$=i_*(\pi_{n+1}(K^n))$ where $i:K^n\rightarrow K^{n+1}$ is the identity map. When, in addition, $\pi_{n+1}(K)=0$ and $n>3$, $\Gamma_{n+2}(K)$ is computed to be $H_n(K)/2H_n(K)$. This is equivalent to the statement that $\pi_{n+2}(K) \approx H_{n+2}(K)+H_n(K)/2H_n(K)$, and in this form it is proved again using the normal cell complexes of S. C. Chang.

There is a bibliography of 4 books and 42 papers and a rather complete combined index and glossary.

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Lezioni sulle funzioni ipergeometriche confluenti. By F. G. Tricomi. Torino, Gheroni, 1952. 284 pp. 2000 Lire.

Die konfluente hypergeometrische Funktion mit besonderer Berücksichtigung ihrer Anwendungen. By Herbert Buchholz. (Ergebnisse der angewandten Mathematik, vol. 2.) Berlin-Göttingen-Heidelberg, Springer, 1953. 16+234 pp. 36.00 DM.

Confluent hypergeometric series arise when two of the three singularities of the hypergeometric differential equation coalesce in such a manner as to produce an irregular singularity at infinity. These series were introduced by Kummer in 1836. In 1904, E. T. Whittaker proposed new definitions and notations which clearly exhibit the symmetry and transformation properties of confluent hypergeometric functions, and facilitate the identification of many special functions, among them Bessel functions, Laguerre and Hermite polynomials, error functions, Fresnel integrals, sine and cosine integrals, exponential integrals, and the like, as particular instances of confluent hypergeometric functions. (As a matter of fact, the chapter on Bessel functions in all newer editions of Whittaker and Watson's *Modern analysis* follows upon, and leans heavily on, the chapter on confluent hypergeometric functions.)

In the first half of the present century a sizeable literature has grown up around these functions. Many of their properties were discovered (some of them several times), and they have been found useful in pure and applied mathematics alike. Fluid dynamics, nuclear physics, probability theory, elasticity, all offer problems which can be solved in terms of confluent hypergeometric functions, and these functions proved an excellent example for illustrating the technique of the Laplace transformation. In view of the hundreds of papers and dozens of applications it is somewhat strange that no monograph on these functions seemed to be available (although several well-known books, such as *Modern analysis*, Jeffreys and Jeffreys' *Methods of mathematical physics*, and Magnus and Oberhettinger's *Special functions* devote separate chapters to these functions). Now, within a