an enormous sanitary improvement. The wood pavement is already washed daily. The asphalt pavements in back streets are not so treated, and the channels in narrow streets, paved with macadam, are left in a very undesirable condition.

Although the rainfall of last summer was instrumental in keeping down the amount of epidemic diarrhoea, the total rainfall for the year was only 21.74 inches, being 6.86 inches below the average for twenty-six years.

The table above shows to what extent the annual rainfall deviated from that of the average for the twenty-six years for which observations have been taken at the Brighton Meteorological Station, and brings out the fact that, with three exceptions, there has been a continued deficiency of rain from 1887 onwards.

Temperature and Diarrhoea.—Earth temperatures at a depth of 4 feet are regarded as an important index of the possibility of prevalence of epidemic diarrhoea, and it has been accepted almost as an axiom that we must expect diarrhoea to prevail when the 4 feet earth thermometer has reached Ballard's critical point of 56° F. The experience of last summer shows the fallaciousness of this indication. In Brighton the 4 feet earth thermometer reached 56° on June 24th. On June 30th it was 58.4°. During the second half of July it remained between 60° and 61°. In August it reached 61.8°. It reached its maximum of 62.6° on September 10th, then slowly falling, but keeping above 56° until October 19th, when it was 55.8°. But no deaths from diarrhoea occurred, and, contrary to Ballard's rule, the highest number of deaths from diarrhoea in any one week did not occur in the week in which the 4 feet earth thermometer attained its mean weekly maximum, but three weeks later.

The key to the anomaly is found in the fact that in each week of the third quarter of 1902 more or less rainfall occurred. The temperature conditions were favourable to diarrhoea, the rainfall prevented it. The facts for the present year justify the conclusion that rainfall is more important than temperature in relation to epidemic diarrhoea.

EPIDEMIC DIARRHŒA AND THE NUMBER OF SHOWERY DAYS.*

By HERBERT PECK, M.D., D.P.H.,
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THE smallness of the number of deaths from diarrhoea in 1902 must be ascribed in great part to the showery summer, the laying of dust and the cooling of the soil by rain being one of the most important agencies in the prevention of bowel disorders in children, though doubtless improved sanitary conditions played a part in its production.

The amount of rain does not appear to be of so much importance as the number of showery days, as may be seen by the following table, in which the number of rainy days signifies the number of days on which rain fell at Chesterfield Gasworks, which is about the centre of the district :

* Annual Report.

Year.	Rainy Days.		Rain in Inches.		Deaths from Diarrhoea in the District.	
1895	...	37	...	6.7	...	73
1896	...	67	...	11.0	...	20
1897	...	42	...	7.2	...	49
1898	...	32	...	5.5	...	54
1899	...	41	...	9.3	...	38
1900	...	43	...	11.0	...	56
1901	...	38	...	8.0	...	55
1902	...	53	...	8.5	...	37

The obvious conclusion is that frequent watering of the streets and roads in the more populous parts of the district would do much to prevent deaths from this cause.

In this connection I would call your attention to the practice of oiling roads, which is said to be valuable from both a highway and sanitary point of view.

BACILLUS SHIGA AND EPIDEMIC DIARRHOEA.—L. W. Strong reports (*Boston Medical and Surgical Journal*, March 26th, 1903) an epidemic of diarrhoea, with many cases of ileocolitis, in a seaside summer resort where sanitary conditions were almost ideal. The water-supply seemed to be well isolated; there was nothing to credit it with the disorder. The milk-supply was also apparently as good as could be expected. The bacillus isolated seemed to be identical with that of the *Bacillus dysenteriae* of Shiga, and its reaction in cultures was identical. The strongest suspicion as to cause of the disorder seems to have been from milk infection.

Wm. H. Park and H. W. Carey describe also (*Journal of Medical Research*, March, 1903) an epidemic occurring in a town of about 3,000 population, a little north of New York City. There were about 350 cases, with a mortality of 6 per cent., the average age of fatal cases being a little less than three years. The epidemic was most severe among the class of people living in filthy surroundings. There was no sewage system, and the well-water was badly contaminated. The onset in all cases was sudden, with cramps, diarrhoea, and tenesmus. The stools were at first feculent, then sero-mucous, then, finally, bloody and mucous. Blood was present in considerable quantity for two or three days, and then disappeared. It disappeared entirely in most cases in six to ten days. Temperatures were low. The mild cases lasted generally two weeks, the severe three to four, the malignant a few days. In one fatal case of a child aged one year and four months an autopsy was obtained and the Shiga bacillus isolated. Dysentery-like bacilli were also found in the faeces of several convalescents. The difference was in the indol formation and the manit fermentation, also in their agglutination reaction. The authors hold that there may be more than one form of bacillus responsible for dysentery epidemics, and Chantemesse and Widal claim to have described other forms some years before Shiga. It is extremely probable it will be found that not one, but several varieties of this group of bacilli exist.