

**Errata and Addenda for the current (2021) revision of
“Four-Manifolds, Geometries and Knots”**

10 October 2022

All the desirable changes discovered to date have been made, with the following exceptions.

Chapter 2:

page 34, line 15: This sentence could be expanded out as follows:

If X and Y are PD_n -complexes and Y is non-orientable then a map $f : X \rightarrow Y$ such that $f^*w_1(Y) = w_1(X)$ only determines a homomorphism from $H_n(X; \mathbb{Z}^{w_1(X)})$ to $H_n(Y; \mathbb{Z}^{w_1(Y)})$ up to sign, as one must choose a lift $f^+ : X^+ \rightarrow Y^+$. A similar issue arises with other non-constant local coefficient systems. (See [Ta08] for a thorough discussion of the subtleties here. This oversight has no serious consequences for the present work.)

page 36, Theorem 2.11: the relevant action used here is the natural right action on $Ext_{\mathbb{Z}[\pi]}^1(\mathbb{Z}, \mathbb{Z}[\pi])$, NOT the action via conjugation considered in [Br:Chapter III.§8].

page 44, middle: the identification of $k_1(X)$ with an iterated extension class deserves comment, as I have not found a published proof, although I suspect one may be found in the work of Eilenberg, Mac Lane and J.H.C. Whitehead of the late 1940s.

If P is aspherical no additive natural transformation takes $k_1(P) = 0$ to $[P]$.

Chapter 16:

page 321, lines -3 and -2: when $R = \Lambda$ we could instead use the facts that Λ has global dimension 2 and all projective Λ -modules are free.

Bibliography: The following items cited in the 2021 revision are mostly from the arXiv, but not yet published elsewhere. The details shall be updated when possible.

REFERENCES

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