

Corrections for TPE2, Second Printing

1. page 25, 1st line of table, change $e^{-x/a}$ to $e^{-x/b}$
2. page 88, display (1.11), change the exponent of q from $n - 1$ to $n - t$.
3. page 98, line 12 ↓, change “Example 1.6.27” to “Example 1.6.24”
4. page 127, Theorem 6.6 (ii), change the display

$$\left| \frac{p_{\theta + \Delta \epsilon_i}(x) - p_{\theta}(x)}{\Delta} \right| \leq b_{\theta}^{(i)}(x) \text{ for all } \Delta,$$

to

$$\left| \frac{p_{\theta + \Delta \epsilon_i}(x) - p_{\theta}(x)}{\Delta p_{\theta}(x)} \right| \leq b_{\theta}^{(i)}(x) \text{ for all } \Delta,$$

5. page 169, Example 3.2. Replace
“where $Z = X/|X|$ is ± 1 as X is \geq or ≤ 0 , so that

$$\delta(X) = \begin{cases} AX^r & \text{if } X > 0 \\ BX^r & \text{if } X < 0, \end{cases} \text{ ”}$$

with

“where $Z = X/|X|$ is ± 1 as X is $>$ or < 0 , so that

$$\delta(X) = \begin{cases} AX^r & \text{if } X > 0 \\ -BX^r & \text{if } X < 0, \end{cases} \text{ ”}$$

6. page 215, Exercise 3.40. Replace part (c) with
For $\theta = \mu \pm i\sigma$, where $i = \sqrt{-1}$, show that the problem is invariant under the transformation $x \rightarrow \frac{ax+b}{cx+d}$ and $\theta \rightarrow \frac{a\theta+b}{c\theta+d}$, where $ad - bc \neq 0$.
7. page 229, Example 1.3. Replace the first display

$$\pi(\theta|\bar{x}) = \text{Gamma}\left(a + \bar{x}, \frac{b}{1 + b}\right)$$

with

$$\pi(\theta|\bar{x}) = \text{Gamma}\left(a + n\bar{x}, \frac{b}{1 + nb}\right)$$

and the second display

$$\delta^k(\bar{x}) = \frac{E(\theta^{1-k}|\bar{x})}{E(\theta^{-k}|\bar{x})} = \frac{b}{1 + b}(\bar{x} + a - k)$$

with

$$\delta^k(\bar{x}) = \frac{E(\theta^{1-k}|\bar{x})}{E(\theta^{-k}|\bar{x})} = \frac{b}{1+nb}(n\bar{x} + a - k)$$

8. page 233, line 16 ↓, change “Example 1.3” to “Example 1.5”
9. page 234, line 8 ↓, change “Corollary 2.7.19” to “Corollary 1.7.19”
10. page 235, display (2.6), change

$$\int v(\theta)d\Lambda(\theta) d\theta = 0$$

to

$$\int v(\theta)d\Lambda(\theta) = 0$$

11. page 236, line 4 ↓ in Example 2.5, change (1.5.44) to (1.5.43)
12. page 236, display (2.7), change second line of display from

$$E\left(\frac{1}{\tau}\right) = \frac{\alpha}{g-1}, \quad E\left(\frac{1}{\tau^2}\right) = \frac{\alpha^2}{(g-1)(g-2)}$$

to

$$E\left(\frac{1}{\tau}\right) = \frac{\alpha}{g-1}, \quad g > 1, \quad E\left(\frac{1}{\tau^2}\right) = \frac{\alpha^2}{(g-1)(g-2)}, \quad g > 2,$$

13. page 236, line 10 ↓ in Example 2.5, change $(\alpha + y)/(r + g - 1)$ to $(\alpha + y)/(r + g - 1)$, $r + g > 1$
14. page 236, change display (2.8) from

$$\frac{\alpha + Y}{n + 2g - 2}$$

to

$$\frac{\alpha + Y}{n + 2g - 2}, \quad n + 2g > 2$$

15. page 238, display (2.17), change

$$\frac{\binom{n}{x} p^{x-1} (1-p)^{n-x-1}}{\int_0^1 \binom{n}{x} p^{x-1} (1-p)^{n-x-1}} = \frac{\Gamma(n)}{\Gamma(x)\Gamma(n-x)} p^{x-1} (1-p)^{n-x-1}$$

to

$$\frac{\binom{n}{x} p^{x-1} (1-p)^{n-x-1}}{\int_0^1 \binom{n}{x} p^{x-1} (1-p)^{n-x-1} dp} = \frac{\Gamma(n)}{\Gamma(x)\Gamma(n-x)} p^{x-1} (1-p)^{n-x-1}$$

16. page 242, 5th line of display (3.10), change

$$-\frac{\frac{\partial}{\partial x_j} h(\mathbf{x})}{h(\mathbf{x})} \frac{1}{m(\mathbf{x})} \int e^{\Sigma \eta_i T_i - A(\boldsymbol{\eta})} h(\mathbf{x}) \pi(\boldsymbol{\eta}) d\boldsymbol{\eta}$$

to

$$-\frac{\frac{\partial}{\partial x_j} h(\mathbf{x})}{h(\mathbf{x})} \frac{1}{m(\mathbf{x})} \int e^{\Sigma \eta_i T_i - A(\boldsymbol{\eta})} h(\mathbf{x}) \pi(\boldsymbol{\eta}) d\boldsymbol{\eta}$$

17. page 243, line 15 ↓ (display in middle of page), change

$$E_\eta \left[-\frac{\partial}{\partial X_i} \log h(\mathbf{X}) \right] = \int \left[\frac{\partial}{\partial x_i} \log h(\mathbf{x}) \right] p_\eta(\mathbf{x}) d\mathbf{x} = \eta_i.$$

to

$$E_\eta \left[-\frac{\partial}{\partial X_i} \log h(\mathbf{X}) \right] = \int \left[-\frac{\partial}{\partial x_i} \log h(\mathbf{x}) \right] p_\eta(\mathbf{x}) d\mathbf{x} = \eta_i.$$

18. page 268, line 9 ↓, change $\pi(\gamma|\mathbf{x}) \approx m(\mathbf{x}|\gamma)$ to $\pi(\gamma|\mathbf{x}) \propto m(\mathbf{x}|\gamma)$
 19. page 268, line 12 ↓, change “Equation (5.4.2)” to “Equation (6.17)”.
 20. page 269, display (6.25), change

$$E(\lambda_i|\mathbf{x}) = \int E(\lambda_i|x_i, b) \pi(b|\mathbf{x}) db$$

to

$$E(\lambda_i|\mathbf{x}) = \int E(\lambda_i|\mathbf{x}, b) \pi(b|\mathbf{x}) db$$

21. page 270, Example 6.7, change “(5.5.8)” to “(5.8)” (2 times) and “(5.6.5)” to “(6.5)”.
 22. page 295, Exercise 6.9, line 2 ↑, replace

$$f^{*n}(x) = \int f^{*(n-1)}(x)(x-y)f(y)dy$$

with

$$f^{*n}(x) = \int f^{*(n-1)}(x-y)f(y)dy$$

23. page 296, Problem 6.11, change “(5.5.8)” to “(4.5.8)”
 24. page 296, Problem 6.13, change “(5.5.7)” to “(4.5.7)” and “(5.5.8)” to “(4.5.8)”
 25. page 297, Problem 6.16, change “(5.6.32)” to “(4.6.32)” (three times) and “(5.6.5)” to “(4.6.5)” (two times) and “(5.5.8)” to “(4.5.8)” (three times)

26. page 311, line 11 ↓, change “then δ_Λ is minimax if and only if” to “then δ_Λ is minimax if”
27. page 355, line 13 ↓ (after display (5.2)), change “(5.17)” to “(4.17)”
28. page 355, line 15 ↓ (after display (5.3)), change “Theorem 4.7.2” to “Corollary 4.7.2”
29. page 437, line 17 ↓, change $w^2 \leq v^2$ to $w^2 \geq v^2$
30. page 549, line 3 ↓, change “TPE2” to “TSH2”
31. page 578, line 8 ↓, change “Em” to “EM”