TRANSACTIONS OF THE
AMERICAN MATHEMATICAL SOCIETY
Volume 181, July 1973

ERRATUM TO "ENTROPY FOR GROUP ENDOMORPHISMS AND HOMOGENEOUS SPACES"

BY

R. BOWEN

The conclusion of Proposition 4(ii) on p. 403 should read: $h_d(T_1 \times T_2) \leq h_{d_1}(T_1) + h_{d_2}(T_2)$. The second paragraph of the proof of 4(ii) should be deleted and in the first paragraph the formula $r_n(\epsilon, K_1 \times K_2, T_1 \times T_2) \leq r_n(\epsilon, K_1, T_1) + r_n(\epsilon, K_2, T_2)$ should be replaced by

$$r_n(\epsilon, K_1 \times K_2, T_1 \times T_2) \leq r_n(\epsilon, K_1, T_1) \cdot r_n(\epsilon, K_2, T_2).$$

The proof of Theorem 15 on p. 409 should read from the fifth line on as follows: By Proposition 4(ii) and Corollary 14 one has

$$h_d(T) \leq \sum_{j=1}^{s} h_d(T_j) \leq \sum_{|\lambda_i|>1} \log|\lambda_i|.$$

Letting $V = \Pi_{\alpha_j > 1} E_j$ one has $h_d(T) \geq h_d(T \mid V)$ and $h_d(T \mid V) = k(\mu, T \mid V)$ where μ is Haar measure on V (by Example 8 and Proposition 7). But $D_n(0, \epsilon, T \mid V) \subset (T \mid V)^{-n} B_\epsilon(0, V)$ implies

$$\mu(D_n(0, \epsilon, T \mid V)) \leq \mu(B_\epsilon(0, V))|\det(T \mid V)^{-n}| = \mu(B_\epsilon(0, V))/|\det(T \mid V)|^n$$

and so

$$k(\mu, T \mid V) \geq \log|\det(T|V)| = \sum_{|\lambda_i|>1} \log|\lambda_i|.$$

The proof of Theorem 19 needs some revision. For compact X let

$$\underline{h}_d(T) = \lim_{\epsilon \to 0} \liminf_{n \to \infty} \frac{1}{n} \log r_n(\epsilon, X)$$

$$= \lim_{\epsilon \to 0} \liminf_{n \to \infty} \frac{1}{n} \log s_n(\epsilon, X).$$

H. Keynes pointed out that $\underline{h}_d(T) = h_d(T)$ for X compact. For this one uses that $s_{nN}(\epsilon, X) \leq r_n(\frac{1}{2}\epsilon, X)^N$ (for E (nN, ϵ)-separated and F $(n, \frac{1}{2}\epsilon)$-spanning, pick $g_j: E \to F$ with $d(T^{nj+k}x, T^k g_j x) \leq \frac{1}{2}\epsilon$ for $0 \leq k < n$; then $(g_0, \cdots, g_{n-1}): E \to F^N$ is one-to-one). The last line of the proof of Theorem 19 on p. 411 should read: It follows that $\underline{h}_d(T) \geq \underline{h}_e(S) + \underline{h}_d(\tau)$ and hence $h_d(T) \geq h_d(S) + h_d(\tau)$ as the spaces are compact.

REFERENCE

1. R. Bowen, *Entropy for group endomorphisms and homogeneous spaces*, Trans. Amer. Math. Soc. 153 (1971), 401–414.

DEPARTMENT OF MATHEMATICS, UNIVERSITY OF CALIFORNIA, BERKELEY, CALIFORNIA 94720