Errata in the First Printing of Ghosal and van der Vaart (2017)

- p. 11, Lemma 2.2: the independence of $\beta_1, \beta_2, \ldots$ is not necessary for the result and the proof can be simplified. Replace the first two lines of the lemma by: "If $\sum_{j=1}^\infty \|\psi_j\|_\infty \mathrm{E}|\beta_j| < \infty$, then the series (2.1) converges uniformly, in mean and almost surely." In the proof replace "pointwise convergence" in line 3 by "uniform convergence", and remove the sentence "That the series converges almost ... if and only if it converges in mean".

- p. 21, Lemma 2.8 (i): replace $\|f-g\|_{2,G}$ by $\|f-g\|_{r,G}$.

- p. 24, Exercise 2.4: replace $\|f-g\|_\infty$ by $\|f-g\|_\infty^2$ in the upper bound on $K+V_{2,0}$; add a factor a to the upper bound on $|\Psi(f)^a - \Psi(g)^a|$ (if $a=2$).

- p. 106, Algorithm 3: in th numerator on the right side, restrict the product to $j \neq i\colon s_j = s$ (as in the denominator).

- p. 116: replace the last sentence and the displays following it by: "In the second case it is convenient to index by a pair of integers (j_1, j_2), and write the updating formulas as $q_{ij_1:ij_2} = q_{i,j_1}^{(1)} q_{i,j_2}^{(2)}$, where

$$q_{ij_1}^{(1)} \propto \begin{cases} \theta_{1j_1}^{-1} \mathbb{1}\{X_i > -\theta_{1j_1}\}, & j_1 \neq 0, \\ M_1 \int_{X_i^-}^\infty (\theta_1 + \theta_{2i})^{-1}\, dG_1(\theta_1), & j_1 = 0, \end{cases}$$
$$q_{ij_2}^{(2)} \propto \begin{cases} \theta_{2j_2}^{-1} \mathbb{1}\{X_i < \theta_{2j_2}\}, & j_2 \neq 0, \\ M_2 \int_{X_i^+}^\infty (\theta_{1i} + \theta_2)^{-1}\, dG_2(\theta_2), & j_2 = 0, \end{cases}$$

and

$$dG_{1b}(\theta_1|\, X_i) \;\propto\; \int_{\theta_2 \in (X_i^+, \infty)} (\theta_2 + \theta_1)^{-1}\, dG_2(\theta_2)\, dG_1(\theta_1),$$
$$dG_{2b}(\theta_2|\, X_i) \;\propto\; \int_{\theta_1 \in (X_i^-, \infty)} (\theta_2 + \theta_1)^{-1}\, dG_1(\theta_1)\, dG_2(\theta_2)."$$

- p. 199, equation (8.8): restrict this to $k=2$ and replace $\sqrt{2k!}$ by $1/2$.

- p. 234, proof of Theorem 9.1: in the third paragraph, add the restriction $\theta^T 1 = 0$ to the definition of $\Theta(J,\epsilon)$; this set should be $\{\theta \in [-M,M]^J\colon \|\theta - \theta_0\|_2 \leq \sqrt{J}\epsilon, \theta^T 1 = 0\}$.

- p. 234, last line: replace $n^{-a(2\alpha+1)}$ by $n^{-\alpha/(2\alpha+1)}$.
- p. 251: in the proof of Lemma 9.16, replace the power $(v+1-d)/2$ by $(v-1-d)/2$ [Cf. page 106 of Muirhead's book].
- p. 252, first line of the first display: replace the domain I_1 of the first integral byI_d.
- p. 252: remove v in front of the trace inside the exponential term of the second display.
- p. 291, Theorem 10.21: in the last line add the conditioning $\mid X^{(n)}$ to Π_n, which should be the posterior distribution.
- p. 297, line 11: replace "(A2)" by "(A3)".
- p. 334, line after second display: in the case that $r < 2$, replace the posterior contraction rate $n^{-1/2}(\log n)^{1/r \vee (1/2+d/4)}$ by $e^{-c(4\log n)^{r/2}}$, where $c < \gamma$; restrict the subsequent discussion to the case $r > 2$.
- p. 363, second display: replace $\hat{\theta}_n$ by θ_0.
- p. 365: replace the last paragraph of the proof of Theorem 12.2 by "Since $\sqrt{n}V_n \to 0$ in probability, and $f \mapsto Qf$ is a well defined element of $\mathfrak{L}_\infty(\mathcal{F})$ and $\mathbb{B}_n$ converges to a limit in this space, the process $\sqrt{n}V_n(Q - \mathbb{B}_n)$ tends to zero in probability in $\mathfrak{L}_\infty(\mathcal{F})$. By Slutsky's lemma the sum $\sqrt{n}V_n(Q - \mathbb{B}_n) + \sqrt{n}(\mathbb{B}_n - \mathbb{P}_n)$ has the same limit as the second term."
- p. 366: in the second line of Theorem 12.5, remove n from $DP(\alpha + n\sum_{i=1}^n \delta_{X_i})$.
- p. 367: in Theorem 12.6 do the same.
- p. 370, formula (12.5): decrease the size of the second bracket "(" in the normal distribution.
- p. 394, Theorem 13.1: in third line replace "prior" by "process".
- p. 395, line 2: replace $< \cdot <$ by $< \cdots <$.
- p. 396, Theorem 13.2, item (ii): replace *var* by var.
- p. 459, Proposition 14.23: restrict the second formula for $B_{n,k}$ to $\sigma \neq 0$ (or interpret it "by continuity" at $\sigma = 0$). A preciser name for these numbers is *generalized Stirling numbers of parameters* $(-1, -\sigma)$.

- p. 535, in the line below the second display replac:e "$L_2(\mu)$" by "$L_2(\nu)$".
- p. 540: in the line below the second display, replace "Lemma B.8 (iv)" by "Lemma B.8 (iii)".
- p. 552: in the third last line of the proof of Lemma E.5 replace "$|\eta_2^T B|$" by "$|\eta_2^T B^*|$".
- p. 590, Lemma I.31, line 3: replace $w_i in \mathbb{B}$ by $w_i \in \mathbb{B}$.