Erratum to Free Arrangement and Rhombic Tilings

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The authors are indebted to Stefan Felsner for pointing out an error in the proof of Lemma 5.2 [ER], which invalidates both the lemma and the proof of Theorem 5.1. Specifically, it is asserted in the proof of Lemma 5.2 that the binary relation $>$ has no directed cycles, but in fact, for $n = 6$ and T the tiling having noninversions $\{123, 456\}$, it can be checked that this relation has the following directed cycle:

$$256 > 235 > 125 > 245 > 256.$$

The faulty assertion was based on an incomplete case analysis. A missing case was brought to our attention by Felsner.

As a consequence, the question of whether the higher Bruhat order $B(n, 2)$ defined by Manin and Schechtman [MS] (via *single-step inclusion* of inversion sets) coincides with the order $B_{\subseteq}(n, 2)$ defined by Ziegler [Z] (via inclusion of the inversion sets) remains unresolved. Also, the partial order $HB(r_1, r_2, \dots, r_l)$ introduced in this paper is strictly speaking a generalization of $B_{\subseteq}(n, 2)$ and *not* of $B(n, 2)$.

References

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- [Z] G. Ziegler, Higher Bruhat orders and cyclic hyperplane arrangements, *Topology* **32** (1993), 259–279.

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