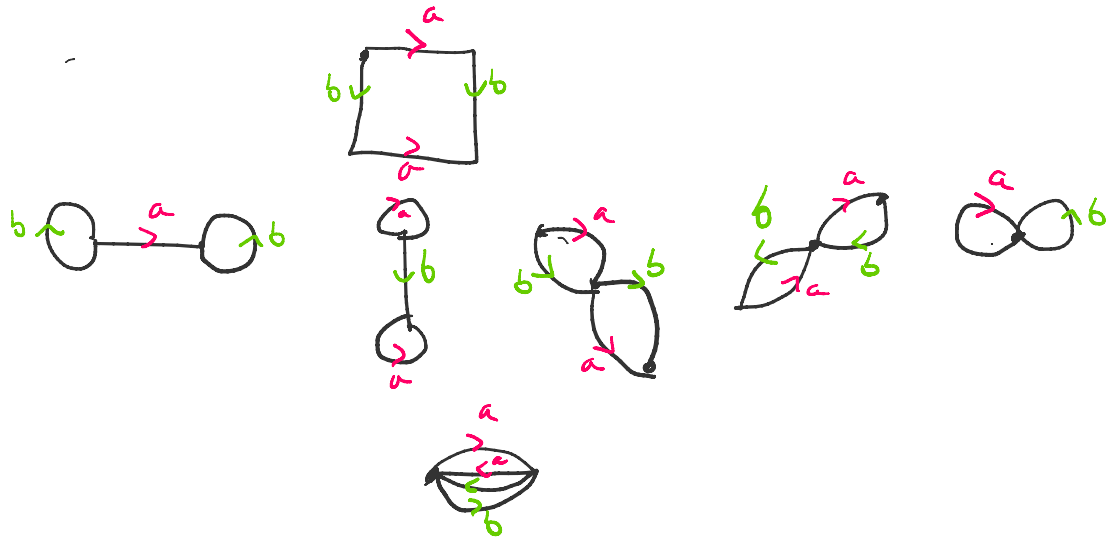


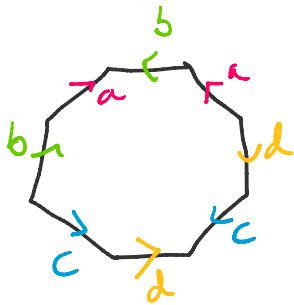
Figures

Sunday, May 17, 2020 12:57

The 7 graphs describing the possible paths of a fixed point of the word [a,b]

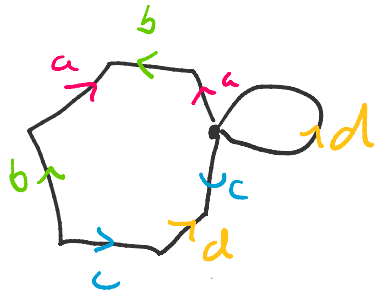


Two graphs which give the "wrong" order of contribution for surface groups (namely, not N^X)



$$\gamma = [a,b][c,d]$$

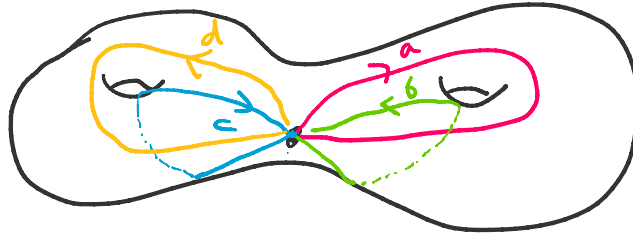
$$\approx N$$



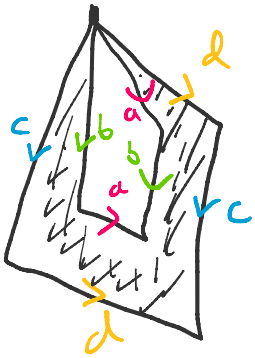
$$\gamma = [a,b]cdc^{-1}d$$

$$\approx 1$$

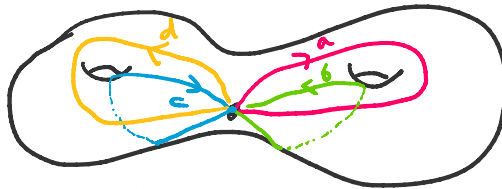
In our model for random surfaces, they are all degree-N covering spaces of the following surface endowed with combinatorial structure:



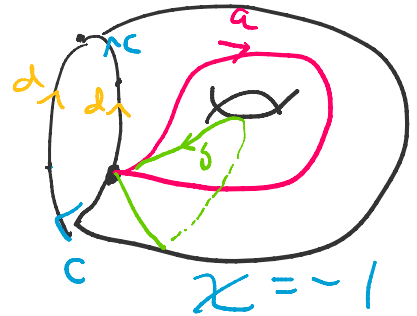
Four examples to "pieces of surfaces" (more precisely: surfaces with boundaries) which are in play when analyzing the element $[a,b]$ in the surface group Γ . Each of these has contribution of $N^{\chi(Y)} + O(N^{\chi(Y)-1})$.



$$\chi = 0$$



$$\chi = -2$$



$$\chi = -1$$



$$\chi = -1$$

"Core surfaces"

\mapsto Stallings' core graphs