- Repeat forever
  - Randomly select m^{th} (x,k,f,θ) sample tuple from M in the store.
  - Sample a new value $x' \sim f(\cdot|\theta)$
  - Resume $\mathcal{P}$ by calling `(k x')` if `sample`, `observe`, or `predict` reached do:
    - `sample`: $\mathcal{P}$ passes us a continuation k′ and an object (f', θ') consisting of a distribution f' with parameter θ'. We sample a value $x' \sim f'(\cdot|\theta')$, store ($x'$,k′,$f'$,$\theta'$), then call `(k' x')`.
    - `observe`: $\mathcal{P}$ passes us a continuation k′, an object (g', ϕ') consisting of a distribution g' with parameter ϕ', and a observed value y. We store (y, k′,g',ϕ'), and call `(k')`.
    - `predict`: $\mathcal{P}$ passes us a continuation k′, a label ℓ', and a value z'. We store (ℓ', z') and call `(k')`.
  - When $\mathcal{P}$ terminates we compute

$$\alpha = \min\left(1, \frac{\gamma(\mathbf{x}')M\prod_{j=m}^{M} f_j(x_j|\theta_j)}{\gamma(\mathbf{x})M'\prod_{j=m}^{M'} f'_j(x'_j|\theta'_j)}\right)$$

    and accept proposed trace and and output (ℓ', z') w.p. α, keep old trace and output (ℓ, z) otherwise.