ERRATUM TO LEFSCHETZ THEOREMS FOR TORSION ALGEBRAIC CYCLES IN CODIMENSION 2

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In the proof of Proposition 5.1 [2], we state that there is an isomorphism $\mathrm{A}^2(\mathrm{V})_{\mathrm{tors}} \cong \mathrm{J}^2_0(\mathrm{V})_{\mathrm{tors}}$ for any smooth projective algebraic variety V, which we attribute to Murre [1]. However, as Professor A. Collino pointed out to us, Murre's result only states that there is an isomorphism $\mathrm{A}^2(V)_{\mathrm{tors}} \cong \mathrm{J}^2_{\mathrm{alg}}(V)_{\mathrm{tors}}$, and that a priori, one only has an inclusion $\mathrm{J}^2_{\mathrm{alg}}(V)_{\mathrm{tors}} \subset \mathrm{J}^2_0(V)_{\mathrm{tors}}$. Consequently, Theorem 1.7 and Proposition 5.2 are true under the additional hypothesis that $\mathrm{J}^2_{\mathrm{alg}}(V)_{\mathrm{tors}} = \mathrm{J}^2_0(V)_{\mathrm{tors}}$, which is implied by the generalized Hodge conjecture in codimension 2. We do, however, have the following unconditional statement:

> The morphism $\alpha : \mathrm{Grif}^2(V)_{\mathrm{tors}} \to (\mathrm{J}^2(V)/\mathrm{J}^2_{\mathrm{alg}}(V))_{\mathrm{tors}}$, induced by the Abel-Jacobi map, is an inclusion.

This only affects results in §5 and doesn't affect our main results, *viz.* §1 - §4.

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References

[1] J. P. Murre, *Applications of algebraic K-theory to the theory of algebraic cycles*, Algebraic geometry, Sitges (Barcelona), 1983, volume 1124 of Lecture Notes in Math., pages 216–261. Springer, Berlin, 1985.

[2] D. Patel and G.V. Ravindra, *Lefschetz theorems for torsion algebraic cycles in codimensions* 2, Advances in Mathematics **316** (2017), 554–575.

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