

- Plan:
1. Duflo Thm, Rouvière Thm ^{new!}
 2. Free Lie & traces
 3. KV problem, Rouvière Problem ^{new!}
 4. Associators & GRT
 5. Twist eqns \Rightarrow Duflo + $\frac{1}{2}$ Rouvière
 6. Open
- } today
- } Tomorrow
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Duflo: $S\mathfrak{g} \xrightarrow{\partial \mathfrak{J}^h} S\mathfrak{g} \xrightarrow{\text{sym}} U(\mathfrak{g})$

$$J^{1/2}(x) = \det^{1/2} \left(\frac{e^{\text{ad}X} - 1}{\text{ad}X} \right)$$

Rouvière σ $\mathfrak{G}\mathfrak{g}$ involution, $\mathfrak{g} = \mathfrak{g}_{+1} \oplus \mathfrak{g}_{-1}$

$\begin{matrix} \downarrow & \downarrow \\ \mathfrak{h} & \mathfrak{p} \end{matrix}$

$\alpha: \mathfrak{h}$

The real things' at <http://katlas.math.toronto.edu/drorbn/dbnvp/Alekseev-1006-1.php> and <http://katlas.math.toronto.edu/drorbn/dbnvp/Alekseev-1006-2.php>

Open problems 1. Is it true that all solutions of the KV come from horizontal associators?

Aside $\text{grt} \rightarrow \text{tdr}_2$ by $\Psi \mapsto (\Psi(x, -x-y), \Psi(y, -x-y))$

2.