1132-05-24 **Tair Akhmejanov***, Cornell University, Department of Mathematics, 112 Malott Hall, Ithaca, NY. *Growth Diagrams from Polygons in the Affine Grassmannian.*

We introduce a new type of growth diagram, arising from the geometry of the affine Grassmannian for GL_m. These affine growth diagrams are in bijection with the $c_{\vec{\lambda}}$ many components of the polygon space $\mathrm{Poly}(\vec{\lambda})$ for $\vec{\lambda}$ a sequence of minuscule weights and $c_{\vec{\lambda}}$ the Littlewood–Richardson coefficient. Unlike Fomin growth diagrams, they are infinite periodic on a staircase shape, and each vertex is labeled by a dominant weight of GL_m. Letting m go to infinity, a dominant weight can be viewed as a pair of partitions, and we recover the RSK correspondence and Fomin growth diagrams within affine growth diagrams. The main combinatorial tool used in the proofs is the n-hive of Knutson-Tao-Woodward. (Received June 24, 2017)