1123-05-375 **Karen Gunderson*** (karen.gunderson@umanitoba.ca), 186 Dysart Road, Department of Mathematics, Winnipeg, MB R3T2N2, Canada. *Infection processes on infinite trees.*

A bootstrap process is a type of cellular automaton, acting on the vertices of a graph which are in one of two states: 'healthy' or 'infected'. For any positive integer $r$, the $r$-neighbour bootstrap process is the following update rule for the states of vertices: infected vertices remain infected forever and each healthy vertex with at least $r$ infected neighbours becomes itself infected. These updates occur simultaneously and are repeated at discrete time intervals. Percolation is said to occur if all vertices are eventually infected.

Of interest is the random case, where each vertex is infected independently with a fixed probability $p$. For an infinite graph, one would like to know the values of $p$ for which the probability of percolation is positive. I will give some of the history of this problem for infinite trees and present some new results on the possible values of critical probabilities for such processes on Galton–Watson trees. (Received August 30, 2016)