Erratum to

Spline Interpolation Near Discontinuities

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In my paper, which appeared in the symposium volume "Approximations with Special Emphasis on Spline Functions" [1], an error occurs in one of the calculations that has been responsible for some erroneous conclusions.

In Eq. (3.12) the integer ν varies between 1 and $n - 1$, while in (3.13), which is supposed to be equivalent to (3.12), it varies between 0 and $n - 1$. If this is corrected by letting ν vary between 0 and $n - 1$ also in (3.12), an $O(n^{-r})$ term is added, which does not change anything since it gets absorbed in the present $O(n^{-r})$ term. However, in the transition from (3.31) to (3.32), where the same error occurs, the term for $\nu = 0$ (more precisely, for $\nu \to 0$) equals $-\delta_s n^{-s}$, hence a more useful form of (3.31) is

$$\mathring{B}_s(1/2n) - S_r{}^n \mathring{B}_s(1/2n) = 2^{1-2r}(4\pi i n)^{-s} \sum_{\nu=0}^{n-1} e^{\pi i \nu/n}[C_s(\nu/2n)\, C_{2r}(\nu/2n + \tfrac{1}{2})$$

$$- C_{2r}(\nu/2n)\, C_s(\nu/2n + \tfrac{1}{2})]/C_{2r}(\nu/n)$$

(the factor 2^{1-s} in (3.31), (3.32), and (3.33) is a typing error and should be replaced by 2^{1-2r}; it is correct in (2.2)). Then $\delta_s n^{-s}$ should be deleted in (3.32)–(3.35). The effect on Theorem 4 is as follows: $\delta_{s-1}\xi^{(s-2)}$ should be deleted in (vi), $\sum_{s=3}^{r} \ldots$ should be deleted in (vii), and the 5 lines starting with "$\delta_s = 0$ if s odd..." should also be deleted. Everything else is correct.

The author is indebted to I. J. Schoenberg and C. de Boor, who called the error to his attention.

REFERENCE

1. I. J. SCHOENBERG, ed., "Approximation with Special Emphasis on Spline Functions," Academic Press, New York, 1969.

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