"Vector Generalized Linear and Additive Models: With an Implementation in R," by T. W. Yee (2015)

ERRATA

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Corrections

In the following, the page numbers refer to the hard copy.

1. Page 6: "The VGAM family `uninormal()` implements (1.3)–(1.4)," should be "The VGAM family `uninormal(zero = NULL)` implements (1.3)–(1.4),".

2. Page 6, Eqn.(1.27):

$$\beta_{(j)k} \;=\; \log \frac{\Pr(Y = j | x_1, \ldots, x_{k-1}, x_k + 1, x_{k+1}, \ldots, x_p)}{\Pr(Y = j | x_1, \ldots, x_{k-1}, x_k, x_{k+1}, \ldots, x_p)}$$

   is wrong. It should be

$$\beta_{(j)k} \;=\; \log \frac{\Pr(Y = j | x_1, \ldots, x_{k-1}, x_k + 1, x_{k+1}, \ldots, x_p)}{\Pr(Y = j | x_1, \ldots, x_{k-1}, x_k, x_{k+1}, \ldots, x_p)} \;-$$
$$\log \frac{\Pr(Y = M + 1 | x_1, \ldots, x_{k-1}, x_k + 1, x_{k+1}, \ldots, x_p)}{\Pr(Y = M + 1 | x_1, \ldots, x_{k-1}, x_k, x_{k+1}, \ldots, x_p)}.$$

3. Page 27, Section 1.5.2.5: "…because males just born …" should be "…because females just born …".

4. Page 30: Package `zelig` should be `Zelig`.

5. Page 41: Delete "$= \partial \ell / \partial \boldsymbol{\beta}$ from equation (2.21).

6. Page 52 (Fig. 2.4 caption): `mcycles` should be `mcycle`. Similarly for p. 87 (Ex. 2.17) and p. 586 (index).

7. Page 65 (Eqn. 2.57): the subscript q should be Q:

$$f(x) \;=\; \sum_{s=1}^{K+Q-1} \beta_s \, B_{s,Q}(x),$$

8. Page 113–4, Example 2, which includes Figure 3.1: We really want to fit the model

$$\Pr(Y = j) \;=\; \frac{\exp[\beta_{(j)1} + f_{(1)2}^*(x_{i2j}) + \beta_{(1)3}^* x_{i3j} + \beta_{(1)4}^* x_{i4}]}{\sum_{k=1}^{4} \exp(\eta_k)}$$

   for some smooth function $f_{(1)2}^*$ and for $j = 1, 2, 3, 4 = M + 1$. That is, we allow the effect of x_2 to be nonlinear. The reason for this is greater interpretability. But what is actually fitted is $h_{(1)2}^*(x_{i2j} - x_{i24})$ for some function h^*; this is less interpretable. See the complements for the correction.

9. Page 169, the line just prior to Section 5.2.1: "so that $\mathbf{H}_2 = \mathbf{I}_M$" should be "so that $\mathbf{H}_2 = \mathbf{1}_M$".

10. Page 177, Section 5.5.2.2: first paragraph: "... or COZIGAMs, and there *was* an R package by the same name". Evidently COZIGAM was removed from CRAN in mid-2012.

11. Page 257, midway: One of the terms for `Fit3` is `sm.poly(sm.scale(x4), 2, raw = TRUE)`.

12. Page 328, Figure 11.3: $1.92 \approx 3.84/2 \approx \frac{1}{2}\chi_1^2(0.05)$ should be used to obtain the LRT 95% confidence interval. Evidently, $3.84 \approx \chi_1^2(0.05)$ had been used. See the corrected figure.

13. Page 315, Exercise 10.10: `binom2.or(exchangeable = TRUE, zero = NULL)` is correct, rather than `binom2.or(exchangeable = TRUE, ZERO = NULL)`.

14. Page 327: Package COUNTS should be COUNT.

15. Page 346, Equation (12.4) can be better written

$$\frac{1}{\theta_2}\, f\!\left(\frac{y - \theta_1}{\theta_2}\right),$$

16. Page 382: The PDF for `bistudentt()` was wrong. It should be

$$f(\boldsymbol{y}) = \frac{1}{2\pi\sqrt{1 - \rho^2}}\left[1 + \frac{y_1^2 + y_2^2 - 2\rho y_1 y_2}{\nu(1 - \rho^2)}\right]^{-(\nu+2)/2}.$$

17. Page 386, equation (14.5):

$$-E\left(\frac{\partial^2 \ell_i}{\partial p_{ij}}\right) \quad \text{should be} \quad -E\left(\frac{\partial^2 \ell_i}{\partial p_{ij}^2}\right).$$

18. Table 14.1, Page 388: $\Pr(Y \leq j)$ has `propodds(reverse = FALSE)` and not `propodds(reverse = TRUE)`.

19. Repeatedly throughout the text: "an RR-VGLM" should be "a RR-VGLM".

20. Section 14.4.2, Page 401 bottom: the code chunk ends with

```
matplot(with(pneumo, let), predict(np.npom.pneumo, untransform = TRUE),
        type = "b", col = 1:3,
        ylab = "Pr(Y>=j),   j = 2, 3", pch = c("2", "3"),
        xlab = "Log exposure time", main = "(c)")
```

That is, arguments `ylab` and `pch` have been changed.

21. Table 17.1, Page 473: the $\mathrm{Var}(Y)$ column is inconsistent because some entries use $Y = $ number of successes whereas others use the proportion of successes. For example, if $\phi = 0$ then ZIB uses the number of successes because $\mathrm{Var}(Y) = np(1 - p)$ whereas ZAB uses proportions because $\mathrm{Var}(Y) = \mathcal{A}^{-1}\left\{\dfrac{p(1 - p)}{n} - \dfrac{p^2(1 - p)^n}{\mathcal{A}}\right\}$ where $\mathcal{A} = 1 - (1 - p)^n$. The remedy is easy since $\mathrm{Var}(Y/n) = \mathrm{Var}(Y)/n^2$.

22. Table 18.5, Page 508: `interleave.VGAM(L, M)` is now `interleave.VGAM(.M, M1)`. The code in the book will work unchanged because the change in argument names is a compromise solution.

23. Page 547, last displayed equation:

$$(\widehat{\theta} - \theta_0) \, \boldsymbol{\mathcal{I}}_O(\theta_0) \, (\widehat{\theta} - \theta_0) \;=\; U(\theta_0) \, \boldsymbol{\mathcal{I}}_O(\theta_0) \, U(\theta_0)$$

should be

$$(\widehat{\theta} - \theta_0) \, \boldsymbol{\mathcal{I}}_O(\theta_0) \, (\widehat{\theta} - \theta_0) \;=\; U(\theta_0) \, \boldsymbol{\mathcal{I}}_O(\theta_0)^{-1} \, U(\theta_0)$$

24. Page 555, Eqn.(A.50): the sign before the summation is "$-$" rather than "$+$", i.e.,

$$\psi(x) \;=\; \log x - \frac{1}{2\,x} - \sum_{k=1}^{\infty} \frac{B_{2k}}{2\,k\,x^{2k}} \;=\; \log x - \frac{1}{2\,x} - \frac{1}{12\,x^2} + \cdots .$$

25. (ebook version) "Erratum" should be "Errata" in the inserted page of errors.

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