

CORRECTION TO: ON RING STRUCTURES DETERMINED BY GROUPS

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Since the named paper [this Journal, 23 (1969), 472–477] has gone to print, I discovered a gap in the proof of Proposition 2 which affects the proof of Theorem 2. However, the following proposition leads to a correct proof of Theorem 2.

PROPOSITION 2'. *For artinian rings, R/J is a torsion ring if and only if R is a torsion ring.*

PROOF. By Lemma 2, we know that $R = R_T \oplus R_F$, where R_T is the torsion ideal of R and R_F is the torsion-free ideal of R . Hence $R/J \cong R_T/J_T \oplus R_F/J_F$. But then R_F/J_F is a torsion ring which implies that $R_F = J_F$, since ${}^+R_F$ is a torsion-free divisible group. Hopkin's Theorem [4] then forces $R_F = J_F = 0$, and R is therefore a torsion ring.

In addition, Professor S. K. Jain has kindly made me aware of two errors of omission.

The last line of Theorem 1 should read “ 2×2 matrices over $GF(2)$ or $GF(3)$.”, and lines 6 and 7 of the proof should read “. . . Furthermore, the 2×2 matrix rings over $GF(2)$ and $GF(3)$ are the only matrix rings with a solvable”.

The following should be added to the statement of Corollary 2 of Theorem 1: “A ring of type (a) may occur as a direct summand with rings of types (b), (c), and (d), since its quasi-regular group has order 1.”

ADDED IN PROOF. The paragraph preceding Corollary 1 on p. 473 should now read: “Since the quasi-regular group of the ring of 2×2 matrices over $GF(2)$ or $GF(3)$ is not nilpotent, we have the following corollary to Theorem 1.”

The line following the first paragraph on p. 474 should be deleted, while the first sentence in the proof of Theorem 2 (p. 475) should now read: “By Propositions 2' and 3, R is a torsion ring.”

REMARK. P. B. Battacharya and S. K. Jain obtained essentially the same results in “A note on the adjoint group of a ring” (to appear in Archive der Mathematik) using different techniques. They extended these results in “Rings having solvable adjoint groups” (to appear in these Proceedings) where they prove: If R is a perfect ring and ${}^\circ R$ is a finitely generated solvable group then R is finite, and hence ${}^\circ R = P_1 \circ P_2 \circ \cdots \circ P_m$ where the P_i are pairwise commuting p -groups. (Hyman Bass first defined perfect rings in Trans. Amer. Math. Soc. 95 (1960), 466–488.)