



Marcy

1.  $GT_n$ -actions on higher genus KV solns  
 Genus 0: A KV-soln of type  $(0, n+1)$   $n \geq 2$   
 is an element  $F \in \text{Aut}_n$  s.t.

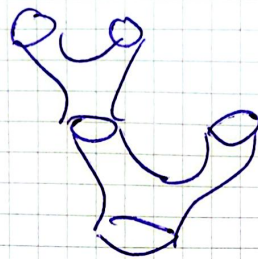
$$\forall \text{KVI} \quad F(x_1 + \dots + x_n) = \log(e^{x_1} \dots e^{x_n})$$

$$\text{KVII} \quad \exists h(z) \in \mathbb{C}[[z]] \text{ s.t.}$$

$$J(F^{-1}) = \text{tr}(\sum h(e_i) - h(\sum x_i))$$

Thm such soln exists & can be obtained

by



$$F_{0,1} F = F^{12}, F^{123}$$

$$F_{0,2} F = F^{23}, F^{1,23}$$

(can glue ~~on~~ different solns of KV  
 provided they have the same  
 Duflo function.)

Q why is there a map  $GT \rightarrow \text{KV}$ ?

Q Is  $\text{KV}_n = \text{grt} \oplus \text{t}_{n-1}$ ?



"Knots"

Knots, ghost

Knots, and emergent knots

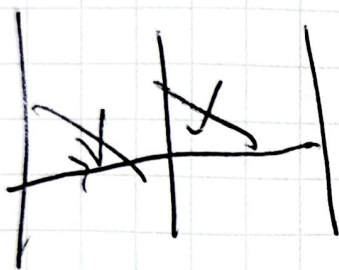
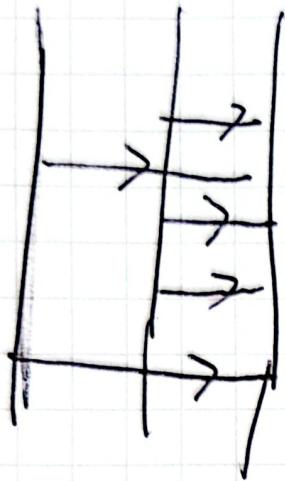


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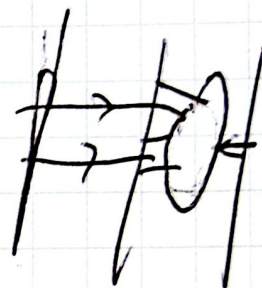
We should have a theory of secondary operations/expansions.



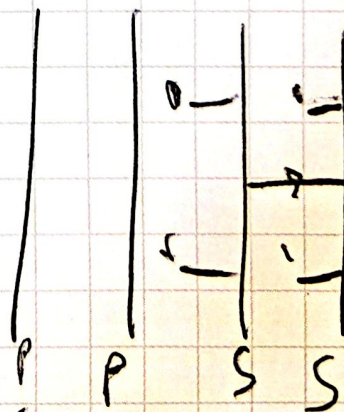
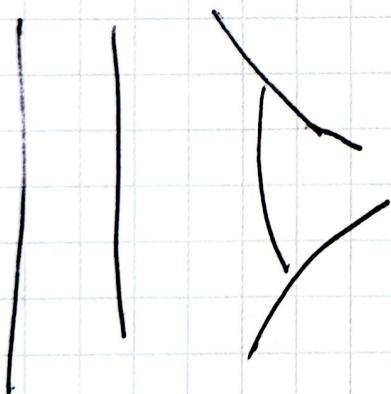
FL



FA<sup>n</sup>



FA



"The classical subspace"



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- o. we should have a theory of secondary operators / expansions.
1.  $A^{\text{sem}}$  has a "classical subspace".
  2. There is a ~~splitting~~ lift or two  
 $A^{\text{wh}}$   $\rightarrow$   $A^{\text{classical}}$ .
  3. There is a meaningful Alexander relation on  $A^{\text{classical}}$  <sup>meaning, an outgoing map whose kernel contains the relation</sup>
  4.  $Z$  maps  ~~$A^{\text{classical}}$  into~~  $A^{\text{classical}}$  ~~to~~  $A^{\text{classical}}$  ~~the~~ classical subspace  $UKO$  to the classical subspace.

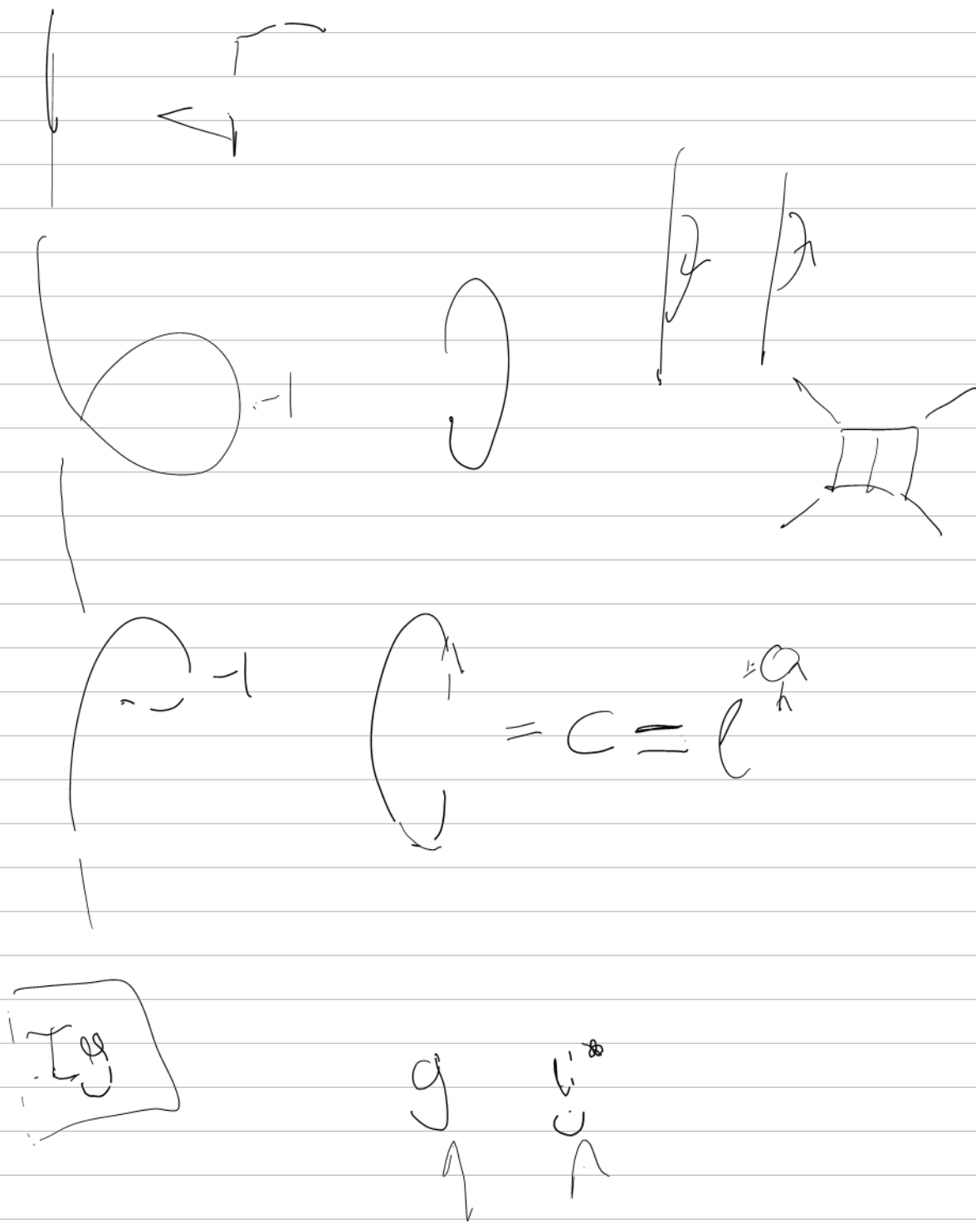


Which are missing!

$$PA^{wcm} = \left\{ \begin{array}{c} \text{[Diagram 1]} \\ \text{[Diagram 2]} \\ \text{[Diagram 3]} \end{array} \right\} = \{ \lambda_{\alpha}, \lambda_{\alpha i}, \lambda_{\alpha \beta} \}$$

$i=1,2,3 \quad \alpha=1,2$

$$EFL_p^S \oplus hFA_p^{S,P} \oplus hFA_p^{S,S}$$



$$A \xrightarrow{\text{trans}} U(y) \xrightarrow{\text{tr}_R} \text{[Symbol]}$$

