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# On a Certain Hypergeometric Differential System (Corrigendum)

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The author wishes to make certain corrections and to indicate additions to be made to the theory outlined in his paper [2].

Equation (2.15) is incorrect; the process of letting $t\to 0$ in equation (2.10) merely gives rise to a well-known relation between two $F_D^{(3)}$ series, and so should be omitted.

In the last paragraph of section 4, it is stated that the complete solution of the system associated with $F_D^{(4)}$ may be expressed in terms of the functions $F_D^{(4)}$, $D_4$ and $D_5$. A similar comment is made in the paragraph beginning line 18 of page 86. These statements are incorrect in so far as that the set of solutions of the partial differential system associated with $F_D^{(n)}$ given in the paper in question is incomplete.

This follows from two considerations:

(i) The system $F_D^{(n)}$ possesses $3^n$ singular points.

(ii) Unless the singular point in question results from the intersection of two singular manifolds, more than one convergent series is required to represent each solution of the given system in the whole neighbourhood of that point. (cf. [1] p. 142, section 10).

Near each singular point, $n+1$ independent solutions valid for each and every part of the neighbourhood of that point are required to furnish a fundamental system of solutions. Hence, even if (ii) did not apply, $(n+1)3^n$ such solutions would be required, which, for $n>4$ is not furnished by the $(1+n/2)(n+3)(n+2)(n+1)$ solutions indicated in [2] section 5.

This new development considerably enhances the interest arising in connection with this problem, which it is hoped to discuss at greater length in future papers.

## References

[1] A. Erdélyi, Hypergeometric functions of two variables Acta Math. **83** (1950), 131-164.

[2] H. Exton, On a certain hypergeometric differential system, Funkcialaj Ekvacioj, **14** (1971), 79-87.

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