These figures are sufficiently striking, but they by no means fully indicate the practical value of hospital isolation. To appreciate this, it must be remembered that in every case in which home isolation was adopted, there was abundant facility, as regards house room and attendance, for carrying it out; whereas, in the great majority of the cases removed to hospital, there was absolutely not the slightest chance of any home isolation at all. Further, the above figures only deal with the limitation of infection in the households attacked. Considering the free intercourse amongst the poor, and how soon healthy infectious convalescents from scarlet fever would be mixing with their neighbours, we may fairly conclude that the value of hospital removal in limiting home infection is far less than in limiting infection from house to house.

We have had a serious experience in 1894, in having 55 deaths from scarlet fever to a population of 85,036; but there can be little doubt but that hospital isolation has been the main factor in averting such an epidemic as that of 1873, with 121 deaths to 69,906 population, or of 1877, with 226 deaths to 72,871 population.

SUMMER DIARRHOEA IN RELATION TO EARTH TEMPERATURE.

BY

JOSEPH PRIESTLEY, B.A., M.D. Lond.

THE total number of deaths registered in Leicester during 1894, was 176, of which 153 were infants under one year of age, and 14 were between one and five years. Taking the registered number of births as the infantine population, we find that the diarrhoea mortality rate under one year of age is 2.5%, as compared with a total mortality rate for the same age-period of 16.1%. There was the usual seasonal exacerbation of the disease during July and August, the largest number of deaths being registered during the week ending August 15th, 1894. In this connection it is interesting to note that the 4-foot earth temperature registered 56°F. for the first time on July 2nd, 1894, the following 15 weekly registrations being 57.5°, 58.5°, 58.5°, 58.5°, 58.5°, 57.5°, 57.5°, 56.5°, 56°F., 55.5°, 54°, 53.7°, 52.7°.

56°F. is stated to be the "critical" 4-foot earth temperature, *i.e.*, the temperature at which certain changes (putrefactive, bacterial, etc.) take place in the pores of the earth, with the consequent development of the diarrhoeal poison. From the time that this "critical" temperature is first registered, we ought to allow about 14 days (seven for the average duration of the disease before death, and seven for the average interval between the death and its notification to the Health Department through the Registrar), after which the number of deaths ought rapidly to increase. During 1894, July 2nd saw the 4' earth thermometer first registering 56°F., and within 14 days from that date,

the weekly number of deaths from diarrhoea greatly increased. (The number of deaths from diarrhoea for the week ending June 27th was 1, and in the following weeks the deaths were 4, 5, 8, 15, 20, 22, 28, 16, 14, 8, 8, 4, the last being for the week ending September 19th.)

On September 21st, the 4-foot earth temperature sank below 56°F. (*viz.*, to 55.5°F.), and with it the number of diarrhoeal deaths rapidly declining (allowing, of course, the 14 days interval as before). The cause and effect relationship between the 4' earth temperature of 56°F. and summer diarrhoea deaths has therefore been well shown in Leicester during 1894—the temperature being, apparently, the *immediate* existing cause.

ON AN OUTBREAK OF SCARLET FEVER IN BRADFORD, DUE TO INFECTED MILK.

BY

W. ARNOLD EVANS, M.D., M.O.H. of Bradford.

DURING 1893 scarlet fever was unusually prevalent in Bradford, no less than 1,445 cases of the disease having been reported to the Health Department. This exceedingly large number of cases was chiefly due to an epidemic in the month of July, brought about by the distribution of infected milk. The first half of the year had been more free than usual from scarlatina, but on July 3rd there was a sudden outburst, twenty-six cases coming to my knowledge on that day. I immediately set about to investigate the matter, and soon satisfied myself that the milk supply was the only factor common to the houses invaded by the disease. The farm in Bolton Woods, from which the great majority of infected houses procured their milk, was apparently free from infection, no case existing on the premises, and the cattle being in a healthy condition. It was, however, noticed that two boys who had assisted to deliver the milk were missing from their employment, and on visiting them at home I found one in the desquamatory stage of scarlet fever, with commencing dropsy; at the time of my visit he was in bed with his younger brother, who had that day commenced with an attack of Scarlatina. The other boy had been detained at home on account of his having a "sore throat," which proved to be a mild attack of scarlet fever. All three cases were at once removed to the hospital. The milk-cans and all utensils used for the distribution of the milk were scalded and thoroughly cleaned under the supervision of the food and drugs inspector. After the 10th of the month there was a marked diminution in the number of fresh cases coming to my knowledge, until the 17th, when a fresh outbreak occurred, most of the families affected being supplied with milk from a farm contiguous to the one already referred to. I found that in this case the milk