Corrigendum to "Bisimplicial vertices in even-hole-free graphs"

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An *even-hole-free* graph is a graph with no induced cycle of even length. A vertex of a graph is *bisimplicial* if the set of its neighbours is the union of two cliques.

Reed conjectured in [3] that every nonnull even-hole-free graph has a bisimplicial vertex. The authors published a paper [1] in which they claimed a proof, but there is a serious mistake in that paper, recently brought to our attention by Rong Wu. The error in [1] is in the last line of the proof of theorem 3.1 of that paper: we say "it follows that $N_G(v) = N_{G'}(v)$, and so v is bisimplicial in G"; and this is not correct, since cliques of G' may not be cliques of G.

Unfortunately, the flawed theorem 3.1 is fundamental to much of the remainder of the paper, and we have not been able to fix the error (although we still believe 3.1 to be true). Thus, this paper does not prove Reed's conjecture after all.

Two of us (Chudnovsky and Seymour) claim to have a proof of Reed's conjecture using a different method [2].

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References

[1] L. Addario-Berry, M. Chudnovsky, F. Havet, B. Reed and P. Seymour, "Bisimplicial vertices in even-hole-free graphs", *J. Combinatorial Theory, Ser. B*, 98 (2008), 1119-1164.

[2] M. Chudnovsky and P. Seymour, "Even-hole-free graphs still have bisimplicial vertices", submitted for publication.

[3] J. Ramirez-Alfonsin and B. Reed (eds.), *Perfect Graphs*, Wiley, Chichester, 2001, 130.