Correction to "Monomial Conditions on Prime Rings", by Louis H. Rowen,[†] Israel Journal of Mathematics, Vol. 27, No. 2, 1977, pp. 131–149.

Suppose R' is a dense subring of $\mathrm{End}\, M_D$, for a suitable vector space M over a division ring D, and $\mathrm{soc}(R') \neq 0$. It does not necessarily follow that $\mathrm{soc}(R') = \mathrm{soc}\, M_D$. Thus, one cannot construct the infinite set of idempotents defined on [1, p. 134, line 12], and [1, remark 9] is false, as pointed out by Professor A. Mewborn. However, all the other results of [1] can be salvaged, by using only one idempotent at a time (instead of the infinite set). To wit, given y in M we can take a rank 1 idempotent e_y in R' such that $e_y y = y$. Now we choose a basis $\{y\} \cup \{y_\gamma \mid \gamma \in \Gamma\}$ of M over D, such that each $e_y y_\gamma = 0$, and define a map $D \to \mathrm{End}\, M_D$, sending an element d to the transformation d' such that $d'((\Sigma\, y_\gamma d_\gamma) + y d_y) = (\Sigma\, y_\gamma d d_\gamma) + y d d_y$. This identifies D with an isomorphic copy D_y in $\mathrm{End}\, M_D$.

Now choose a large left ideal J_y of R such that $J_y e_y \neq 0$, and choose r_y in $J_y e_y$ such that $J_y e_y r_y \neq 0$. By the density theorem, $r_y R' r_y = r_y D_y r_y$, so the assertions of theorem 4 hold if we replace r_i by r_y (for arbitrary y in M).

Thus theorem 5 is valid. Likewise, replacing J_{i1}, J_{i2} by J_{y1}, J_{y2}, we get lemma 6, proposition 7, and proposition 8. In the last sentence of §1 (on p. 136) we cannot assume $R' = \mathrm{End}\, M_D$, but the outcome of the other results is not affected.

Professor Mewborn has also noted that some of the results of §1 (in particular the key theorem 5) would follow easily from Koh and Mewborn (Proc. Amer. Math. Soc. **16** (1965), 1073–1076).

Reference

1. L. H. Rowen, *Monomial conditions on prime rings*, Israel J. Math. **27** (1977), 131–149.

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