Erratum

Corrigendum to "Upward separation for FewP and related classes", Information Processing Letters 52 (1994) 175–180 ☆

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Corollary 8 on page 178 states that, among other classes, the class LWPP displays upward separation. The proof of this result involves applying a criterion—closure under the FEW operator—that is shown to be a sufficient condition for upward separation. To show that LWPP indeed satisfies this condition, we noted that this would follow from the self-lowness of LWPP (i.e., from $\text{LWPP}^{\text{LWPP}} = \text{LWPP}$), and we referred to the paper of Fenner et al. [1] in which the self-lowness of LWPP is claimed. However, in the journal version [2] of their paper, Fenner et al. withdraw the assertion that LWPP is self-low, which invalidates our proof. On the other hand, Fenner et al. [2] establish the slightly weaker claim $\text{SPP}^{\text{LWPP}} = \text{LWPP}$. This claim is still strong enough to give the closure of LWPP under the FEW operator and, thus, a valid proof that LWPP displays upward separation.

References

[1] S. Fenner, L. Fortnow, S. Kurtz, Gap-definable counting classes, in: Proc. 6th Structure in Complexity Theory Conference, IEEE Computer Society Press, June/July 1991, pp. 30–42.
[2] S. Fenner, L. Fortnow, S. Kurtz, Gap-definable counting classes, J. Comput. System Sci. 48 (1) (1994) 116–148.