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**Christian Joseph Altomare\*** ([altomare@math.ohio-state.edu](mailto:altomare@math.ohio-state.edu)), 231 West 18 Avenue,  
Columbus, OH 43210. *Unifying Laver's Theorem and the Graph Minor Theorem via Proof System  
Minors.*

The famous Graph Minor Theorem states that in every infinite sequence of finite graphs, one is a minor of another. In other words, finite graphs are well quasi ordered under the minor relation. The similarly famous Laver's Theorem states that total orders not containing the rationals are well quasi ordered under embedding. Though minors of graphs and embeddings of total orders at first seem incongruous, we shall see that proof system minors put them on the same footing. Proof system minors generalize graph (and matroid) minors as well as total order embeddings. Further, they allow us to pose a conjecture generalizing both the Graph Minor Theorem and the countable case of Laver's Theorem. (Received September 22, 2010)