with the Hölder method of summability, where $i=1, 2, 3$. In the latter case, for example,

$$(x-1)S_{\infty,3}^{(k)} = 2S_{\infty,1}^{(k)} + \frac{1}{4}S_{\infty,0}^{(k)} + \frac{1}{3} - \frac{1}{4}\left[(C, k) \text{ of } \sum_{1}^{\infty} \frac{1}{(2r-1)(2r+3)} X_r\right], \quad (k > 5/2).$$

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TRIANGULATION OF THE MANIFOLD OF CLASS ONE*

BY S. S. CAIRNS

1. *Introduction.* In the present note, the writer shows that the triangulation method developed in an earlier paper† can be applied to divide a manifold of class one, as defined by Veblen and Whitehead,‡ into the cells of a complex. The manifold of class one includes the regular r-manifold of class C^n on a Riemannian space.§

2. *The Triangulation Theorem.* Let M_r be an arbitrary r-manifold of class one. A *coordinate system* is a correspondence between a point set, the *domain* of the system, on M_r, and a point set, called the *arithmetic domain*, in affine r-space. *Allowable coordinate systems* are a class of one-to-one correspondences whose properties are specified by axioms.||

THEOREM. *If an r-manifold, M_r, of class one is covered by the domains of a finite set of allowable coordinate systems, it can be triangulated into the cells of a finite complex. Otherwise it can be triangulated into the cells of an infinite complex.*

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* Presented to the Society, December 28, 1934.

† *On the triangulation of regular loci,* Annals of Mathematics, vol. 35 (1934), pp. 579–587. Hereafter we refer to this paper as Triangulations.

‡ *A set of axioms for differential geometry,* Proceedings of the National Academy of Sciences, vol. 17 (1931), pp. 551–561; also, *The Foundations of Differential Geometry,* Cambridge Tract No. 29, 1932, Chapter 6, referred to below as Foundations.

§ Marston Morse, *The Calculus of Variations in the Large,* Colloquium Publications of this Society, vol. 18 (1934), Chapter 5.

|| Veblen and Whitehead, loc. cit.