Individuals

```
0 2 2 1 1 0 1
0 2 1 0 1
2 ...
```

Loci

X

$$E[x_{ij}|T] = 2p_i^T,$$

$$\mathrm{Var}(x_{ij}|T) = 2p_i^T\left(1 - p_i^T\right)\left(1 + f_j^T\right),$$

$$\mathrm{Cov}(x_{ij}, x_{ik}|T) = 4p_i^T\left(1 - p_i^T\right)\varphi_{jk}^T,$$

$$(1 - F_{\mathrm{IT}}) = (1 - F_{\mathrm{IS}})(1 - F_{\mathrm{ST}}),$$

$$\left(1 - f_j^T\right) = \left(1 - f_j^{L_j}\right)\left(1 - f_{L_j}^T\right),$$

$$F_{\mathrm{ST}} = \sum_{j=1}^{n} w_j f_{L_j}^T,$$

$$\hat{p}_i^T = \frac{1}{2}\sum_{j=1}^{n} w_j x_{ij},$$

$$\hat{\varphi}_{jk}^{T,\mathrm{new}} \xrightarrow[m\to\infty]{\mathrm{a.s.}} \varphi_{jk}^T.$$

E, Var, Cov,
round, sgn, logit,
$\xrightarrow[m\to\infty]{\mathrm{a.s.}}$, $\xrightarrow[n\to\infty]{}$, $\xrightarrow[n,m\to\infty]{\mathrm{a.s.}}$,
x_{ij}, p_i^T, $\hat{p}_i^T$, F_{ST}, F_{IT}, F_{IS},
f_B^A, f_j^T, $f_j^{L_j}$, $f_{L_j}^T$, φ_{jk}^T, $\varphi_{jk}^{L_{jk}}$,
$f_{L_{jk}}^T$, $f_{L_j}^{L_{jk}}$, R_{ST}, ϕ_{ST}, G_{ST},
G_{ST}', $\hat{F}_{\mathrm{ST},i}^{\mathrm{sample}}$, $\hat{F}_{\mathrm{ST}}^{\mathrm{indep}}$, $\hat{F}_{\mathrm{ST}}^{\mathrm{WC}}$,
$\hat{F}_{\mathrm{ST}}^{\mathrm{Hudson}}$, $\hat{F}_{\mathrm{ST}}^{\mathrm{HudsonK}}$, $\hat{\varphi}_{jk}^{T,\mathrm{std}}$,
$\hat{f}_j^{T,\mathrm{std}}$, $\hat{f}_j^{T,\mathrm{stdII}}$, $\hat{f}_j^{T,\mathrm{stdIII}}$,
$\hat{F}_{\mathrm{ST}}^{\mathrm{std}}$, $\hat{F}_{\mathrm{ST}}'$, $\hat{F}_{\mathrm{ST}}''$, $\hat{\varphi}_{jk}^{T,\mathrm{new}}$,
$\hat{\varphi}_{\min}^{T,\mathrm{new}}$, $\hat{f}_j^{T,\mathrm{new}}$, $\hat{F}_{\mathrm{ST}}^{\mathrm{new}}$,
$\hat{\varphi}_{jk}^{L_{jk},\mathrm{beagle}}$, $\hat{f}_j^{L_j,\mathrm{beagle}}$,
$\overline{p(1-p)}^T$, A_{jk}, $\hat{A}_{\min}$.