

# Corrigendum to my paper on the Erdos-Posa theorem

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The paper is connected to the following theorem of Erdos and Posa:

**Theorem.** *There exist two positive constants,  $c_1 > c_2 > 0$  for which If for some fixed  $k$  a graph  $G$  does not contain  $k + 1$  vertex-independent cycles, then we can delete  $c_1 k \log k$  vertices of  $G$  to obtain a tree or a forest. On the other hand, there exist infinitely many graphs  $G_n$  without  $k + 1$  independent vertex-independent cycles in which one needs to delete at least  $c_2 k \log k$  vertices to obtain a tree or a forest.*

The Erdős-Pósa paper provides an upper bound and a lower bound on the number of vertices to be deleted to ruin all the cycles. I would think that my upper bound is one of the simplest possible one, and completely algorithmic, on the other hand, I completely overlooked the other part, where I wished to provide a construction of the graphs  $G_n$ . (The original paper contained a “random graph construction”.)

Slightly later I learned the strongly related works of H.J. Voss, and a little later G. Margulis constructed a 4-regular graph  $G_n$  with girth  $\geq c_3 k \log k$  which also was a good – but highly non-trivial– construction for our problem. The Margulis-Lubotzky-Phillips-Sarnak graphs were also good constructions.