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Rebecca Noonan Heale* (rfn1@hw.ac.uk), Colin Maclaurin Building, Heriot-Watt University, Edinburgh, EH14 4AS, Scotland. *If You Can Expand a Group to a Semigroup, What Can You Expand a Semigroup to?*

The Margolis-Meakin expansion of a group (with respect to a chosen set of generators) is a geometric construction based on the Cayley graph. The expansion is an inverse semigroup that has many interesting properties: for example, its subgroups are precisely the finite subgroups of the original group. Using a similar idea, also based on Cayley graphs, we describe an expansion applicable to any semigroup and give some of its properties. In particular, we relate the structure of this new expansion to that of the Birget-Rhodes prefix expansion of a semigroup. (Received September 20, 2007)