

Errata for the 2nd edition of  
“The Symmetric Group”

In the list that follows p/l (respectively, p//l) refers to the lth line from the top (respectively, bottom) of page p. Also,  $A \leftarrow B$  means  $A$  is to be replaced by  $B$ .

ix/3: Eition  $\leftarrow$  Edition

12//15: epresentation  $\leftarrow$  representation

12//3:  $X(e) \leftarrow X(\epsilon)$

16//10: add “for all  $w \in W$ ” to the definition of  $W^\perp$

20/7:  $T \leftarrow A$

21/3:  $H \leftarrow \mathcal{H}$

35/1–2: This is only true if the field has characteristic zero or is relatively prime to  $|G|$ .

35//1:  $A \cong B \leftarrow A = B$

36//11–12: Replace the first two sentences by “Now suppose  $\chi = \psi$  so we can take  $A = B$ .”

37/9: orthogonality relations  $\leftarrow$  “orthogonality relations” with respect to the bilinear form  $\langle \cdot, \cdot \rangle'$ .

39/6: 13  $\leftarrow$  15

50/8: The proof given in the exercise is only valid if the field has characteristic zero or is relatively prime to  $|G|$ .

51//4: One does not need to use the fact that  $C_n$  is normal in  $D_n$ .

64/1: linearity by conjugate linearity  $\leftarrow$  conjugate linearity by linearity

64//1: add “or  $\mathbf{0}$ ” at the end of the last sentence

65/3–4: dominance lemma  $\leftarrow$  Dominance Lemma

65/5–6: Replace this sentence by “If  $\lambda = \mu$ , suppose first that two elements in the same row of  $s$  are also in the same column of  $t$ . Then, by part 4 of the Sign Lemma,  $\kappa_t\{\mathbf{s}\} = \mathbf{0}$ . If no such pair of elements exist then, by the same argument which established the Dominance Lemma,  $\{s\} = \pi\{t\}$  for some  $\pi \in C_t$ .”

65/9:  $\{s_i\}$  should be all boldface

65/19: exits  $\leftarrow$  exist

65/10:  $\sum_i \pm c_i \mathbf{e}_t \leftarrow \sum_i d_i \mathbf{e}_t$  where  $d_i = \pm c_i$  or 0

65//2:  $\{s_i\}$  should be all boldface

66//16: The sum should be over  $\lambda \supseteq \mu$

69/10:  $(k, l)\{s\}$  has fewer inversions than  $\{s\} \leftarrow (k, l)s$  has fewer inversions than  $s$

70/13: is is  $\leftarrow$  is

70//11:  $\mathbf{e}_{\pi t} \leftarrow (\text{sgn } \pi) \mathbf{e}_{\pi t}$

73//7:  $[\pi t] \supseteq [t] \leftarrow [\pi t] \triangleright [t]$

77//11:  $\{\mathbf{t}_i\} \leftarrow \{\mathbf{t}^i\}$

79/5: Here and in the rest of this section  $\mathbb{C}[\mathcal{T}_{\lambda\mu}]$  should be  $\mathbb{C}\mathcal{T}_{\lambda\mu}$

81/6: cyclicity  $\leftarrow$  cyclicity of

83//15:  $\mathcal{T}_{\lambda\mu} \leftarrow \mathcal{T}_{\lambda\mu}^0$

84//6–7:  $T_2$  should be boldface in four places

85/7: In “some  $T$  appearing” the  $T$  should be boldface

88/14: One can not use an arbitrary ordering of the tableaux. Instead compute the row word  $\pi_t$ , as defined on page 101, for each tableau  $t$  and then order the tableaux by the lexicographic ordering of their row words.

95//8: “Case 1:  $y = m$ .” should be underlined

97/1: “Subcase 2b:  $u \neq v$ .” should be underlined

97/7:  $r_y \leftarrow c_y$

100/17:  $P \leftarrow P$

105//8: The first line of  $P(\pi)$  should be 1 3 5 6 8

109//3:  $y_{L_j} \leftarrow x_{L_j}$

113//7: maximum  $\leftarrow$  minimum

114: Throughout the example, the 5 and the 6 should be interchanged

114//10: Remove the period.

115/4:  $Rb \leftarrow Bb$

115//1: standard  $\leftarrow$  partial

120//8–14: The notation  $j_a$  should be  $j^a$  everywhere for  $a = c, d$ .

120//5:  $V \cup P \cup W$  and  $V \cup P \cup W \leftarrow V \cup P \cup W$  and  $V \cup Q \cup W$

126//14:  $T_{\leq c_6} \leftarrow T^{\leq c_6}$

126: In lines 1, 5, 6, and 10 from the bottom replace each “standard” by “partial”

128//19:  $T'_{k,l}$  if  $k < 0 \leftarrow T'_{h,l}$  if  $h \leq 0$

129/9: Remove the period after the close parenthesis.

129/17:  $a_{h,j} \leftarrow a_{l,h,j}$

129//3:  $14^3 \leftarrow 14^4$

130//17:  $r' \leftarrow r'_0$

133//10:  $i \geq 2 \leftarrow j \geq 2$

138//16: The sum should only be over  $n$ -vertex subtrees of the infinite binary comb

145//10: Let  $S$  be a se  $\leftarrow$  Let  $S$  be a set

147/14: in of  $T \leftarrow$  of  $T$

150/6:  $T \leftarrow T''$

150/7–9: Thus  $p'$  starts weakly to the east of  $p''$ . By the same arguments as in Lemma 4.3,  $p$  stays to the east of  $p'$ . Since  $p'$  reaches the east end of row  $i' = i$  by assumption, so must  $p \leftarrow$  Thus  $r'$  starts weakly to the east of  $r''$ . By the same arguments as in Lemma 4.2.3,  $r'$  stays to the east of  $r''$ . Since  $r''$  reaches the east end of row  $i' = i''$  by assumption, so must  $r'$

155/11:  $x_1^{\mu_1} x_2^{\mu_2} \cdots x_m^{\mu_m} \leftarrow x_1^{\mu_1} x_2^{\mu_2} \cdots x_l^{\mu_l}$

157/5: the the row  $\leftarrow$  the row

160/8: describes  $\leftarrow$  describe

161//8:  $i, j \leftarrow$  distinct  $i, j$

165//15:  $h_{i-j} \leftarrow h_{j-i}$

176/7:  $s_\mu(\mathbf{x})s_\nu(\mathbf{y})s_\lambda(\mathbf{z}) \leftarrow s_\mu(\mathbf{x})s_\lambda(\mathbf{z})$

180/8: (the number of rows of  $\xi$ )-1  $\leftarrow$  the number of rows of  $\xi$  below the first row

180//7:  $\alpha \setminus \alpha \leftarrow \alpha \setminus \alpha_1$

192/2: *meet*, if  $\leftarrow$  *meet*, if

194 equation (5.4):  $a_1 < a_1 \leftarrow a_1 < a_2$

194–195: In some books these two pages are switched

215/13:  $\mathcal{B}_2 \leftarrow B_2$

215/14: subsets  $\leftarrow$  nonempty subsets  
216/16: These components  $\leftarrow$  The components of the subgraph  $F$   
216//7: that both  $\leftarrow$  that  
217/17:  $v_n, v_1 \in E(T) \leftarrow v_n v_1 \in E(T)$  where  $n \geq 3$ .  
217//15: neighbors  $v \leftarrow$  neighbors of  $v$   
221//4:  $(n - k)I \leftarrow (n - 2k)I$   
227//12: [Scü 76]  $\leftarrow$  [Scü 77]  
227//6: Stn  $\leftarrow$  Sta

Thanks to Simcha Barkai, Seth Chaiken, Akex Chandler, Sam Clearman, Niklas Eriksen, Jonathan Farley, Darij Grinberg, Yuval Khachatryan, Nicholas Mayers, Yves de Montaudouin, Kelvin Souza de Oliveira, Margaret Readdy, and Yaokun Wu, for catching some of these errors.