Corrigendum
"The Join of the Pseudovarieties of Idempotent Semigroups and Locally Trivial Semigroups"

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This note corrects Theorem 3.1 of [2]. It has to be stated as follows:

Theorem 3.1   The pseudovariety $\mathbf{LI} \vee \mathbf{B}$ is determined by

$$\mathbf{LI} \vee \mathbf{B} = [\![(x^\omega y) = (x^\omega y)^2, \quad (yx^\omega) = (yx^\omega)^2, \quad x^\omega yz^\omega = x^\omega y^2 z^\omega]\!]$$

Indeed, $\mathbf{LI} \vee \mathbf{B}$ obviously satisfies the pseudoidentity $x^\omega yz^\omega = x^\omega y^2 z^\omega$ which fails in $\mathbf{B} \ \textcircled{m}\ \mathbf{N} = [\![(x^\omega y) = (x^\omega y)^2, \quad (yx^\omega) = (yx^\omega)^2]\!]$. To see this, consider the free 3-generated semigroup F in the semigroup variety defined by $xy = (xy)^2$. Gerhard proved in [1] that it is finite; therefore, it clearly lies in $\mathbf{B} \ \textcircled{m}\ \mathbf{N}$. The word problem in F was also solved in [1]. Gerhard's algorithm easily shows that the words $x^2 yz^2$ and $x^2 y^2 z^2$ are different in F.

The mistake comes from Lemma 3.7, which uses Lemma 3.6 under wrong hypotheses. The other results of the paper remain true.

Acknowledgments

I thank M. Volkov for pointing this mistake out and giving the example.

References

[1]   J.A. Gerhard, *Semigroups with an idempotent power I. Word problems*, Semigroup Forum **14** (1977), 137–141.

[2]   M. Zeitoun, *The join of the pseudovarieties of idempotent semigroups and locally trivial semigroups*, Semigroup Forum **50** (1995), 367–382.

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