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**Michael Hochman\*** (hochman@princeton.edu), Department of Mathematics, Fine Hall,  
Washington Road, Princeton, NJ 08544-1000. *Recursive-Theoretic Aspects of Multidimensional  
Symbolic Dynamics*.

I'll discuss recent results concerning the recursive-theoretic properties of higher-dimensional symbolic dynamical systems: shifts of finite type, sofic shifts, and cellular automata. Various aspects of these systems and their subdynamics can be characterized via their descriptive complexity.

For example, the numbers which occur as entropy of SFTs and sofic shifts are precisely those that are decreasing limits of recursive sequences of numbers; for CA they are the liminfs of such sequences. Similarly, one can essentially characterize the subdynamics of these systems as those totally-disconnected systems which allow an effective description of a certain type.

These results provide both new restrictions on what can occur in these categories, and many new examples. I will focus on the structural results, and if time permits will show how they can be used to derive the results about entropy. (Received August 05, 2007)