Errors in *Practical Applied Mathematics.*

Many of the numbers in the **references** to the bibliography are wrong, because the typesetters (woe unto them) hard-wired some added references. You may need to add either 1 or 2 to the number in square brackets in the text.

Page 10: in the second line of the second paragraph of exercise 10, $\exp^{i\omega t}$ should be $\mathrm{e}^{\mathrm{i}\omega t}$: a two-in one typesetting gremlin.

Page 24: Exercise 6, near the end, should say $c^2 = (\varepsilon_0\mu_0)^{-1}$.

Page 25: in Exercise 9, 1 BTU is 252 calories.

Page 26: Exercise 13 lines 1–2 should read 'calculate the total (that is, integrated in time from 0 to t) heat flux per unit area into the boundary ...'

Page 47: Exercise 10 line 8, the formula should start with $\mathrm{e}^{\mathrm{i}\omega t}$.

Page 48: In footnote 14, line 1, $(8\mathrm{Re})^{-1}$ should be $8\mathrm{Re}^{-1}$.

Page 52: in the second displayed equation, replace

$$\frac{\mathrm{d}\theta}{\mathrm{d}s} \quad \text{with} \quad \frac{\mathrm{d}^2\theta}{\mathrm{d}s^2}.$$

And in the displayed equation before the end of Section 4.1, replace θ with y.

Page 59: In the first displayed equation of exercise 2, the second term should be $\rho g A s\cos\theta$. In the second displayed equation of this exercise, replace

$$\sqrt{\frac{\rho g}{b}} \quad \text{with} \quad \left(\frac{\rho g A}{b}\right)^{1/3}.$$

Page 57 (not one of my better days): in the second displayed equation, the last term should be

$$\frac{\mathrm{d}p}{\mathrm{d}s} \quad \text{not} \quad \frac{\mathrm{d}\theta}{\mathrm{d}s}.$$

Also F_y should be F_y^e in the third displayed equation and in the displayed equation next to the marginal paragraph.

Page 78: The formula for the normal velocity in line 1 should read $(1 + h_x^2)^{-\frac{1}{2}} h_t$.

Page 180: Exercise 1, second paragraph should start: 'Repeat for the real roots of $\epsilon x \tan x = 1$ (consider separately the cases $x = O(1)$, $x = O(1/\epsilon)$ and $x \gg O(1/\epsilon)$), ...'

Page 180: Exercise 2. Delete all after the second sentence (ending in "$0 < \epsilon \ll 1$") and replace with: "There are two roots, one near $x = 0$ and one near $x = 1$; we are looking for the former. Take logarithms of the original equation, a key manipulative step which replaces multiplication with addition, and so makes it easier to compare the relative sizes of the terms. It gives

$$\log x + \log(-\log x) = \log \epsilon.$$

This suggest writing $X = -\log x$ so X is large and positive, and the equation is $-X + \log X = \log \epsilon$; the first term on the left is clearly larger than the second. However, it is not obvious what gauge functions we should use, so we find them by iteration. Write

$$X(\epsilon) \sim X_0(\epsilon) + X_1(\epsilon) + \cdots ,$$

where all we know at the moment is that $X_0 \gg X_1 \gg \cdots$. Show that $X_0 = -\log \epsilon$, $X_1 = \log(-\log \epsilon)$, and find the next term in the expansion."

Page 224: In the third displayed equation, $F*$ should be F^*. In the last displayed equation, s should be ξ.

Page 185: The right-hand side of the first part of the second displayed equation should read $2\omega^2 r_1$; the equation $\ddot{r}_1 + \omega^2 r_1 = 0$ is correct.

Page 242: In the definition of $\mathbf{n}$, the numerator has a comma missing: it should read $(-h'(x), \pm 1)$.

Page 243: in the second marginal paragraph,

$$+\,\epsilon^2 \frac{\partial T_1}{\partial Y} \qquad \text{should be} \qquad \pm\,\epsilon^2 \frac{\partial T_1}{\partial Y}.$$