Additional Errata and Addenda

* p. 74, Exercise 5.8(a). The stated formula for $T(n, k)$ fails for $n = 0$. Also, it makes more sense to define $T(0, 0) = 1$.

* p. 81, Exercise 5.24(d). A solution was found by the Cambridge Combinatorics and Coffee Club (February 2000).

* p. 124, Exercise 5.28. A bijective proof based on Prüfer codes is due to the Cambridge Combinatorics and Coffee Club (December 1999).

* p. 124, Exercise 5.29(b). Update the Pitman reference to *J. Combinatorial Theory* (A) **85** (1999), 165–193. Further results on P_n and related posets are given by D. N. Kozlov, *J. Combinatorial Theory* (A) **88** (1999), 112–122.

* p. 136, last line of Exercise 5.41(j). A solution different from the one above was given by S. C. Locke, *Amer. Math. Monthly* **106** (1999), 168.

* p. 143, Exercise 5.50(c). The paper of Postnikov and Stanley has appeared in *J. Combinatorial Theory* (A) **91** (2000), 544–597.

* p. 144, Exercise 5.5.3. The identity

$$4^n = \sum_{j=0}^{n} 2^{n-j} \binom{n+j}{j} \tag{1}$$

follows immediately from "Banach's match box problem," an account of which appears for instance in W. Feller, *An Introduction to Probability Theory and Its Applications*, vol. 1, second ed., Wiley, New York, 1957 (§5.8). This yields a simple bijective proof of (1).

* p. 151, Exercise 5.62 (b). David Callan observed (private communication) that there is a very simple combinatorial proof. Any matrix of the type being enumerated can be written *uniquely* in the form $P + 2Q$, where P and Q are permutation matrices. Conversely $P + 2Q$ is always of the type being enumerated, whence $f_3(n) = n!^2$.

* p. 212. For further details on the history of Catalan numbers, see P. J. Larcombe and P. D. C. Wilson, *Mathematics Today* **34** (1998), 114–117; P. J. Larcombe, *Mathematics Today* **35** (1999), 25, 89; and P. J. Larcombe, *Math. Spectrum* **32** (1999/2000), 5–7.

* p. 217, Exercise 6.2(a). It needs to be assumed that $F(0) = 0$; otherwise e.g. $F(x) = 1/2$ is a trivial counterexample.

* p. 231, Exercise 6.25 (i). This conjecture has been proved by M. Haiman, A geometric proof of the $n!$ and Macdonald positivity conjectures, preprint available electronically at http://math.ucsd.edu/~mhaiman.

* p. 232, Exercise 6.27(c). Robin Chapman has found an elegant argument that there always exists an integral orthonormal basis.

* p. 250, Exercise 6.4. A complete description of a field of generalized power series that forms an algebraic closure of $\mathbb{F}_p[[x]]$ is given by K. S. Kedlaya, The algebraic closure of the power series field in positive characteristic, *Proc. Amer. Math. Soc.*, to appear.

* pp. 261–262, Exercise 3.19(pp). A further reference on noncrossing partitions is the nice survey article R. Simion, *Discrete Math.* **217** (2000), 367–409.

* p. 264, Exercise 6.19(iii). It should be mentioned that the diagonals of the frieze patterns of Exercise 6.19(mmm) are precisely the sequences $1a_1a_2\cdots a_n1$ of the present exercise.

* p. 265, Exercise 6.19(lll), lines 3− to 2−. The paper of Postnikov and Stanley has appeared in *J. Combinatorial Theory* (*A*) **91** (2000), 544–597.

* p. 265, Exercise 6.19(mmm). A couple of additional references to frieze patterns are H. S. M. Coxeter, *Acta Arith.* **18** (1971), 297–310, and H. S. M. Coxeter and J. F. Rigby, in *The Lighter Side of Mathematics* (R. K. Guy and R. E. Woodrow, eds.), Mathematical Association of America, Washington, DC, 1994, pp. 15–27.

* p. 269, line 1−, to p. 270, line 1. The paper of Postnikov and Stanley has appeared in *J. Combinatorial Theory* (*A*) **91** (2000), 544–597.

* p. 272, end of Exercise 6.33(c). Yet another proof was given by J. H. Przytycki and A. S. Sikora, Polygon dissectons and Euler, Fuss, Kirkman and Cayley numbers, preprint available electronically at math.CO/9811086.

* p. 279, Exercise 6.56(c). In the paper N. Alon and E. Friedgut, *J. Combinatorial Theory* (*A*) **89** (2000), 133–140, it is shown that $A_v(n) < c^n\gamma^*(n)$, where $\gamma^*(n)$ is an extremely slow growing function related to the Ackermann hierarchy. The paper is available electronically at http://www.ma.huji.ac.il/~ehudf.

* p. 291, line 9−. In general it is not true that $\hat{\Lambda}_R = \hat{\Lambda} \otimes R$; one only has a natural surjection from the former onto the latter. Equality will hold if R is noetherian.

* p. 295, Figure 7-3. In the expansion of h_{41}, the coefficient of m_{41} should be 2.

* p. 399, line 7−. For additional information concerning Craige Schensted, see the webpage ea.ea.home.mindspring.com.

* p. 439, reference A1.13. An updated version of this paper of van Leeuwen, entitled "The Littlewood-Richardson rule, and related combinatorics," is available electronically at math.CO/9908099.

* p. 467, Exercise 7.55(b). Let $f(n)$ be the number of $\lambda \vdash n$ satisfying (7.177). Then $(f(1), f(2), \ldots, f(30)) = (1, 1, 1, 2, 2, 7, 7, 10, 10, 34, 40, 53, 61, 103, 112, 143, 145, 369, 458, 579, 712, 938, 1127, 1383, 1638, 2308, 2754, 3334, 3925, 5092)$.

* p. 484, Exercise 7.101(b). As in (a), the plane partitions being counted have largest part at most m.

* p. 485, line 7. The five displayed tableaux should be rotated 180°.

* p. 504, line 10−. Update the Babson, et al., reference to *Topology* **38** (1999), 271–299.

* p. 514, Exercise 7.47(m), lines 1–3. Update the reference to R. Stanley, *Discrete Math.* **193** (1998), 267–286.

* p. 515, Exercise 7.48(g). Further generalizations of shuffle posets are considered by P. Hersh, Two generalizations of posets of shuffles, preprint available electronically at http://www.math.washington.edu/~hersh/papers.html.

* p. 534, end of Exercise 7.74. For some connections between inner plethysm and graphical enumeration, see L. Travis, Ph.D. thesis, Brandeis University, 1999; available electronically at math.CO/9811127.

* p. 539, Exercise 7.85. A further reference to the evaluation of $g_{\lambda\mu\nu}$ is M. H. Rosas, The Kronecker product of Schur functions indexed by two-row shapes or hook shapes, preprint available electronically at math.CO/0001084.

* p. 544, lines 4− to 2−. Update the reference to R. Stanley, *Discrete Math.* **193** (1998), 267–286.

* p. 542, line 10. Update the Babson, et al., reference to *Topology* **38** (1999), 271–299.

* p. 551, Exercise 7.102(b), lines 2− to 1−. The "nice" bijective proof asked for was given by M. Rubey, A nice bijection for a content formula for skew semistandard Young tableaux, preprint. The proof is based on jeu de taquin.

* p. 554, last two lines of Exercise 7.107(a). Update reference to *Annals of Combinatorics* **2** (1998), 103–110.