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CORRECTION

To: Allan L. Edmonds, *Stable existence of finite group actions on manifolds*, **41** (1974), 349–352.

John P. Alexander has pointed out that the theorem stated in my note [2] is false without considerably more restrictive hypotheses. In particular one can show that any $\mathbf{Z}_p$ action on a finite complex homotopy equivalent to

$$\mathbf{HP}^2 \# \mathbf{HP}^2 \# S^3 \times S^5 \# S^3 \times S^5, \qquad p \equiv 3 \pmod 4,$$

must have a fixed point. See [1].

The fault lies with Proposition 2. Proposition 1, its corollary, and Proposition 3 are true as stated. The outlined proof of Proposition 2, however, requires some stringent extra hypotheses on the space Y and the chain complex D_*. For example, it suffices to assume in addition that X is a finite $(n - 2)$-connected, n-dimensional CW complex $(n \geq 3)$—up to homotopy a wedge of $(n - 1)$-spheres with some n-cells attached—and that the chain complex D_* is also n-dimensional. Then one knows that $\pi_k(X) \to H_k(X)$ is an isomorphism for $k < n$ and an epimorphism for $k = n$. This information is needed in order to construct the CW complex Y equivariantly and simultaneously extend the map f.

The point of [2] was to attempt to replace a given finite complex by a homotopically equivalent finite complex which supports a free $\mathbf{Z}_p$ action. The results of [2] together with the above remarks then show that *a finite $(n - 2)$-connected, n-dimensional CW complex $(n \geq 3)$ with Euler characteristic zero and no p-torsion in its homology is homotopically equivalent to a finite CW complex with a free $\mathbf{Z}_p$ action.*

Then the theorem given in [2] holds as stated for manifolds (generally having boundary, however) which in addition have the homotopy type of an $(n - 2)$-connected, n-dimensional CW complex.

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References

1. J. P. Alexander and G. C. Hamrick, *Periodic maps on Poincaré duality spaces*, preprint.
2. A. L. Edmonds, *Stable existence of finite group actions on manifolds*, Duke Math. J. **41** (1974), 349–352.

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