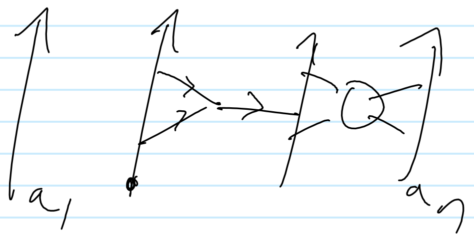
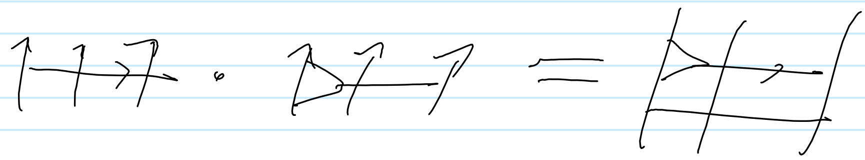
Conversation with Alekseev, 150820

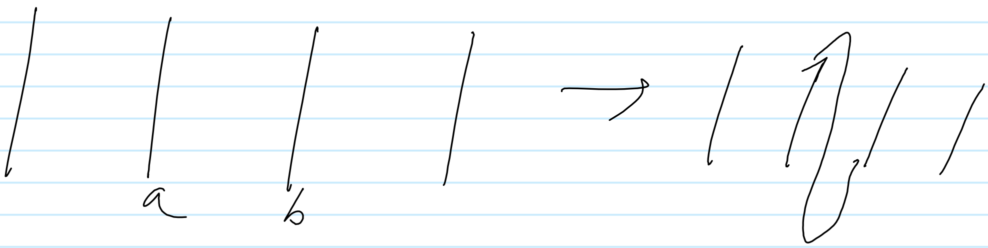
Thursday, August 20, 2015 2:54 PM

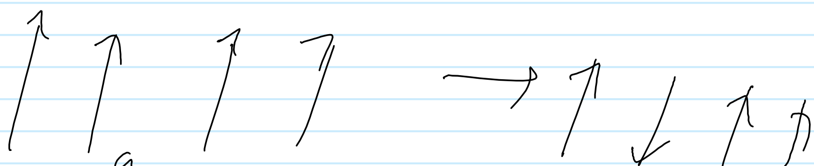
$U(\mathrm{tder}_A \ltimes \mathrm{tr}_A) = \mathcal{A}^w(A)$

$=$ 

1. $*$ 

2. $m^{ab}_c : \mathcal{A}^w(\underset{a,b}{\overset{\cup}{A}}) \longrightarrow \mathcal{A}^w(A \setminus \{a,b\} \cup c)$



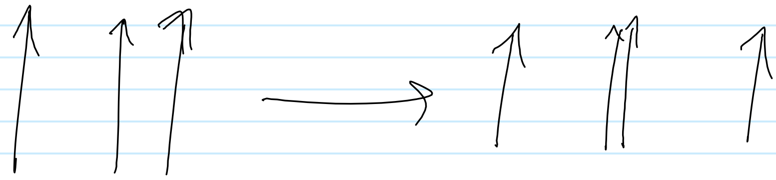
3. S_a : 

$M_{n\times n} \longrightarrow M_{(n-1)\times(n-1)}$

$y_i = \sum a_{ij} x_j \qquad y_1 = x_2$

$$\begin{pmatrix} x_1 \\ x_3 \\ \vdots \\ x_n \end{pmatrix} \longmapsto \begin{pmatrix} y_2 \\ y_3 \\ \vdots \\ y_n \end{pmatrix}$$

4.



S_a: $y_1 = [a_1, x_1]$

$y_2 = [a_2, x_2]$

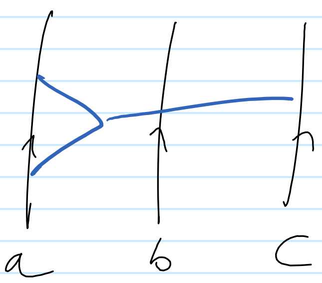
$\vdots$

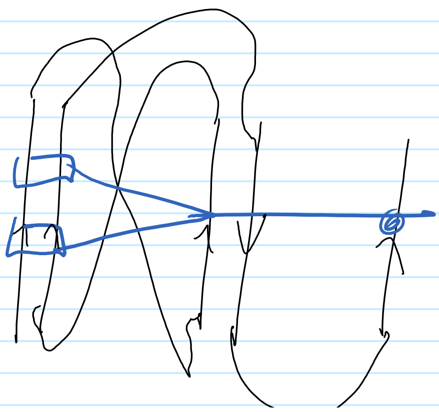
$D : FL_n \longrightarrow FL_n$

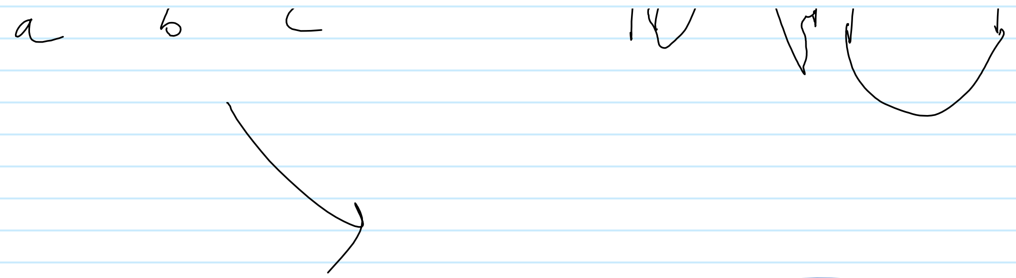
given $y_1, x_2, \ldots, x_n$ solve for x_1

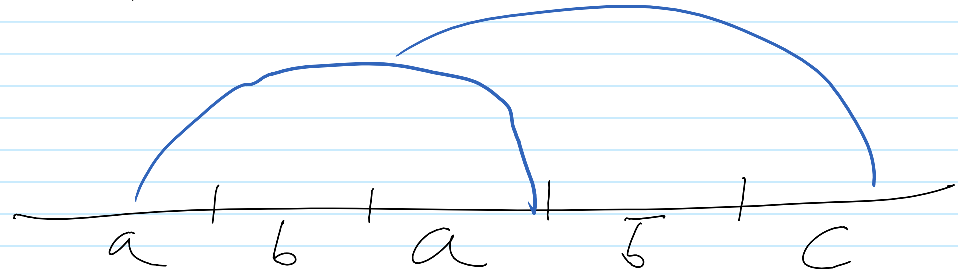
s.t. $D\begin{pmatrix} x_1 \\ \vdots \\ x_n \end{pmatrix} = \begin{pmatrix} y_1 \\ 0 \\ 0 \\ 0 \\ 0 \end{pmatrix}$

$a b a \bar{b} c \in FG(a,b,c)$

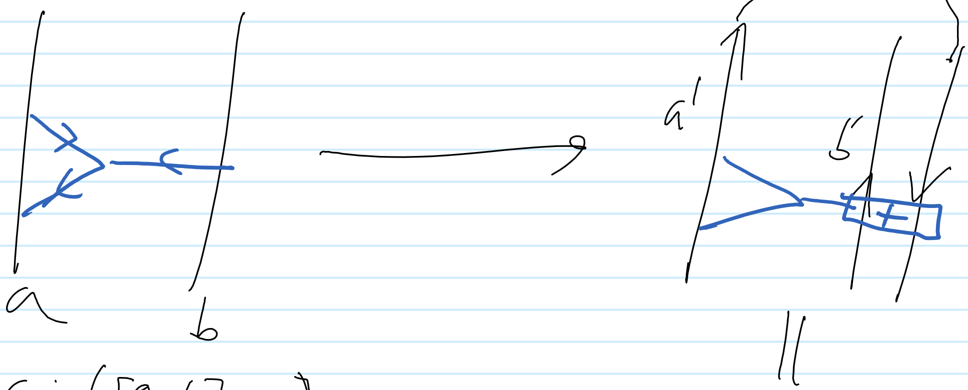




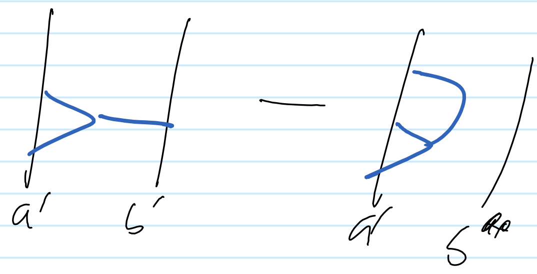




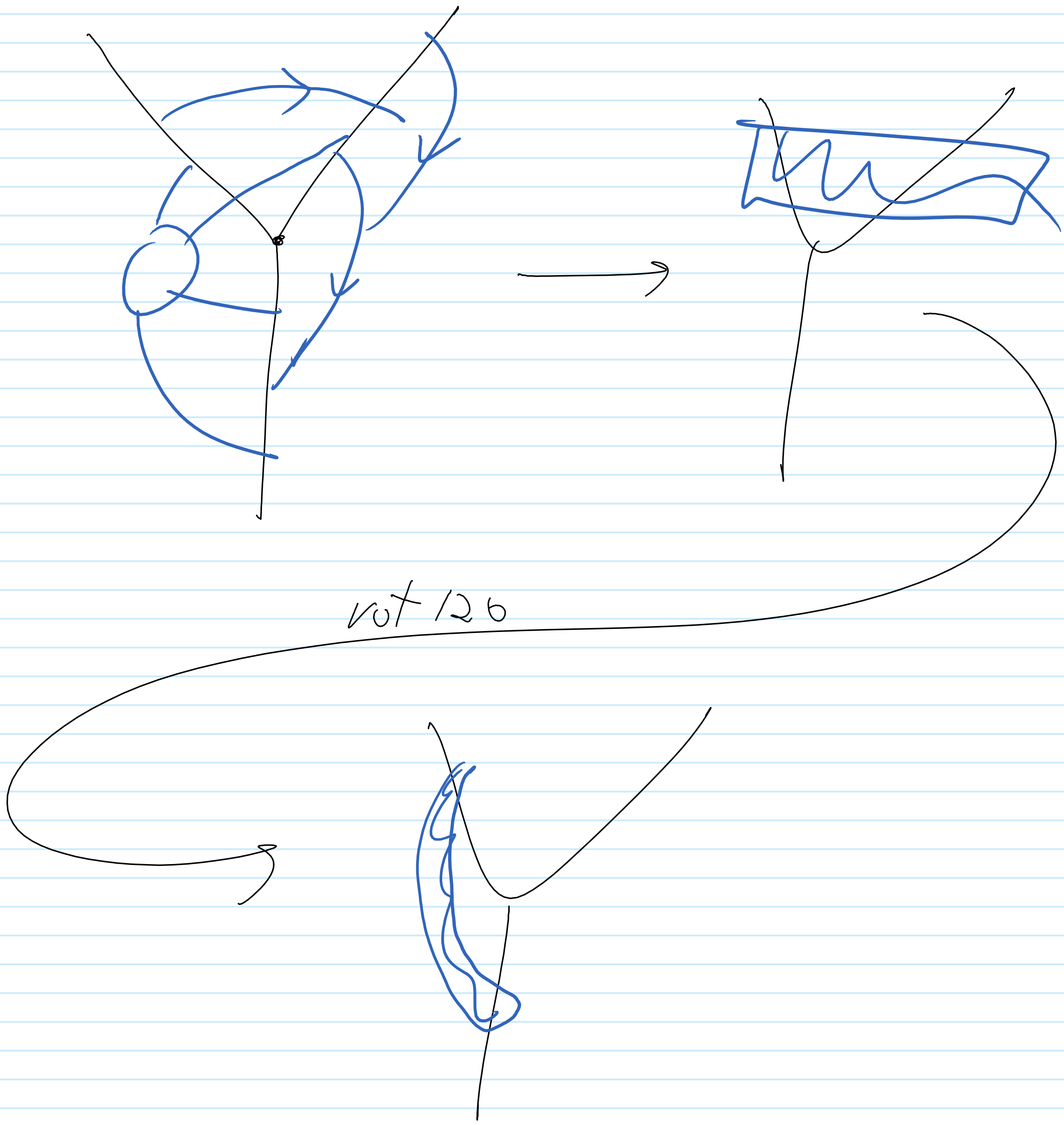
$$\begin{pmatrix} a \\ b \end{pmatrix} \longmapsto \begin{pmatrix} b \\ ab^{-1} \end{pmatrix} : A^w(2) \circlearrowleft$$

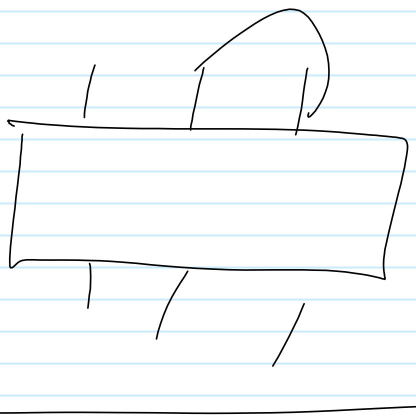


in tder : $([a,b],0)$



$([a,b],0)$ $\quad$ $([a,a],0)$





Involutions of KV:

1 $\quad ch(x,y) = \log(e^x e^y)$

Obs: $\quad ch(-y,-x) = \log(e^{-y}e^{-x}) =$

$$= -\log(e^x e^y) = -ch(x,y)$$

$$ch(x,y) = x+y+[x,a(x,y)]+[y,b(x,y)]$$

$$ch(-y,-x) = -y-x-[y,a(-y,-x)]-[x,b(-y,-x)]$$

$$\tilde{a}(x,y) = b(-y,-x)$$

$$\tilde{b}(x,y) = a(-y,-x)$$

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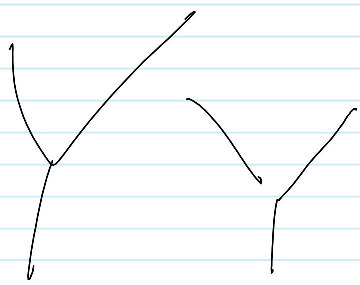
2 $\quad ch(y,x) = \log(e^y e^x) = e^{ad\, x}\log(e^x e^y),$

$$= e^{ad_x}\left(x+y+[x,a]+[y,b]\right)$$

$$\tilde{a} = \dots$$

$$\tilde{b} = \dots$$



$$e^{ad\, x} \sim R = e^{(0,x)}$$

$$(\#) \to e^{(y,x)}$$