OBSERVATIONS OF THE RELATIONSHIP OF THE MATERNAL AND FŒTAL TEMPERATURES.

By S. GURNEY CHAMPION, M.D., C.M. (Edin.), L.M. (Coombe),
late Clinical Clerk to the Coombe Hospital, Dublin.

THE temperature of the child immediately after birth is stated by most observers to be about the same as that of the mother, or a little higher.

The object of the communication which forms the subject of this paper is to establish the amount of variation of the readings of the thermometer when inserted simultaneously in the rectum of the mother and of her child immediately after, or, if possible, during birth.

Specially selected half-minute thermometers were used which had been previously certified at Kew. In thirty-three cases comparative thermometric readings have been obtained. Two of the cases were breech presentations; one was a case of twins, both presenting by the vertex, while the remainder were cases of cephalic presentation.

In thirty-one cases the child's temperature exceeded that of the mother, the greatest variation was 1·6° F., the least variation was 0·6° F.

In one case the temperature of the child was 0·6° F lower than that of the mother, while in the remaining case the two readings coincided.

The mean variation in the total cases was 1·0° F, that is the average amount by which the child's temperature exceeded that of its mother.

The temperature of the child at birth varied between 97·4 and 101·2° F, the average being 99·6° F.

The temperature of the mother varied between 96·4 and 100·2° F, the average being 98·6° F.

The greatest variations (1·6 and 1·4° F) between the two readings were observed in the two cases where the breech presented, thus affording an opportunity of recording the rectal temperature before complete birth. Immediately after the complete expulsion of the child, in both cases, the thermometer registered a fall in temperature of 0·5° F. In all the cases, excepting one where no change took place, there was a rapid fall in temperature during the course of the fifteen to twenty minutes immediately subsequent to birth, the celerity of the fall was particularly marked often as much as 2·0° F was noted to occur at the end of the first five minutes of extra-uterine life. In nearly three-fourths of the cases after an interval of fifteen minutes the mercury remained stationary below 95° F.

In the total cases the average fall of temperature was 3·6° F, in one case there was a fall of 5·6° F.

The maternal temperature during the twenty minutes succeeding birth

was also observed, but beyond an occasional fall of three or four points it was unaffected.

From these observations it is, I think, reasonable to conclude that the temperature of the fœtus in utero is higher than that of the mother. The exact amount of disparity it is impossible to determine, because, during the process of expulsion of the child its temperature is already beginning to fall, the result of loss of heat by radiation from the skin; nevertheless, immediately after complete birth the rectal temperature of the child still shows an average excess of 1·0° F over that of the mother. The raised temperature never persists, but immediately and rapidly falls in the next fifteen to twenty minutes. The heat loss must undoubtedly have occurred from the skin and by the lungs. In no case was a bath administered to the child until after the observations were concluded.

I am indebted to Sister Kathleen, of the Coombe Hospital, for most of these observations, which she kindly took for me.