Subject parameter distribution:

$$\underbrace{\begin{bmatrix}\text{T0m\_eta1}_i \\ \text{slope}_i\end{bmatrix}}_{\boldsymbol{\phi}(i)} \sim \text{tform}\left\{\text{N}\left(\begin{bmatrix}\text{raw\_T0m\_eta1} \\ \text{raw\_slope}\end{bmatrix}, \begin{bmatrix}\text{rawPCov\_1\_1} & \text{rawPCov\_2\_1} \\ \text{rawPCov\_2\_1} & \text{rawPCov\_2\_2}\end{bmatrix}\right)\right\}$$

Initial latent state:

$$\underbrace{\left[\text{eta1}\right](t_0)}_{\boldsymbol{\eta}(t_0)} \sim \text{N}\left(\underbrace{\left[\text{T0m\_eta1}\right]}_{\text{T0MEANS}}, \underbrace{covsdcor\left\{\left[\text{Pcorsqrt\_1\_1}\right]\right\}}_{\substack{\mathbf{Q^*}_{t0} \\ \text{T0VAR}}}\right)$$

Deterministic change:

$$\underbrace{\text{d}\left[\text{eta1}\right](t)}_{\text{d}\boldsymbol{\eta}(t)} = \left(\underbrace{\left[0\right]}_{\substack{\mathbf{A} \\ \text{DRIFT}}} \underbrace{\left[\text{eta1}\right](t)}_{\boldsymbol{\eta}(t)} + \underbrace{\left[\text{slope}\right]}_{\substack{\mathbf{b} \\ \text{CINT}}}\right)\text{d}t \quad +$$

Random change:

$$\underbrace{cholsdcor\left\{\left[0\right]\right\}}_{\substack{\mathbf{G} \\ \text{DIFFUSION}}} \underbrace{\text{d}\left[W_1\right](t)}_{\text{d}\mathbf{W}(t)}$$

Observations:

$$\underbrace{\left[\text{y1}\right](t)}_{\mathbf{Y}(t)} = \underbrace{\left[1\right]}_{\substack{\boldsymbol{\Lambda} \\ \text{LAMBDA}}} \underbrace{\left[\text{eta1}\right](t)}_{\boldsymbol{\eta}(t)} + \underbrace{\left[0\right]}_{\substack{\boldsymbol{\tau} \\ \text{MANIFESTMEANS}}} + \underbrace{\left[\text{log1p\_exp(errorsd\_intercept + errorsd\_byeta1 * eta1)}\right]}_{\substack{\boldsymbol{\Theta} \\ \text{MANIFESTVAR}}} \underbrace{\left[\epsilon_1\right](t)}_{\boldsymbol{\epsilon}(t)}$$

Latent noise per time step: $\Delta\left[W_{j\in[1,1]}\right](t-u) \sim \text{N}(0, t-u)$

Observation noise: $\left[\epsilon_{j\in[1,1]}\right](t) \sim \text{N}(0,1)$

cholsdcor converts lower tri matrix of std dev and unconstrained correlation to Cholesky factor covariance.
covsdcor = transposed cross product of cholsdcor, to give covariance.
See Driver & Voelkle (2018) p11.