ERRATA FOR "MAPPING CLASS GROUP AND A GLOBAL TORELLI THEOREM FOR HYPERKÄHLER MANIFOLDS" BY MISHA VERBITSKY

Matthias Kreck and Yang Su [3] have given a counterexample to Theorem 3.4 of [5]. They compute the Torelli group for two 8-dimensional hyperkähler manifolds: the generalized Kummer variety and the second Hilbert scheme of a K3 surface. The Torelli group is infinite in the first case, and finite in the second.

The source of the error was a misapplication of the formality result of Deligne, Griffiths, Morgan, and Sullivan [1] in the proof of Theorem 3.4. It was incorrectly assumed that the rational homotopy class of a diffeomorphism of a simply connected compact Kähler manifold M is determined by its action on the rational cohomology of M.

In addition to Theorem 3.4, the following statements of [5] are false and need to be amended: Theorem 1.16, Theorem 3.5(iv), and Theorem 4.26(ii)–(iii). The finiteness statements are the most affected. These and Theorem 3.4 were used in the proofs of Proposition 4.25, Corollary 4.31, and Corollary 7.3. The proofs of the statements in Remark 1.14 and Theorem 1.15 are also affected.

These finiteness statements are used in Remark 4.28, Example 4.7, and Proposition 4.14 to show that Teich is weakly Hausdorff and that the inseparability relation is an equivalence relation. These are needed to define the "birational Teichmüller space" Teich_b. In view of the above, Remark 1.14 is not proved in [5].

A new proof of Theorem 4.29 (the *unmarked* Torelli Theorem) based on Verbitsky's ideas, can be found in [4]. There, Looijenga defines and uses the *separated quotient* $\mathcal{T}_s$ of Teichmüller space, which he shows equals Verbitsky's space Teich_b. He also completes the proof of Theorem 1.15 and the statement in Remark 1.14.

Much earlier, a proof of a weaker version of the global Torelli theorem for *marked* hyperkähler manifolds based on Verbitsky's ideas was given by Huybrechts in his Bourbaki talk [2]. A discussion of the difference between Verbitsky's unmarked Torelli theorem [5, Theorem 4.29] and Huybrecht's marked Torelli theorem is given in [4, Remark 3.3]. The currently unrefereed manuscript [6], which contains corrected versions of the main results of [5], can be found at arXiv.org.