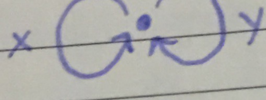
Also $L^2(X)$ $\quad (X = \mathbb{P}^1_{\mathbb{C}} - \{0,1,\infty\})$

embeds in $L^2(X) \hookrightarrow L^2(SL_2)$
so restriction gives everything in
terms of roots weights of
the Gel'fand-Ponomarev algebra



$k\langle x,y\rangle / \langle xy, yx\rangle$

So more generally for Artin L-functions
can do this with paper 1
and for $\chi = 1$ trivial, get
Riemann Zeta function.

At this point Connes analytic
version can be translated into the
language of surface algebras

(Actually makes most sense to
noncommutative localize a
surface algebra, (get Leavitt path alg.)
then analytically complete
get graph C^*-alg. Then all
of Connes & Marcolli's work
can be put in terms of
graph C^*-surface algebras.)