determined. The shoe selected fits the foot scientifically, with just the proper curve and balance to suit its individual needs.

If there be a tendency to turn in the toes or to a curvature of the legs either in or out the shoe is made to counteract it. Incidentally the X-ray photograph of the foot makes an interesting human document to be included in the record of the scientific baby's upbringing.