

Meeting: 1003, Atlanta, Georgia, AMS CP 1, AMS Contributed Paper Session

1003-08-1091 **William H Sulis*** (sulisw@mcmaster.ca), 255 Townline Rd E, RR5, Cayuga, Ontario N0A1E0, Canada. *H-complex tapestries*.

Archetypal dynamics seeks to understand the phenomena of emergence through the study of meaning laden information flows in complex systems. The central formal object of study is the tapestry, a labeled directed multigraph having two distinguished classes of edges, struts and relators, satisfying specific linking relations. A tapestry T stripped of its labels determines a bare tapestry $B(T)$. Horizontal emergence is the form typical in the social sciences and motivates the definition of h-complexity. A tapestry T is h-complex if there exists a tapestry T' such that $B(T) = B(T')$ but $T \not\cong T'$. Otherwise the tapestry is simple. The central mathematical question is to determine whether or not a given bare tapestry admits nonisomorphic colorings. Some results on the existence of simple and h-complex tapestries will be presented. (Received October 03, 2004)