he adds to the W's linear combinations of the values of u and its first $n-1$ derivatives at any finite number of points interior to the interval. The Green's function for this system is then defined by the same formula as is used by Birkhoff and it is found that the above integral converges to $f(x)$ provided $f(x)$ has a certain number of derivatives, which number never need exceed n, and provided certain determinants formed from the constants of the auxiliary conditions do not vanish. In the case n is even it is further necessary to assume that the second point from either end of the interval is farther from that end than the first point from the other end is from that end.

24. Professor Huntington's paper refers to the theorem of Duhamel already discussed by Osgood, R. L. Moore, and Bliss in the *Annals of Mathematics* for 1903, 1912, and 1914, namely: If $\alpha_1, \alpha_2, \cdots, \alpha_n$ and $\beta_1, \beta_2, \cdots, \beta_n$ are two sets of infinitesimals such that $\lim_{n=\infty} (\beta_i/\alpha_i) = 1$; and if $\lim_{n=\infty} [\alpha_1 + \alpha_2 + \cdots + \alpha_n] = a$ exists, then $\lim_{n=\infty} [\beta_1 + \beta_2 + \cdots + \beta_n]$ will also exist, and be equal to a. The following example of the failure of this theorem is simpler than examples that have been previously given: Let $\alpha_i = a/n$, and $\beta_i = a/n + 2ic/n^2$, where a and c are fixed constants. Then $\lim \beta_i/\alpha_i = 1$ as $n = \infty$; but $\lim \Sigma\alpha_i = a$, while $\lim \Sigma\beta_i = a + c$.

25. Professor Osgood's paper appeared in full in the June BULLETIN.

26. Professor Wilson's paper appeared in full in the May BULLETIN.

F. N. COLE,
Secretary.

APPLICATION OF AN EQUATION IN VARIABLE DIFFERENCES TO INTEGRAL EQUATIONS.

BY PROFESSOR G. C. EVANS.

(Read before the American Mathematical Society, April 29, 1916.)

IT is known that if the kernel of an integral equation of Volterra type is in the simple form of the difference alone of the