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Emily Barnard*, esbarnar@ncsu.edu, and **Nathan Reading**. *The TwinSort Congruence*. Preliminary report.

Sortable elements provide a model for finite type cluster algebras. They are obtained from a Coxeter group via a lattice congruence on the weak order called the Cambrian congruence. I will discuss the common refinement of two opposite bipartite Cambrian congruences, called the TwinSort congruence. The fan associated to this congruence is the common refinement of the g -vector fan for the opposite bipartite type cluster algebra. The TwinSort congruence has beautiful enumerative and geometric properties in type A, which I will discuss using non-crossing arc diagrams. (Received September 15, 2014)