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On regular semigroups whose idempotents form a semigroup: Addenda

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The results in the first parts of Theorems 2 and 3 of the paper in the title (see [2]) have been previously obtained by B.M. Schein in Theorem 1.12, page 299 [4], and in Proposition 1.13 (combined with the last paragraph of page 300) [4], respectively. To deduce the first part of Theorem 2 [2] from Theorem 1.12 [4] one merely uses the fact that a binary relation R on a set X satisfies $RR^{-1}R \subseteq R$ if and only if it satisfies: $R(x) \cap R(y) \neq \square$ implies $R(x) = R(y)$, for any $x, y \in X$ (see Proposition 9, page 132 [3]).

Conversely, one can deduce the mentioned results in [4] from those in [2] by observing that all the regular elements in any semigroup form a subsemigroup if (and clearly only if) the product of each pair of idempotents is a regular element, in particular when all the idempotents form a subsemigroup (from Theorem 2.4, page 49 [1]).

The equivalence of *(i)* and *(ii)* in Result 1 [2] (cited as due to N.R. Reilly and H.E. Scheiblich) has also been obtained by B.M. Schein in Theorem 1.10, page 298 [4].

References

[1] A.H. Clifford and G.B. Preston, *The algebraic theory of semigroups* (Math. Surveys 7(I), Amer. Math. Soc., Providence, Rhode Island, 1961).

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[2] T.E. Hall, "On regular semigroups whose idempotents form a subsemigroup", *Bull. Austral. Math. Soc.* 1 (1969), 195-208.

[3] J. Riguet, "Relations binaires, fermetures, correspondances de Galois", *Bull. Soc. Math. France* 76 (1948), 114-155.

[4] B.M. Šaĭn, [= B.M. Schein], "On the theory of generalized groups and generalized heaps" (Russian), *Theory of semigroups and appl. I* (Russian), 286-324, (Izdat. Saratov. Univ., Saratov, 1965).

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