Proposition 5.1. There is a unique map $j: \text{TAut}_n \to \text{tr}_n$ which satisfies the group cocycle condition

$$j(gh) = j(g) + g \cdot j(h),$$

and has the property

$$\frac{d}{du} j(\exp(u)))|_{u=0} = \text{div}(u).$$

$$j(\exp(u)) = \frac{e^u - 1}{u} \cdot \text{div}(u)$$

Let's make the topological question precise:

There is a canonical map from "long ribbon tubes in $\mathbb{R}^n$" to "semi-infinite ribbon tubes in $\mathbb{R}^n$" ("cap one end"). Does this map have a canonical section?

And then, same question in the multiple-tube case.

What's canonical?
* should have a prescribed behaviour on the unknotted long tube.
* should not change if "head goes under something",
* should be a \( g^k \)-module morphism; i.e., should commute with "tail goes over something"

I wish I knew closures!

\[
\frac{\uparrow}{\rightarrow} = \text{Diagram}
\]