FURTHER CORRECTIONS TO THE PLEASURES OF COUNTING

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Richard Hardwick points out that on page X, email and http have changed from pmms to dpmms. (TWK says, whoops! this should certainly have been corrected in the reprint, but was not.)

He also points out that on page 270 the formula $at^2 + bt + c = a(t + b/a)^2 + c - b^2/4a^2$. should read

$$at^2 + bt + c = a\left(t + \frac{b}{2a}\right)^2 + c - \frac{b^2}{4a^2}.$$

Hans Schneebeli points out that the last sentence of Exercise 8.2.3 (i) on page 170 is completely wrong and must be replaced by:

Show that if $g'(x) > 0$ for $|x| \leq a$, then $g(-a) < g(a)$ and that if $g'(x) < 0$ for $|x| \leq a$, then $g(a) < g(-a)$.

Bruce Atwood gently points out to me that even when I wrote Section 17.4 WHO was already starting a campaign to eradicate polio. There should certainly be a note of this perhaps on page 446.

Page 53 Tom Oldfield notes that I should replace $\theta_1 - \theta_2$ (which is negative) by $\theta_2 - \theta_1$ (which is positive) where ever it occurs.

Page 58 side note. Anders Mjelde has found a written source in 'Pursuit - The Chase and Sinking of the Bismarck' (1974) Ludovic Kennedy though it suggests human rather than machine error.

Page 59 John Gowers notes that the correction of the first printing was incorrect. In the middle of Exercise 3.41 (iv) he suggests

for $1 \leq i \leq n - 1$ and guess that a_{m+1} will be close to

$$T_{n-1}(a_{m-n+1}, a_{m-n+2}, \ldots, a_m).$$

Page 147 Exercise 7.2.3 last line. Eric Rodriguez

$$x_0' = \gamma_u x_0 + uU'x_0, \ y_0' = y_0 + uV'x_0, \ z_0' = z_0 + uV'x_0.$$

Page 290 Nick Chambers notes that Exercise 11.4.3 should read

$$n! = 1n \times 2(n - 1) \times 3(n - 2) \times \ldots$$

Page 389 Side note to last sentence.

At Hinsley's memorial service the first reading was taken from II Kings 6, verses 8–12.

Michael Basler, my long suffering translator has discovered a long list of corrections.

Page 117 second formula. Remove the π.

Page 124 between second and third formula replace 'complete system' by 'complete set'.

Page 142, line 6. system S' of the observer on the ship

Page 169 Last line before Exercise 8.2.2 should have -2 not -4 to give $\pi = 8\Delta^* - 2$.

Page 184 Exercise 8.3.2 (iv) second line last formula should read $(X_0, Y_0) = (0, 0)$.

Page 190 Replace C. L. von W by C. [F.] von W. (The misprint is Richardson's.) [Perhaps add note referring readers to W. Heisenberg 'On the theory of isotropic turbulence' Proceedings of the Royal Society 195A, 1948–9 pages 402–6 if they wish to trace references.]

Page 195 Formula (9.2) replace $-\beta x$ by $-\beta y$.

Page 227 Line 8 H. Lauwerier [not Lauwrier]

Page 248 Closing brackets missing twice. Should read $(\mathbf{1}56 - 49)$ both times.

Page 248 Insert years after 2000.

Page 258 Germany was formally united in 1871, not 1870.

Page 277 8th line replace 'set $y_j = x_{j-1}$' by 'set $y_j = x_j$'; 9th line replace 'set $y_j = x_j$' by 'set $y_j = y_{j-1}$'

10th line replace 'set $y_n = x_{n-1}$' by 'set $y_n = x_n$';11th line replace 'set $y_n = x_n$' by 'set $y_n = y_{n-1}$'

Page 339 -7th line: for every letter e [not E]

Page 340 Second set of equations one bracket (is raised above the line. It should not be.

Page 341 Last line α should be ω.

Page 342 First line first formula $w_j \neq W_j$.

Page 350 More or less 7th line. Extra) to give

(which is just a rearrangement of the alphabet A, B, . . .).

Page 351 (A clarification rather than a correction.) Add (P)(U) to the cycle form in Exercise 14.1.3.

Page 356 Last paragraph of proof of Lemma 14.2.3. Replace $l = 1$ by $i = 1$ in the union and the sum.

Page 388 The quotation 'Our ciphers were checked ...' is from [49] page 324

Page 447 Replace 'Herr Ulbricht' by 'Comrade Ulbricht'

Page 520 Reference to page 435, Darwin. Chapter XII not XI.

Page 525 Reference [138] should have author H. Lauwerier

Page 520 reference for Page 392. A direct reference is to page 228 'The Monadology and Other Philosophical Writings' G. Leibnitz, English translation by R. Latta, Oxford University Press 1898.

Professor A. Pinkus points out a misprint Page 268, Braess produced his example in 1968 not 1988. Professor Braess maintains a home page `http://homepage.ruhr-uni-bochum.de/Dietrich.Braess` with a list of papers which discuss his remarkable result.

I have carefully lost the e-mail but a group of concerned citizens from the Cambridge Computing Laboratory point out that the sensible strategy in Exercise 4.4.2 (iv) is that the team not only replace the failed double BUT ALSO replace any failed singles (instead of leaving them in place). The maths becomes a lot harder (they did a simulation, but I think a back of the envelope calculation is possible) and double neons then become the cheapest option.

Further corrections (Clive Long)

p 119 Line -4 $\tau_1 = ga/v^2$, $\tau_1 = gh/v^2$.

p 121 Line 7 ρ should be in square brackets

Corections from Terry Gagen

Middle page 284. Two errors cancelling out

'each requiring $N-1$ new games' rather than 'each requiring N new games'

'total number of games required $\leq (n-1) + (n-2)(N-1) \leq (n-1) + (n-1)(N-1) = (n-1)N$'

Exercise 11.4.13

Second formula in part (ii) replace $(n/2)^n$ by $((n+1)/2)^n$

Last line but three replace 'Deduce, in particular, that' 'Deduce our formula'

Final formula replace $2^{(N-1)2^N}$ by 2^{N2^N}

'total number of games required $\leq (n-1) + (n-2)(N-1) \leq (n-1) + (n-1)(N-1) = (n-1)N$'

Correction from Ryan Li

Last line of part (i) of Exercise 8.2.3. Replace 'then $g(-a) < g(a)$ also.' by 'then $g(a) < g(-a)$.'

Corrections from Robert Bruner

p 353 Konheim not Kronheim

p 416 First formula replace rt^r by rt^{r-1}

Correction from Richard Parker

p 114 Second formula $h = Kg^{-1}$

Correction from Tom Craig and Peter-Rene Koch

p 247 Third equation down should read $a_n = a_{n-2} - q_{n-1}a_{n-1}$ and not $a_{n-2} = a_n - q_{n-1}a_{n-1}$

Correction from Mike Pitt

p 407 In Exercise 16.2.12 replace equation (*) with

$$10a_1 + 9a_2 + 8a_3 + \ldots + 3a_8 + 2a_9 + a_{10} \equiv 0 \mod 11$$

Correction from Allan Donsig

p 407 Exercise 17.3.3 (v), end of (A). Replace $\rho = \beta/\gamma$ by $\rho = \gamma/\beta$

Corrections from Peter-Rene Koch

p. 273 Exercise 11.2.5 (ii) should read $M((x+y)/2, (x+y)/2, z) \leq M(x, y, z)$

p. 274 Exercise 11.2.5 (iii) is wrong. z takes values 0 and n only.

p. 361 Exercise 14.2.4 (xi) Last factor in denominator $(2n - 2r - 1)$ instead of $(2n - r)$.

p. 409 First displayed formula $x = a + b + d$.

p. 428 Exercise 2.7.3 (v) The hint about $\tan^{-1}$ is useless. The equation can, non-the-less be solved by first year techniques.

p. 429 Exercise 2.7.3 (ix) First formula requires another P.

$$l(\delta) = kP \left(\frac{1}{4} - \delta^2 \right)$$

p. 440 Exercise 17.2.3 (iv) Third line:- '$S(t)$ must decrease as t increases' (instead of 't decreases@.

p. 440 Exercise 17.2.3(vi) In the last part of this, the minus signs have gone walkabout. We should have

$$S_0 \left(\frac{S_0}{\rho} - 1 \right) = \nu \left(\frac{\nu}{\rho} - 1 \right)$$

and so $J = -2\nu$.

p. 471 Line 10 'if $n < 0$, then set $D = n - 1$'

p. 471 Line 13 and onwards 'If $r \geq m$, then $r - m = n - m(d + 1)$ is is ... Thus ... we have $m > r \geq 0$.'

p. 472 Line 14 $r = a - md = (1 - dR)a + (Sd)b$

p 522 Second line: Marius Kempe points out that the quotation is from *The School for Scandal* and not from *The Rivals*.

Corrections from Daniel Worall

p. 308 Proof of Theorem 12.2.2 In last line but one of first paragraph replace y_r twice by $y_r(n)$

In last 7 lines of the proof '$x_n = a(n) + y(n)$ should be '$x(n) = a(n) + y(n)$' and '$x_n \neq x$' should be '$x(n) \neq x$'

p309 Exercise 12.2.3 x_n, x_1, x_2, x_3, x_4, x_5 should be $x(n)$, $x(1)$, $x(2)$, $x(3)$, $x(4)$, $x(5)$.

p309 Exercise 12.2.4 Replace $x_n = a(n) + y(n)$ three times by $x(n) = a(n) + y(n)$. Replace $x_n \neq x$ by $x(n) \neq x$.

p310 End of Exercise 12.2.4 Replace $x_n \neq x$ by $x(n) \neq x$. Replace $|x - x_n|$ by $|x - x(n)|$.