rules of infant hygiene and home sanitation. Over 22,000 members are enrolled in the league.

Dr. IRA WILE, New York: Two points should be emphasized in a consideration of milk depots. First, the possibilities of caring for the breast-fed baby for whom mixed feeding has to be resorted to when the mother is employed during the day. The breast-fed baby is more welcome than the one entirely artificially fed. Second, milk stations are for well children, not sick ones; they offer means of keeping babies well, not of curing them when they are ill. The third function of the milk station is to teach the ante-natal care of the breasts. Instruction should also be given in personal and household hygiene, and in dietetics. Classes for mothers are a potent means of reducing infant mortality.

Dr. J. H. MASON KNOX, JR., Baltimore: The Maryland Association for Study and Prevention of Infant Mortality is a mother's relief society and milk depot combined. The association employs a physician to conduct classes for mothers, an obstetrician, a staff of trained nurses, and a social worker. The society is doing much toward combating the evils of the midwife problem.

Miss LYDIA HOLMAN, North Carolina: I am a visiting nurse in the mountains of North Carolina. The baby in the isolated communities has no chance, and my work was begun in order to secure more of a chance for mothers and babies in the mountainous districts. During eight years I have delivered 308 women. I hope that the plan for the extension of visiting nursing, with the possibilities it offers in the teaching of hygiene and home sanitation, will eventually reach every rural community in the United States.

(To be continued)

PHILADELPHIA COUNTY MEDICAL SOCIETY

Regular Meeting, held Nov. 9, 1910

The President, Dr. Henry Leffmann, in the Chair

TO WHAT EXTENT, IF AT ALL, SHALL THE PRACTITIONER REGARD INTESTINAL ANTISEPSIS AS FEASIBLE?

The Scientific Evidence of the Possibility of Influencing Bacterial Growth in the Intestines

Dr. HORATIO C. WOOD, JR.: There is no disinfectant strong enough, in doses which would be safe, to destroy the viability of the bacteria in a quantity of fluid equal to that of the bowel. For such an effect it would require about an ounce of phenol or 5 grains of corrosive sublimate. On the other hand, it is theoretically possible to exercise an antiseptic influence, that is, to restrain the development of bacteria. For this purpose, in a quantity of culture medium equal to the contents of the intestine, it would require: phenol, 3 drams; creosote, 30 minims; solution of formaldehyd, 13 minims; betanaphthol, about 9 grains. These figures do not take into consideration the possibility of the absorption. A critical examination of the experimental data as to the effect of chemical agents on the intestinal flora confirms this conclusion, and shows that it is at least within the bounds of hope to reduce the number of bacteria in the bowel with antiseptic agents. Present evidence shows that the official drug from which the most is to be expected is probably betanaphthol as it is the one in which the margin between safe dose and antiseptic power is the largest, with the exception of formaldehyd, and also that it is slowly absorbed and therefore likely to remain in the bowel long enough to do good.

Intestinal Antisepsis

Dr. ALBERT E. ROUSSEL: The beginning of intestinal antiseptics may be traced back to 1872 when Selmi discovered in the products of putrefaction certain substances resembling alkaloids which he called ptomains. The phenomenon that the products of bacterial life are lessened after the administration of intestinal antiseptics indicates that their antiseptic effect is a matter of fact rather than of conjecture, since bacterial cultures do not tend to spontaneous cessation of growth even in so fertile a field as the intestinal tract. Either the intestinal antiseptics act by their own germicidal effect, or they

stimulate the formation of organic substances that have the same effect. The contents of the intestinal tract have little effect in neutralizing the chemical antiseptics. A point of particular importance is not to confuse the medical conception of antiseptics with the surgical one of asepsis. Of my typhoid fever cases in the Howard Hospital by far the greater number have been treated with intestinal antiseptics. The mortality has been 4½ per cent.

Intestinal Antiseptics in Childhood

Dr. ALFRED HAND, JR.: Strictly speaking, our aim should be not to retard the growth of microorganisms in the intestinal tract but to kill those germs that are causing trouble. In a consideration of the intestinal flora it is well to note the captions given by Moro that in health the intestinal flora depend on the kind of food taken by the infant, a diet rich in starch favoring the development of the fermenting saccharolytes, while food rich in albumin favors the growth of the putrefying proteolytes, and as Escherich pointed out, the possibility therefore exists of restraining intestinal putrefaction by giving starch plentifully; for fermentation and putrefaction cannot go on in the same medium. We must consider the patient first of all and do him no harm while ridding the intestine of the hostile germs. We should strive for the prevention of enteritis by avoiding the introduction of the disease producing germs. Clean milk is a necessity, and it is safer for at least nine months of the year in this climate to pasteurize the milk taken by infants and children. If the disease has gained a foothold, milk and all milk foods must be absolutely forbidden until the discharges have lost all evidences of inflammatory processes, and all remains of milk in the alimentary canal must be removed by purgation or colonic irrigation. The patient is now in the stage when the use of intestinal antiseptics may be considered. I regard thymol, the naphthol derivatives and phenyl salicylate, or salol, as too irritating. A comparison of two series of cases, one treated solely by the starvation plan, and one with bismuth salicylate, showed net results decidedly in favor of the drug. The drug seemed to have undoubted disinfectant properties which Steele's careful investigation proved mathematically. I would sound a word of warning in the use of calomel in these cases. The more I see of its use the more disinclined I am to employ it. To have any value, the bichlorid, into which it is converted, must be present in such amount as would seem to be irritant if not positively toxic.

Intestinal Antiseptics in Pregnant Women

Dr. EDWARD P. DAVIS: Advanced pregnancy renders inevitable intestinal stasis from pressure. The result of this stasis is an effort on the part of Nature to protect the woman, and perforation may threaten. Constipation of pregnancy demands attention, and the pregnant woman must be considered as inevitably constipated. Our effort must be toward providing a diet which shall be poor in the materials tending to putrefaction. I have seen as much good result from the use of compound licorice powder as from any other remedy. Attention must also be paid to maintaining muscular tonicity. Personally, I should be unwilling to give any drugs in the doses recommended in the treatment of the pregnant woman because of the danger to the kidneys.

DISCUSSION

Dr. J. P. CROZER GRIFFITH: I think it most important that we study the chemistry of foods, withdrawing that food which does the harm. The modification of the food is the important element both before and after the development of disease.

Dr. JAMES W. WALK: My own feeling in regard to intestinal antiseptics is that we are not sure that any dose which is safe to use does a great deal of good, although there may be a possibility. Of great importance is the washing out of the intestine in a rational way. Generally the free use of water by the mouth is of advantage.

Dr. HENRY LEFFMANN: In this connection the symbiotic relation of bacteria may well be considered. Bacteria in many cases act not singly but by combination.