What means
\[ M = \begin{array}{c}
\Rightarrow \\
\Rightarrow \\
\end{array} \]
\[ \text{global in Lie theory?} \]

Alternatively, how is \( U(I_g) \otimes U(I_g) \otimes U(g) \)
to be interpreted?

\[ U(I_g) \otimes U(I_g) \otimes U(g) \]
tangential differential operators on \( \text{Fun}(g \otimes g) \),
constant-coefficient tangential differential with not-necessarily-constant operators on \( \text{Fun}(g) \)
coefficients
\[ \sim \text{measures on } g. \]

From this perspective, "convolution" takes functions on \( g \otimes g \) to measures on \( g \),
by integrating \( M(f(x)g(y)) \) w.r.t. both \( x \) and \( y \).

\[ M = \begin{array}{c}
\Rightarrow \\
\Rightarrow \\
\end{array} \]
\[ m = \begin{array}{c}
\Rightarrow \\
\Rightarrow \\
\end{array} \]
Both are functions on \( g \) with values in \( U(I_g) \).

What means \( F \hat{M} = \hat{F} \)?
for a tangential differential operator \( F \in U(I_g) \otimes \)?

"\( T \) is tangential" implies that if \( F \) is invariant then
\[ TF = T_0 F, \]
where \( T_0 \) is the [well-defined?] degree
of part of \( T \).

Let \( F \) and \( g \) be invariant. Then
\[ \text{Goal: up to a } j \text{-correction,} \]

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\[ \int F M(f \circ g) = \int M F(f \circ g) \quad | \quad M f \circ g = M f \circ g \]

\[ \Rightarrow \int (F^* 1) M(f \circ g) = \int M F_0(f \circ g) \]

\[ \Rightarrow \int (F^*)_0 M f \circ g = \int M F_0 f \circ g \]

So all we need is to interpret \((F^*)_0\) and \(F_0\) as "the \(j\) correction". There seen to be two equations here, one to fix \(F_0\) and one to fix \((F^*)_0\). There should be a way to reduce this to one.

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**Question** For which \(j_0, \in \mathcal{A}(1^n)\) can we find a \(V \in \mathcal{A}(1^n)\) so that

\[ j_0 = V_0 \quad \text{and} \quad j_1 = (V^*)_0 \quad 2 \]

---

Might the topological interpretation of all that be the need for "edge renormalization"? 2

\[ \begin{array}{c}
\text{\begin{tikzpicture}[baseline=-.5ex]
\draw (-1,0) -- (0,0) -- (1,0);
\draw (-1,-1) -- (0,-1) -- (1,-1);
\end{tikzpicture} \hspace{1cm} \text{untwist} \hspace{1cm} \begin{tikzpicture}[baseline=-.5ex]
\draw (0,0) -- (0,-1);
\end{tikzpicture}} \end{array} \]

There may another topological operation?

\[ \begin{array}{c}
\begin{tikzpicture}[baseline=-.5ex]
\draw (0,0) -- (0,1);
\end{tikzpicture} \rightarrow \begin{tikzpicture}[baseline=-.5ex]
\draw (0,0) -- (0,1);
\end{tikzpicture} \end{array} \]