The base case for pushforwards

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$$\mathcal{L}_V(D) := D\left(e^{\sum \zeta_i z_i}\right)$$

$$\mathcal{L}_W(E) := E\left(e^{\sum \eta_i y_i + \tau t}\right)$$

$$D = \exp\left[\frac{\tau}{2}\sum a_{ij}\partial_i\partial_j + \sum c_i \partial_i\right] \quad \mathcal{L}_V(D) = \exp \frac{1}{2}\sum a_{ij} z_i z_j + \sum c_i z_i$$

$$\Phi : V = \mathbb{R}^n_{\zeta_1 \ldots \zeta_n} \longrightarrow W = \mathbb{R}^{n+1}_{\eta_1 \ldots \eta_n, \tau}$$

$$\text{by } \Phi(\zeta) = \begin{pmatrix} \zeta \\ \frac{1}{2}\sum b_{ij}\zeta_i\zeta_j \end{pmatrix}$$

$$\mathcal{L}_W(\Phi_* D) = (\Phi_* D)\left(e^{\sum \eta_i y_i + \tau t}\right)$$

$$= D\left(\Phi^* e^{\sum \eta_i y_i + \tau t}\right) =$$

$$= D\left(e^{\sum \zeta_i y_i + \frac{1}{2}\sum b_{ij}\zeta_i\zeta_j t}\right)$$

$$= \left(e^{\frac{\alpha}{2}\sum a_{ij}\partial_i\partial_j + \sum c_i \partial_i}\right)\left(e^{\sum \zeta_i y_i + \frac{1}{2}\sum b_{ij}\zeta_i\zeta_j t}\right) = F(\alpha)$$

$$F(0) = \ldots$$