20. WATER CONSUMPTION IN RELATION TO ENVIRONMENTAL TEMPERATURE AND ITS SIGNIFICANCE IN THE FLUORIDIZATION OF WATER SUPPLIES. Margaret Matuschak Levin and Gerald J. Cox, School of Dentistry, University of Pittsburgh, Pittsburgh, Pa. The amount of water drunk by two children and one adult was measured in relation to the mean daily temperature. The objective was to establish a basis for the seasonal variation of the fluoridization of community water supplies pending determination of the optimum amount of fluorine for the formation of caries-resistant teeth with a minimum of mottled enamel. For the first 152 days of life for a girl, 139 observations were obtained beginning with birth on May 13, 1949. The data are summarized by the interpolation equation,

$W = 3.313 + 0.253T + 0.0098T^2$

in which W ounces of water per 10 pounds' body weight and T - mean daily temperature measured from 70.0 F. in the range 56 to 84.0 F. Water consumption by a boy, age 21 1/2 months at the start from 56 observations is shown by

$W = 3.779 + 0.170T + 0.0063T^2$

The data for the mother of the above children, aged 33, for 60 observations are summarized by

$W = 3.640 + 0.0864T + 0.00144T^2$