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Loudon Road, Loudonville, NY 12211, and Edwin L Rogers (rogers@siena.edu), Siena College, Department of Mathematics, 515 Loudon Road, Loudonville, NY 12211. Dynamics of simple folds in a plane.
Take a strip of paper whose two long edges are parallel rays and take a transversal line intersecting the edges at points $A_{1}$ and $B_{1}$. Consider the angle at vertex $B_{1}$ between the transversal $\left(A_{1} B_{1}\right)$ and the directed edge line, and bisect it by another transversal intersecting the opposite edge ray at point $A_{2}$. Repeat such a bisecting procedure at vertex $A_{2}$ to produce the point $B_{2}$. Such iterations generate sequences of points $\left\{A_{n}\right\}$ and $\left\{B_{n}\right\}$ and angles $\alpha_{n}:=\angle A_{n+1} A_{n} B_{n}$, and it's trivial to show that $\lim _{n \rightarrow \infty} \alpha_{n}=\pi / 3$. We will generalize this procedure and show how one can use an autonomous non-homogeneous linear difference system to obtain the limit of a sequence of angles constructed by iterated transversals between any two curves approaching two asymptotes, which are not necessarily parallel. (Received August 18, 2008)

