

Obstetric Nursing.

— BY OBSTETRICA, M.R.B.N.A. —

PART II.—INFANTILE.

CHAPTER V.—HAND FEEDING.

(Continued from Vol. VII., page 332.)

IN order to bring before my young Nursing readers the absolute supremacy of pure cow's milk as a substitute for breast milk over all substances whatever, I will briefly outline some of the reasons why this is so, and ask for their thoughtful attention to this important matter, bearing as it does upon infantile life and health. We will first consider the solid constituent of milk, the curd or casein which is one of the albuminous compounds, as are also the white of the egg, and the serum of the blood. But casein differs remarkably from these two substances, for it is *not* coagulable by *heat* like the first, nor *soluble* like the last; and it has, moreover, a remarkable affinity for the *mineral* or *bone-forming* constituents contained in the whey, or watery portion of milk. I must particularly emphasise this matter of *bone nutrition*, if I may so call it, for it is almost impossible to overestimate the importance of a healthy *frame work*, upon which to build up the infant system, and we must begin at the beginning of infantile life. No other substance contains the necessary *mineral* materials in such absolute perfection as the milk destined for the food of the infant mammalia. The bow leg, the splay foot, the weak spine, and the misshapen head of infancy are all more or less the outcome of the mal-nutrition of the bony structures, and often only come to light when the mischief is almost irreparable.

Casein also takes up the fatty particles of the milk, which in combination with it are so important for tissue-forming purposes, and here again the oleagineous, like the mineral constituents, are in exact proportion in the milk prepared for infant nutrition.

Casein can only be coagulated *in* the infant stomach by the action of the gastric juice, and *out* of it by a preparation called rennet, but these two processes are not identical, for the former not only instantly coagulates the casein, which is a *preliminary* not a final step in the path of nutrition, but it afterwards acts upon and *dissolves* it, so as to render it readily assimilable, and this effect is produced by the action of an inorganic compound that physiologists call pepsin;

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and when this action is simulated by science *out* of the stomach it is called peptonisation or predigestion; and in Nursing the substances most frequently acted upon are the juices of meat (broths home-made, not "preparations") and milk. In the former case, the albumen is cooked before we peptonise, in the latter we peptonise *first* and cook afterwards, and before we add any farinaceous substances that may be required with the milk. Peptonisation, then, may be defined as a predigestion of certain alimentary substances, by which process they are rendered more readily assimilable when they enter the stomach than would be the case were they not so treated. Peptonisation, then, is predigestion; but predigestion is not exactly peptonisation, for the former is as old as civilisation in the form of cooking—that is, subjecting food to the action of heat before it enters the stomach, and thereby rendering it more suited to the action of the gastric juice, and not lowering the *temperature* of the stomach by taking *cold* food into it, as in delicate subjects this will produce crampy pains; and we never by any chance give an infant cold food—it should never be less than blood-heat. The most remarkable instance of predigestion is to be found in the immemorial custom of *leavening* flour to make *bread* (an alimentary subject of foremost importance to the health of man), and this singular process is due to the rapid growth of the yeast-plant when mixed with flour and water, and submitted to slight heat (which is called setting the sponge) for a certain time, when the dough must be made into loaves and baked *at once*, or it will be spoiled—it will be *over-leavened*, its pre-digestion in a true sense be interfered with, for the bread will *not* be sufficiently nutritious: the yeast-plant has had too much of the flour: it has been over-fermented.

We must now attend to the casein of cow's milk, which is to be our baby's bread, and on something the same lines, but in a widely different manner, we shall have to lower its nutritious nature as we debased (?) the flour to make our own bread, and if we *over-peptonise* the casein, we shall do much as we did when we over-fermented our bread—spoil it.

(To be continued.)

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