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CORRECTION TO: "ON AUTOMORPHISMS OF SEPARABLE ALGEBRAS"

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ERRATA

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ON AUTOMORPHISMS OF SEPARABLE ALGEBRAS

L. N. CHILDS AND F. R. DEMEYER

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A. Magid has pointed out to us that Lemma 1.8 of [1] is not correct. In [2], Hochschild proves that in any simple algebra over a field every element is a sum of units. It is an elementary exercise to verify that in a finite direct sum of simple algebras every element is a sum of units if and only if at most one of the simple algebra summands is the field $Z/(2)$ of two elements. We thus have the following correction of Lemma 1.8.

LEMMA 1.8'. *Let A be a separable algebra over the semi-local ring K, then every element in A is a sum of units if and only if every element in $A/Rad(A)$ is a sum of units.*

The proof of Lemma 1.8' is the same as the proof of Lemma 1.8 which appears in [1]. Let $Z_{(2)}$ be the localization of the integers at the prime (2), then the ring of integers A over $Z_{(2)}$ in $Q(\sqrt{17})$ is a separable $Z_{(2)}$-algebra with no idempotents but 0 and 1 but $A/\mathrm{Rad}(A) \cong Z/(2) \oplus Z/(2)$ so A is not generated by its units. These facts may be found on page 234-36 of [3]. It is therefore necessary to modify the definition of regular ring given in paragraph 2 on page 30 of [1] in order that Theorem 2.1 R be correct. If A is a separable, finitely generated, projective R-algebra and the center of A is K then an R-subalgebra B of A is called regular in case B is separable over R, the only idempotents in the center of $B \otimes_{B \cap K} K$ are 0 and 1, and *every element in B is a sum of units in B.*

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