ERRATUM

Geometric Aspects of General Topology

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The original version of the book had typos and incorrect symbols/characters which have been fixed in the respective chapters of this book.

Preface

p. vii, line 9 from top, 1966 *should read as* 1967

Chapter 1

p. 1, line 12 from bottom: *Insert* " — half line" before ';'.
p. 2, line 7 from top: **cellurality** *should read as* **cellularity**
p. 19, line 9 from top: $n \in \Gamma$ *should read as* $n \in \mathbb{N}$

Chapter 2

p. 47, **Fig. 2.7** *should read as* **Fig. 2.8**. This figure should be on p. 48
p. 47, line 5 from bottom: Fig. 2.8 *should read as* Fig. 2.7
p. 48: **Fig. 2.8** *should read as* **Fig. 2.9**. This figure should be on p. 50
p. 48, line 13 from bottom: *Remove* "— Fig. 2.9"
p. 48, line 1 from bottom: *Insert* "— Fig. 2.8" before '.'
p. 49, line 10 from bottom: (Fig. 2.7) *should read as* (Fig. 2.9)
p. 50: **Fig. 2.9** *should read as* **Fig. 2.7**. This figure should be on p. 47
p. 51, line 1 from top: *Remove* "Let X be a paracompact space."
p. 51, line 3 from top: *Insert* "Let A be a subspace of X." before 'To find ...'
p. 65, line 7 from bottom: with (1) *should read as* with (2)

Chapter 4

p. 137, line 7 from bottom: call *should read as* called
p. 156, line 11 from top: fs *should read as* f is

The online version of the original book can be found at
http://dx.doi.org/10.1007/978-4-431-54397-8

p. 160, line 10 from bottom: polyhedra *should read as* polyhedron
p. 186, line 4 from top: $K'(0)$ *should read as* $K'^{(0)}$
p. 187, line 2 from top: *Insert* "If $x \in K^{(0)}$ then $K_x = K$."

Chapter 5

p. 249, line 3 from top: *Insert* "dim X" after '**dimension**'
p. 249, line 4 from top: $n + 1$. and *should read as* $n + 1$, and
p. 254, line 15–21: This proof is only for the case X and Y are closed in $\mathbb{R}^n$.
For the general case, the proof should be written as follows:

Proof. For each homeomorphism $h : X \to Y$, we will show that $h(\text{int } X) \subset \text{int } Y$. Then, applying this to the inverse homeomorphism $h^{-1} : Y \to X$, we can also obtain $h^{-1}(\text{int } Y) \subset \text{int } X$, that is, $\text{int } Y \subset h(\text{int } X)$. Thus, we will have $h(\text{int } X) = \text{int } Y$.

To see $h(\text{int } X) \subset \text{int } Y$, note that each $x \in \text{int } X$ has a compact neighborhood C in $\mathbb{R}^n$ with $C \subset X$. Since $\text{int } h(C) \subset \text{int } Y$, we may show that $h(x) \in \text{int } h(C)$. On the contrary, assume that $h(x) \in \text{bd } h(C)$. For each neighborhood U of x in C, $h(U)$ is a neighbourhood of $h(x)$ in $h(C)$. We can apply Theorem 5.1.7 to find a neighbourhood V of $h(x)$ in $h(C)$ such that $V \subset h(U)$ and every map $g : h(C) \setminus V \to \mathbf{S}^{n-1}$ extends to a map $\tilde{g} : h(C) \setminus V \to \mathbf{S}^{n-1}$. Then, $h^{-1}(V)$ is a neighborhood of x in C with $h^{-1}(V) \subset U$. For every map $f : C \setminus h^{-1}(V) \to \mathbf{S}^{n-1}$, $fh^{-1} : h(C) \to \mathbf{S}^{n-1}$ can be extended to a map $\tilde{f} : h(C) \to \mathbf{S}^{n-1}$. Then, $\tilde{f}h : C \to \mathbf{S}^{n-1}$ is an extension of f. Due to Theorem 5.1.7, this means that $x \in \text{bd } C$, which is a contradiction. Therefore, $h(x) \in \text{int } h(C)$. □

p. 261, line 6 from bottom: f^{-1} *should read as* h_0^{-1}
p. 263, line 14 from top: *Insert the following at the end of the sentence:*

Corollary 5.2.16 is valid even if $n = \infty$. In fact, $\left(\text{pr}_i^{-1}(0), \text{pr}_i^{-1}(1)\right)_{i \in \mathbb{N}}$ is essential in $\mathbf{I}^{\mathbb{N}}$. This will be shown in the proof of Theorem 5.6.1.

p. 264, line 6 from top: *Insert* "and" between 'CHARACTERIZATION' and 'the'.
p. 264, line 7 from top: *Insert* "respectively" after 'dimension'
p. 268, line 12 from top: Since *should read as* Note that $\mathcal{U}_i$
p. 268, line 12 from top: it *should read as* $\mathcal{U}_i$. Then, it
p. 293, line 16 from bottom: Y *should read as* $\mathbb{R}^{2n+1}$
p. 316, line 6 from bottom: $\varepsilon/2$ *should read as* $\varepsilon/3$
p. 319, line 13 from top: $n \in \mathbb{N}$, and *should read as* and $n \in \mathbb{N}$. For any infinite set
p. 319, line 14 from top: *Delete* 'such that … infinite. Then'.
p. 320, line 6 from bottom: B_1 *should read as* B_1 in $\mathbf{I}^{\mathbb{N}}$.
p. 320, line 6 from bottom: *Replace* 'which implies that' *by the following:*

By Lemma 5.3.7, if P is a partition between $A_1 \cap S$ and $B_1 \cap S$ in S, then there is a partition P' between A_1 and B_1 in $\mathbf{I}^{\mathbb{N}}$ such that $P' \cap S \subset P$. Then, it follows that $P \neq \emptyset$. Due to Theorem 5.2.17, this means that $\dim S \geq 1$, that is,

Chapter 6

p. 346, line 11 from bottom: homotopy *should read as* deformation
p. 346, line 10 from bottom: *Delete* '$h_0 = \text{id}$ and'.
p. 346, line 1 from bottom: *Add the following:*

It is said that X is **deformable into** A ($\subset X$) if there is a deformation $h : X \times \mathbf{I} \to X$ with $h_1(X) \subset A$. A retract A of X is a deformation retract of X if X is deformable into A (refer 6.2.10(9)).

p. 348: *Insert the following before Section 6.3:*

(9) A subset A of a space X is a deformation retract if and only if X is deformable into A and A is a retract of X.

To see the "if" part, let $h : X \times \mathbf{I} \to X$ be a deformation with $h_1(X) \subset A$ and let $r : X \to A$ be a retraction. Using the fact that $rh_1 = h_1$, we can define a homotopy from id_X to r.

p. 363, line 5 from top: *Add* "as a closed set" after 'Banach space)'.
p. 371, line 5 from top: 4.9.10 *should read as* 4.9.11

Index

p. 516, right-side line 2 from bottom: cellurality *should read as* cellularity
p. 518, left-side line 12 from top: hedgehog, 33 *should read as* hedgehog, 33, 296