Corrections for TSH3

Typos and corrections after 2nd printing, beginning August 2006, updated March 2008

viii, add thanks to Nicholas Johnson and Michelle Quinlan.
p.70, line -14, the 2nd lower case x should be X. Also, line -12, "finished" should be "furnished".
p.100 Problem 3.39(i) should be clarified to read: If $T = T(X)$ has probability density p_i' when the distribution of X is P_i, then...
p.137 line -3, x_{k_i} should be $x_{k,1}$.
p.139 In Problem 4.2, just before"for all", add $\leq \alpha$. Then, change the three $\hat{\alpha}$s to $\hat{p}$ defined in (3.11).
p.167 In Figure 5.1, $C_2(\theta)$ should be $C_1^{-1}(x)$ and $C_1(\theta)$ should be $C_2^{-1}(x)$. Change sentence prior as well. Or alternatively change the axes on the figures.
p.219 bottom left, integrals in numerator and denominator should have $-\infty$ for lower limit.
p.261 Problem 6.19, expression (5.87) should be (5.85).
p.353 Lines -13 and -14. Change X_j to $T_{n,j}$ in 3 places. (Still holds as stated, except for the statement about comparison with Holm.)
p.447. In denominator of (11.42), the p should be ρ.
p.459. Line -6, The $o(n^{-k/2})$ should be $o(n^{k,2})$. Same for p.460, Line 14.
p.498. At the end of Examples 12.3.5 and 12.3.6, it may be worthwhile to point out Q_n and P_n are mutually contiguous under the same conditions used to show Q_n is contiguous to P_n.
p.500. Line 16, change $\bar{T}$ to $(\bar{T}, \bar{Z})$.
p.501. Line 3, likelihood should be loglikelihood, and same in expression (12.49).
p.509. Line -11, t-distribition should be t-distribution.
p.518 Problem 12.6(ii). Change dx in integral to $dP(x)$.
p.520 In Problem 12.23. After $P\{W = 0\} = 0$, add "show P_n is contiguous to Q_n."
p.535, part (iii) of the theorem. The sequence n_k should also satisfy $E_{\theta_k}(\phi_{n_k}) \rightarrow \beta$.
p.541. In (13.40), the h subscript on the LHS should be h_n.
p.567 line 4, contradiction.
p.606 line 11, right side denominator is missing right parenthesis.
p.655 last paragraph of Section 15.4.2, 4th line sentence beginning In fact, should be removed.
p.770 The entry "conjuage" should be "conjugate".

Updated May, 2006

A few more typos for 2nd printing. Pages affected 319, 320, 321, 323, 660. Specifically,
p.319, line -9, (8.2) should be (8.1)
p.320 line 10, (8.2) should be (8.1)
p.321, line 5, simply should be simple
p.323, line 3, $0'$ should be θ'

p.660, line -3, Insert the word Lemma before 11.2.1

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Pages affected for 2nd printing: viii, 92, 96, 99, 100, 178, 203, 206, 219, 234, 236, 320, 323, 326, 332, 356, 364, 367, 369, 370, 430, 450, 463, 472, 476, 489, 492, 497, 500, 508, 509, 515, 516, 517, 520, 546, 551, 553, 555, 558, 559, 571, 573, 576, 578, 584, 618, 623, 697, 706, 748, 764, 782.

- p.92 line 14. No right bracket after 3.9.2.
- p.96 Problem 3.19. The μ should be a ξ.
- p.99–100. There should be some space between Problem 3.33 and the subsequent *Note*.
- p.178 In equation (5.52), the N_j should be N_i.
- p.203 line -13. The $\sum |Z_i'|$ should be $|\sum Z_i'|$.
- p. 206, 3rd line of Prob 5.59. $r \leq 1$ should be $r \geq 1$.
- p.219 line -7, 0 should be θ.
- p.234 Theorem 6.7.1, next to last line, the subscript O should be a zero.
- p.236 The second half of Theorem 6.7.2 should be in italics.
- p.320 line 10. (8.2) should be (8.1).
- p.323 line 22, missing [on left side of equation
- p.326 Second line of Theorem 8.3.1, need a (before the 1.
- p.332 line 8, the $i - \infty$ should be $i \to \infty$.
- p. 356, 3 lines above Lemma 9.2.2. Delete the $*$ in the superscript of $T^*_{\pi(j)}$.
- p.364 line -14. The $X_{(s)}$ should be $\bar{X}_{(s)}$.
- p.364 line -5. Change $\hat{p}_{1,6}$ by $\min_{i,j} \hat{p}_{i,j}$.
- p.367 line 11, Change accepts to rejects
- p.369 last line, remove the ■
- p.370 line 12. Line 7, Change "To show that $\alpha' \leq \alpha$, we need only show" to "It suffices to show "'Change (9.52) to (9.51).
- p.430 Lemma 11.2.1(ii) uses convergence in probability, which is defined on the next page. Sorry.
- p.450 line -15. Change $l - \beta^2$ to $1 - \beta^2$.

- p. 463 line 2. Change -1.1 to -1,1.
- p.472, Problem 11.29. Change "then (11.90) holds" to: then $E[|X_n|] \to 0$.
- p.476 line -5. Change μ_U to μ_Y.
- p. 489, line -8. Change $= 1$ to ≤ 2.
- p. 497 and p. 520. Replace the last sentence of the proof of Corollary 12.3.1 by: That P_n is contiguous to Q_n follows by Problem 12.23. Then, the last sentence of Problem 12.23 on page 520 should read: Also, under (12.41), deduce that P_n is contiguous to Q_n and hence P_n and Q_n are mutually contiguous if and only if $\mu = -\sigma^2/2$.
- p. 500, L5. RHS of equation: F_n should be F; 2nd line of proof of Corollary 12.3.2, T_n should be $(T_n, \log(L_n))$.
- p.508 line 7. Add) after $\log(L_{n,h})$.
- p.508, 3rd line of Corollary 12.4.1. Change $I(\theta)$ to $I(\theta_0)$ and just delete the rest of that sentence.
- p.509 (12.68) needs a $\lim_n$ out in front.
- p.516 line 15. The two hs should be $\hat{h}_n$s.
- p.516, lines -5, -7, -13. Need right) in $\log(L_{n,\hat{h}_n})$.
- p. 517 The right side of (12.87) is missing a factor n.
- p.546, line 10. ϕ_n should be $\tilde{\phi}_n$.
- p.551, line 15. Z_n should be Z.
- p. 553. lines -6 and -7. $I_{1,1}^{-1}(\theta_0)$ should be $\{I^{-1}(\theta_0)_{1,1}\}^{-1/2}$.
- p.558 In (13.75) the lower case p should be P in the subscript to the $o(1)$ term.
- p. 559 line 9. RHS need square root in denominator: $(S_Y^2 + \frac{n}{m} S_X^2)^{1/2}$.
- p. 571 line -6. The bound (13.100) should refer to (13.101). Also, (13.101) applies only for tests ϕ_n that are asymptotically pointwise consistent in level.
- p. 573 line -7. The RHS should have a variance 1 after the expression for the mean and before).
- p. 578. Add period after Problem 13.32.
- p. 584. line -6. Change F to F_0 in both entries on that line.
- p. 618, line 7. At the end of the expression, add α.

- p. 623, Problem 14.4. Last sentence should begin: In the case that F_n is continuous for every n, show that ...
- p. 697. 3rd line of Example A.3.1. Change $|f|$ to $|f|^p$.
- p. 706, line 14, forceful should be powerful.
- p. 748 Shaffer (1990) should be (1980).
- p.764 entry for Siegmund should replace period by comma.
- p. 782 Under strongly unimodal, add pages 546, 547.

- Acknowledgements
- p.492, Remark 12.2.2. Needs modification since further assumptions required; see Problem 13.12.
- p. 515–516. A condition is missing in the proof of Theorem 12.4.2 to ensure $\epsilon_{n,c} \to 0$ in probability under θ_0. Add the following condition (and delete the equation number (12.84) so the other numbers remain the same, except for (12.85)): assume, for θ in a neighborhood of θ_0 and a (measurable) function $M(x)$ satisfying $E_{\theta_0}[M(X_i)] < \infty$,

  $$|\log p_\theta(x) - \log p_{\theta_0}(x) - (\theta - \theta_0)\tilde{\eta}_{\theta_0}(x)| \le M(x)|\theta - \theta_0|^2 \ .$$

  This nwe condition will be given the number (12.84). This condition implies $\epsilon_{n,c} \to 0$ in probability under θ_0 (add as a part of Problem 13.12). This added condition is classical but can be weakened.
- p.555. LAUMP and AUMP really have not been defined yet for nuisance parameters. Perhaps add a sentence after (13.68) to say that attainment of the bound uniformly for h in a compact set is LAUMP and uniformly for all h is AUMP.
- p.576 Problem 13.12. Delete middle part.