Errata for January 31, 2008

Integral, Probability, and Fractal Measures **by G. A. Edgar**

Page vii Line 14. Delete every $n \in \mathbb{N}$ and

Page 10 Line 18. After Thomson **Add** [258],[259]

Page 10 Line -6. After $\overline{B}_r(x) \cap \overline{B}_{r'}(x')$ **Add** $= \varnothing$

Page 20 Line 5. Replace $\mathcal{P}^s(A) = \overline{\mathcal{P}}^s(E)$ **by** $\overline{\mathcal{P}}^s(A) = \overline{\mathcal{P}}^s(E)$

Page 20 Line 6. Replace Let E_n be an increasing sequence

by Let $E_n \nearrow E$ be a sequence.

Page 21 Line 20. Replace Vitali cover **by** fine cover

Page 33 Line -12. After measurable sets.

add See Exercise 10.51 in [250], dated 1965.

Page 36 Line -4. Replace $\bigcup_{y\in S}$ **by** $\bigcup_{y\in A}$

Page 38 Line 6. Replace $t_1 = 0$ **by** $t_1 = a$

Page 38 Line -11. Replace $N_{\varepsilon/2}(C)$ **by** $N_\varepsilon(C)$

Page 45 Line -6. Replace of course) that

by of course) that if E and F are nonempty separable metric spaces, then

Page 46 Line -3. Replace any any **by** any

Page 50 Line -4. Replace centered Vitali cover **by** fine cover

Page 51 Line 12. Replace $\overline{D}^s(x)$ **by** $\overline{D}^s_{\mathcal{M}}(x)$

Page 51 Line -2. Replace $\mathcal{C}^s(F)$ **by** $\widetilde{\mathcal{C}}^s(F)$

Page 53 Line 3. Replace $\sup \overline{D}^s_{\mathcal{M}}(x)$ **by** $\inf \overline{D}^s_{\mathcal{M}}(x)$

Page 58 Line -6. Replace $\mathcal{H}^s_{\mathcal{B}}(F) \le pq^s \mathcal{H}^s_{\mathcal{A}}(F)$ **by** $\overline{\mathcal{H}}^s_{\mathcal{B}}(F) \le pq^s \overline{\mathcal{H}}^s_{\mathcal{A}}(F)$

Page 59 Line 5. Replace $\mathcal{H}^s_{\mathcal{B}}(F) \le pq^s \mathcal{H}^s_{\mathcal{A}}(F)$ **by** $\overline{\mathcal{H}}^s_{\mathcal{B}}(F) \le pq^s \overline{\mathcal{H}}^s_{\mathcal{A}}(F)$

Page 59 Line 12. Replace $\mathcal{H}^s_{\mathcal{A}_2}\big(h[F]\big) \le pq^s \mathcal{H}^s_{\mathcal{A}_1}(F)$

by $\overline{\mathcal{H}}^s_{\mathcal{A}_2}\big(h[F]\big) \le pq^s \overline{\mathcal{H}}^s_{\mathcal{A}_1}(F)$

Page 59 Line 15. Replace $\mathcal{H}^s_{\mathcal{A}_1}\big(h^{-1}[E]\big) \le pq^s \mathcal{H}^s_{\mathcal{A}_2}(E)$

by $\overline{\mathcal{H}}^s_{\mathcal{A}_1}\big(h^{-1}[E]\big) \le pq^s \overline{\mathcal{H}}^s_{\mathcal{A}_2}(E)$

Page 61 Line 19. Replace $K \subseteq S$ **by** $K \subseteq F$

Page 62 Line 11. Replace $\mathcal{H}^s_\delta(E) > \alpha$ **by** $\mathcal{H}^s_{2\delta}(E) > \alpha$. Choose a sequence δ_j so that $2\delta > \delta_1 > \delta_2 > \cdots$ and $\delta_j \to \delta$.

Page 62 Line 12. Replace there is k_1 **by** by (1.2.8) there is k_1

Page 62 Line 13. Replace $\mathcal{H}^s_\delta$ **by** $\mathcal{H}^s_{\delta_1}$

Page 62 Line 15. Replace $\mathcal{H}^s_\delta$ **by** $\mathcal{H}^s_{\delta_2}$

Page 62 Line 17. Replace $\mathcal{H}^s_\delta$ **by** $\mathcal{H}^s_{\delta_j}$

Page 62 Line 20. After compact sets **add** and $\mathcal{H}^s_\delta(A_j) > \alpha$

Page 64 Line 5. Add [Answer: No in general, yes in $\mathbb{R}^d$: A. Schechter, 1998.]

Page 67. Insert at the top

(1.5.12): The Strong Vitali Property is not used in (a), so the inequality

$$\mathcal{P}^s(E) \inf_{x\in E} \underline{D}^s_{\mathcal{M}}(x) \le \mathcal{M}(E)$$

does not need this assumption. Without the Strong Vitali Property we may prove a modified form of the second inequality:

$$\mathcal{M}(E) \leq 3^s \, \mathcal{P}^s(E) \, \sup_{x \in E} \underline{D}^s_{\mathcal{M}}(x).$$

To do this, use (1.3.1) in place of the Strong Vitali Property. See Cutler [52]. Mattila & Mauldin (*Math. Proc. Camb. Phil. Soc.* **121** (1997) 81–100) provide an example in Hilbert space where the inequality of (1.5.11) is false with constant 1.

Page 88 Line -9. After the set E. **add** Remember (1.4.20) and (1.5.10).

Page 96 Line 2. replace $\varPhi(\mathbb{1}_U)$ **by** $\varPhi(1)$

Page 106. Everywhere, replace $\varepsilon/5$ **by** $\varepsilon/7$ **and** $\varepsilon/(5\gamma)$ **by** $\varepsilon/(7\gamma)$

Page 106 Line 19. Replace $\varepsilon/10$ **by** $\varepsilon/14$

Page 106 Line -8. After $p\eta < 1$ **add** $, \eta p \gamma < 1,$

Page 106 Line -4. Replace $<$ **by** $\leq$

Page 107. Replace first two lines by

$$\leq (-\gamma)\mathcal{M}(E_0) + \sum_{i=1}^{p} \Big(h(x_i) - \frac{\varepsilon}{7} \Big) \mathcal{M}(E_i)$$

$$+ 2\gamma \, \frac{\varepsilon}{7\gamma} + \gamma\eta + 2 \, \frac{\varepsilon}{7} \sum_{i=1}^{p} \mathcal{M}(E_i) + \eta p \gamma + \eta p \, \frac{\varepsilon}{7}$$

Page 107 Line -11. Replace converges to $\mathcal{E}_0$ **by** converges narrowly to $\mathcal{E}_0$

Page 108 Line -5. Replace $\operatorname{dist}(x, U_k)$ **by** $\operatorname{dist}(x, S \setminus U_k)$

Page 108 Line -4. Replace $(2/\varepsilon) f_k$ **by** $(\varepsilon/2) f_k$

Page 108 Line -3. After $\varepsilon < 1$). **add** Recall (p. 105) V_1 is the set of functions with Lipschitz constant 1 and bounded by 1 used to define the metric ρ_1.

Page 109 Line 9. Replace K is **by** K is

Page 118 Line 14. Replace if $s <$ **by** if $s >$ **and** if $s \geq$ **by** if $s \leq$

Page 121 Line 13. Replace $F \subseteq A$ **by** $F \subseteq E$

Page 127 Line 15.

Delete *Suppose in addition that* $\mathcal{M}$ *has the Strong Vitali Property. Then*

Page 127 Line -4. Replace the parenthesis by

(the variant on page 67 that does not require the Strong Vitali Property)

Page 132. Figure 3.3.21. Label $\mathcal{T}_1$ **is missing.**

Page 136 Line -1. Replace $F_1(0,1)$ **by** $F_1(1,1)$ **and** $F_2(0,1)$ **by** $F_2(1,1)$

Page 137 Line 1. Replace $F_3(0,1)$ **by** $F_3(1,1)$ **and** $F_4(0,1)$ **by** $F_4(1,1)$

Page 174 Line 20. Replace the standard normal and Cauchy **by** certain normal and Cauchy

Page 185 Line 7. Replace for all $t \in \mathbb{R}$ **by** for $\mathcal{D}_X$-almost all $t \in \mathbb{R}$

Page 186 Line -5. Replace the third σ' **by** σ

Page 191 Line -7. Replace $\leq$ **by** $\geq$

Page 193. Replace footnote [10] **by**

TIMING TOAST
Grook on how to char for yourself

There's an art of knowing when.
Never try to guess.
Toast until it smokes and then
twenty seconds less.

Piet Hein, *Grooks 2*, p. 23

Page 195 Line 16. Replace most likely **by** more likely
Page 197 Line 16. After dyadic subintervals **add** $[j/2^k, (j+1)/2^k]$
Page 202. Add *(4.3.18)*: the converse is not true
Page 211 Line -15. Replace all U **by** all $e \in E$ **and** $f_{e'}U$ **by** $f_{e'}[U]$
Page 211 Line -14. Replace $e \neq s' \in E$ **by** $e \neq e' \in E$
Page 213 Line 19. Replace Show that Lemma 5.2.4 remains
by Does Lemma 5.2.4 remain
Page 216 Line 1. After triangle T **add** (p. 214)
Page 228 Line -2. Replace $n(2i)$ **by** $n(2i, k+1)$
Page 229 Line 1. Replace $n(2i)$ **by** $n(2i, k+1)$
Page 229 Line 9. Replace I_i **by** I_1
Page 231. Figure 5.5.1. The second and third graphs are interchanged.
Page 235 Line -3. Replace denominator $k+1$ **by** denominator 2^{k+1}
Page 238 Line 17. Replace Define $\mathbf{X}(t) =$ **by** Define $\mathbf{X}(x) =$
Page 239 Line -5. Replace certain constants C_1 and C_2
by a certain constant C_1
Page 239 Line -2. Replace $C_2(t-s)^\gamma$ **by** $C_1(t-s)^\gamma$
Page 240 Line 11. Replace by q factor **by** by a factor
Page 247 Line -9. Replace $k^2/2^{k-1}$ **by** $\dfrac{k^2}{2^{k-1}}$
Page 248 Line 13. After each jump **add** and their limit points
Page 251 Line -4. Replace $\mathbf{X}'(t) = X(t+p) - X(p)$
by $\mathbf{X}'(t) = \mathbf{X}(t+p) - \mathbf{X}(p)$
Page 254 Line 7. Replace *Brow- nian* **by** *Brown- ian*
Page 259 Line 14. Replace $p_e = r_e^{\beta'(q)}$ **by** $p_e = r_e^{-\beta'(q)}$
Page 264 Line -9. Replace $\big(2\big((1/4)^s + (1/8)^s\big)\big)^k$ **by** $\big((1/4)^s + (1/8)^s\big)^k$
Page 264 Line -7. Replace 0.8232 **by** 0.4057
Page 264 Line -6. Replace 0.5652 **by** 0.7549 **and** $1/2$ **by** 1
Page 264 Line -5. Replace display by

$$\lambda = \frac{\sqrt[3]{100 + 12\sqrt{69}}}{6} + \frac{\sqrt[3]{100 - 12\sqrt{69}}}{6} - \frac{1}{3}$$

Page 265 Line 6. Replace paragraph by *(5.4.12)* The number of descendents eventually reaches zero (so that $K = \varnothing$) when $\Phi(0) = 1$ except in a "deterministic" situation where there is exactly one descendent with probability 1. The number of descendents after n steps is a nonnegative martingale, so it converges; then argue that the limit must be 0 almost surely.
Page 283. Before Haase **add** grook, 193

and before Henstock **add** Hein, Piet, 193
Page 284. Replace multifractal decomposition, 25
by multifractal decomposition, 257