- $\mathfrak{g}$ Lie cocycle $\quad d_{\mathfrak{g}}\mu = 0$
- $\mathfrak{g}$ inv. polynomial $\quad d_{\mathrm{inn}(\mathfrak{g})}k|_{\wedge^\bullet(s\mathfrak{g}^*)} = 0$
- $\mathfrak{g}$ transgression element $\quad cs|_{\wedge^\bullet(s\mathfrak{g}^*)} = \mu$, $\quad d_{\mathrm{inn}(\mathfrak{g})} cs = k$

$\mu = \mu_{a_1 \cdots a_{n+1}} t^{a_1} \wedge \cdots \wedge t^{a_n}$

$k = k_{a_1 a_2 \cdots a_{\frac{n+1}{2}}} r^{a_1} \wedge r^{a_2} \cdots$

$cs = \mu + f(t)^{n-1} \wedge (r) + (t)^{n-3} \wedge (r) \wedge (r) + \cdots \;\} \; cs - \mu$

$\mathrm{inn}(\mathfrak{g})^* \underset{\mathrm{Id} = [d, \tau]}{\overset{0}{\rightleftarrows}} \mathrm{inn}(\mathfrak{g}^*)$, $\Downarrow \tau$

$\Rightarrow (d_{\mathrm{inn}(\mathfrak{g})} k = 0 \Rightarrow k = d_{\mathrm{inn}}(\tau h) =: d(cs))$

The obstruction to lifting a $\mathfrak{g}$-bundle to its $(n+1)$-connected cover via an $(n+1)$-cocycle μ

e.g.
- $\mathfrak{g} = \mathfrak{spin}(n)$, $\mu_3 = \langle \cdot, [\cdot,\cdot] \rangle \rightsquigarrow \mathfrak{g}_\mu = \mathfrak{string}(n)$