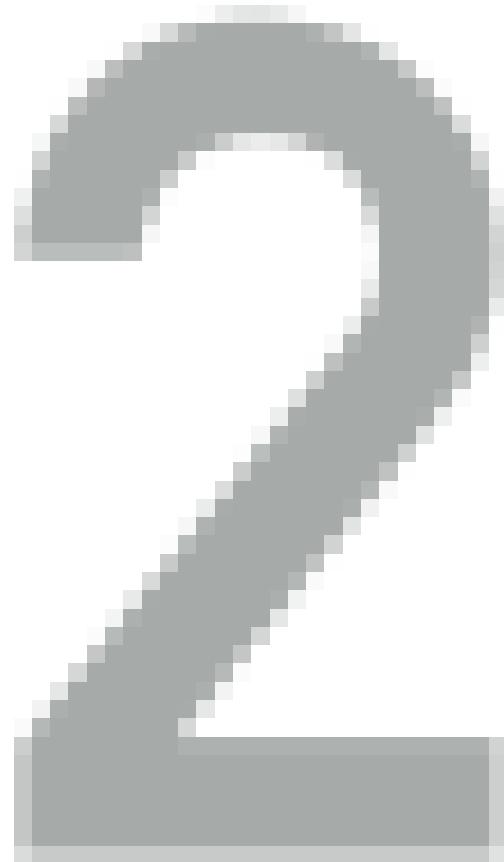
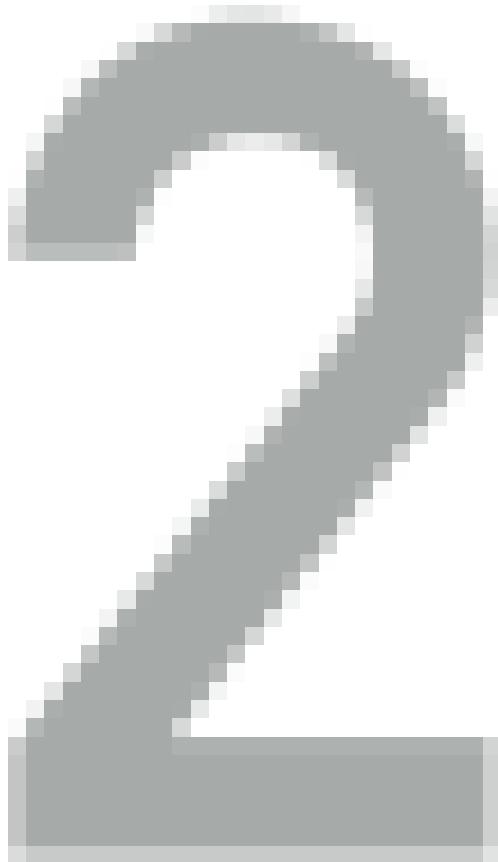


PERFORMING CONSTITUTIONAL GRAND JURY



What if I just want to compute $\pi[f]$ for some statistic? I don't care about every statistic?

- ▶ Define a the f -tilted target π_f distribution:

$$\pi_f(dx) = \frac{\gamma_f(x)}{Z_f} dx$$

$$\gamma_f(x) = f(x)\gamma(x)$$

- The normalising constant of the tilted target satisfies:

$$Z_f = \int_{\mathbb{X}} \gamma_f(x) dx = \int_{\mathbb{X}} f(x) w(x) \eta(x) dx = \eta[fw],$$

$$\pi[f] = \int_X f(x) \pi(x) dx$$

$$\int_X f(x) \gamma(x) dx$$

====

Z

Zf

—
—

—

Z

$n[fw]$



$n[w]$

→ Non constant expectations are equivalent to computing a single constant expectation

INTEGRALS ARE NORMALISING CONSTANTS

- ▶ What if I don't care about every statistic? I just want to compute $\pi[f]$ for some f
- ▶ Define a the f -tilted target π_f distribution:

$$\pi_f(dx) = \frac{\gamma_f(x)}{Z_f} dx \quad \gamma_f(x) = f(x)\gamma(x)$$

- ▶ The normalising constant of the tilted target satisfies:

$$Z_f = \int_{\mathbb{X}} \gamma_f(x) dx = \int_{\mathbb{X}} f(x)w(x)\eta(x)dx = \eta[fw],$$

- ▶ Normalising constants are equivalent to computing a single expectation:

$$\pi[f] = \int_{\mathbb{X}} f(x)\pi(x)dx = \frac{\int_{\mathbb{X}} f(x)\gamma(x)dx}{Z} = \frac{Z_f}{Z} = \frac{\eta[fw]}{\eta[w]}$$

MONTE CARLO AND COMPUTATION