

Errata for “The Geometry and Topology of Coxeter Groups”

Michael W. Davis

June 18, 2008

Additions are indicated in italics.

Table of Contents

- (1) page viii: The title of 9.2 should be “*When* is Σ Simply Connected at Infinity?”
- (2) page xi: The title of Appendix F.2 should be “*Equivariant* (Co)homology with Group Ring Coefficients.”

Chapter 3

- (1) page 34: In Lemma 3.2.14, $\text{Cay}(W, S)$ should be closed up to $\text{Cay}(W, S)$.

Chapter 6

- (1) page 72, line 19: Insert *there* between “case” and “is”.
- (2) pages 104 and 105: If possible Tables 6.1 and 6.2 should be moved to pages 103 and 104 so that they lie in Section 6.9.
- (3) page 111: In the second sentence of Example 6.11.3, “all other faces” should be *any other face*.
- (4) page 113, line 4: The sentence following (6.25) should read “From (6.24)...” instead of (17.16).

Chapter 7

- (1) page 131: In the second item of the proof of Lemma 7.3.5, the phrase “of a presentation” should be omitted. It should read “The Cayley 2-complex, $\text{Cay}(G, \langle S \mid \mathcal{R} \rangle)$, ...”.

Chapter 8

- (1) page 155: In the last equation of item (iii) of Remark 8.5.7, “+1” should be inserted twice. It should read: $\text{gd } \Gamma \leq \text{gd } \Gamma' \leq \dim L' + 1 = \dim L + 1$.

Chapter 11.

- (1) pages 213, 215, 222, 223, 226: All equations in this chapter are numbered incorrectly. For example, on page 213 equation (1) should be (11.1) and on page 226, (5) should be (11.5).
- (2) page 228: In the second sentence of **11.6** there is an extra “=”. It should read “let $A_{(W,S)} \dots$ ”.

Chapter 12

- (1) page 239: In the second sentence of Example 12.5.2, omit the right parenthesis following [138, pp.29–31].
- (2) page 251: In Corollary 12.8.2 the phrase *nonpositively curved* should twice be inserted before “piecewise Euclidean”.

Chapter 14

The first sentence of Chapter 14 is “In [147] Gromov asked if every word hyperbolic group is either virtually cyclic or “large” in the sense defined below.” This sentence is incorrect and should be omitted. (Thomas Delzant points out that groups with property T are not large.)

- (1) page 276: The second sentence of the chapter (which should become the first) should read “*Gromov* asked if every one-ended ...”. The next sentence should be: “In this chapter *this question is answered ...*”. The following sentence should then end as “...or large (*in the sense defined below*).”
- (2) page 276: In Definition 14.1.1, “large” should be in italics.

Chapter 16

- (1) page 314: In the third line of the last paragraph, it should be “low-dimensional”.

Chapter 17

- (1) page 315: In the first paragraph, line 6, after “function” insert the sentence (*In general, the question of the rationality of the growth series of G depends on the choice of generating set.*)
- (2) page 327: The Exercise should be labeled **Exercise 17.4.4**.

Chapter 18

- (1) page 331: In the condition in Theorem 18.1.9, s and t should twice be changed to q_s and q_t . The condition should read: “ $q_s q_t$ is a perfect square” and on the next line, “ $2q_s q_t$ is ...”.

Chapter 19

- (1) page 358: The last paragraph should begin “*In the case where W is right-angled, as \mathbf{q} varies over positive I -tuples, the Hecke algebras ...*”. (Without the proviso that W be right-angled, we do not know if $\mathbb{R}_{\mathbf{q}}W$ is always isomorphic to \mathbb{R}_1W .)

Appendix F

- (1) page 465: In lines 5 and 6 of the second paragraph, a hyphen should twice be inserted between “ $\mathbb{Z}\pi$ ” and “module”.

Appendix J

- (1) page 553: In the second sentence of Definition J.8.11, a space is in the wrong position. It should read “Then (M, ω) ...”.

Index

There are quite a few mistakes in the index. For references in Chapters 11, 12 and Appendix I some of the page numbers have been systematically shifted. In what follows I will give the page number in the index, then the index entry and then the needed change, often in the form: old page # \rightarrow new page #.

- (1) page 573, Artin group 229-230 \rightarrow 228-229.
- (2) page 573, Bestvina-Brady examples, 226 \rightarrow 225, 223-228 \rightarrow 222-227.
- (3) page 573, Bestvina-Brady groups, **224** \rightarrow **223**.
- (4) page 574, Charney, R.: 532 \rightarrow 528.
- (5) page 574, \mathbf{C}_∞ : **450** should not be in boldface, a reference to 537 should be added.
- (6) page 574, \mathbf{C}_m : The reference to 537 should be deleted.
- (7) page 575, compactification; of a CAT(0)-space: 527-530 \rightarrow 524-527
Z-set: 529 \rightarrow 526.
- (8) page 575, C_W : omit the comma after Coxeter.
- (9) page 575, Davis, M.W.: 529 \rightarrow 526 and 532 \rightarrow 529.
- (10) page 576, displacement function: **514** \rightarrow **512**.
- (11) page 577, flag complex: 519 \rightarrow 516.
- (12) page 577, Flat Torus Theorem: **514** \rightarrow **512**.
- (13) page 577, Gram matrix: 515 \rightarrow 513 and 527 \rightarrow 524.
- (14) page 578, Hopf’s Theorem, the first reference to 467 should be omitted.

- (15) page 579, Januszkiewicz, T.: 235 → 234 and 255 → 254.
- (16) Leary-Nucinkis examples, 225 → 224, 228 → 227.
- (17) page 580, nerve; of an almost negative matrix: **526** → **523**.
- (18) page 581, proper action of a group: at the end of this entry omit “of W , 66”.
- (19) page 583, Światkowski, J.: 235 → 234 and 255 → 254.
- (20) page 584, virtually abelian: 515 → 513.
- (21) page 584, virtually solvable: 515 → 513.
- (22) page 584, word problem, for CAT(0) groups: 513 → 511.
- (23) page 584, \mathbb{X}_κ -polyhedral complex: **508** → **507**.
 \mathbb{X}_κ -polytope: **508** → **507**.
- (24) page 584, Z -set: **529** → **526** (twice)
of a group: 532 → 529.