CORRECTIONS TO *LECTURES ON COARSE GEOMETRY*

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Berndt Grave has kindly pointed out two errors in my *Lectures on Coarse Geometry* [1], to which I should draw attention.

In Theorem 2.27 it is asserted that a continuously controlled coarse structure is proper. The proof, however, is not valid unless the control is with respect to a *metrizable* compactification (compare 2.33 and the subsequent discussion). The error is in the use of Urysohn's lemma: in a general compact Hausdorff space it may not be possible to find a continuous real-valued function that vanishes *exactly* on a given closed set.

The other error is a mistake in the logical ordering of the material. Proposition 3.7 is not valid with the given definition of 'gauge' (the diagonal might not be uniform with respect to E). Amend Definition 3.5 by requiring that a gauge be doubling in the sense of Definition 3.11.

Steve Ferry and his students point out that I mangled part of the statement and proof of Rosenblatt's theorem, 3.59, for which I want to apologize. It is not true that if all the eigenvalues of T have absolute value 1, then it acts as an automorphism of finite order on $\mathbb{Z}^n$ (how did I write that?); consider $\begin{pmatrix} 1 & 1 \\ 0 & 1 \end{pmatrix}$. Thus, it is not true that this hypothesis implies that Γ is virtually abelian. What *is* true is that Γ is virtually *nilpotent* (and therefore of polynomial growth). (The finiteness statement that I was trying to get at is that every eigenvalue of T is a root of unity, so that some power of T is strictly upper triangular.) For this material one should refer to Rosenblatt's original paper, [2].

REFERENCES

[1] J. Roe. *Lectures on Coarse Geometry*. American Mathematical Society, 2003.

[2] J.M. Rosenblatt. Invariant measures and growth conditions. *Transactions of the AMS*, 193:33–53, 1974.

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