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H.O. FOULKES (1907–1977)

The present issue of Discrete Mathematics is devoted to the publication of the last paper ever written by the late Professor Foulkes. The editors of the Journal, were kind enough to respond very favorably to our suggestion of having a special issue dedicated to his memory.

During the last five years of his life Professor Foulkes had written several papers on the relations between Enumeration and Symmetric Group Representation (essentially, Foulkes [9–13] as they are referred to in the subsequent bibliography and, of course, the following paper itself). Until the very end "his mind was teeming with new ideas" so that on several occasions he told his devoted wife, Mrs. Beryl Foulkes, that "his head was sprouting with fascinating ideas, which isn't fair on an old man". It is unfortunate that we shall miss those ideas of his for ever. At least, he could find the time to complete the paper "Eulerian numbers, Newcomb's problem and representations of the symmetric groups", we are now very pleased and honored to present to the mathematical community.

On the occasion of the Table Ronde on Combinatorics and Representation of the Symmetric Group held in Strasbourg in 1976 we had the privilege of hearing him talk on the essential parts of this paper. Everybody was impressed and charmed by the clarity of his lecture. One of the problems he mentioned on a surprising refinement of the Eulerian Numbers was elegantly solved by the young E. Gansner [14].

Combinatorial properties on Classical Numbers, such as Eulerian, Euler, Tangent, Genocchi Numbers have recently been discovered. Professor Foulkes quickly realized that those properties could also be reinterpreted in the classical set-up of Symmetric Functions (Littlewood–Richardson Coefficients, Kostka Numbers, Irreducible Characters of the Symmetric Group). The present paper belongs to this vein. There is an unexpected connection between Eulerian Numbers and Symmetric Function coefficients, that gives rise to numerous identities involving the two families of numbers. Several numerical tables are also included in the paper.

A detailed obituary of Professor Foulkes has recently appeared (Bull. London Math. Soc. 11 (1979) 208–214). It provides a very interesting account of his career and mathematical work.

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