TERRY GANNON, University of Alberta, Edmonton, Alberta CFT $and\ subfactors$

Conformal field theory (CFT) has motivated some very pretty questions. In this talk I will focus on the ones which have also arisen naturally in the subfactor theory of von Neumann algebras, as developed by Ocneanu and others. The simplest case not yet fully understood is related to affine sl(3). The affine sl(3) NIM-reps (i.e. fusion ring representations) arising in subfactor theory have recently been classified by Ocneanu, and the natural question is to what extent is his classification mirrored by CFT. It appears that if one adds some additional structure to the CFT, then Ocneanu's classification should be recovered. But is this extra structure necessary or even desirable? I try to probe this question by addressing the affine sl(3) NIM-rep classification in its purest form, i.e. without imposing additional (perhaps spurious) conditions.