Let $F^{[a,b]}_{\mu,\sigma^2}$

$$b = \begin{pmatrix} c \\ | \\ c \end{pmatrix}$$

~~Plotwe:~~

$$y \sim N(\mu, \Sigma)$$

$$z = (I - \eta\eta^T) y$$

Pf

$$\operatorname{cov}(z, y) = \cancel{y^T (I_n - \Sigma\eta(\eta^T\Sigma\eta)^{-1}\eta^T)^T \Sigma y}$$

$$= (I_n - \Sigma\eta(\eta^T\Sigma\eta)^{-1}\eta^T) y \cancel{\eta} \eta y \eta^{tt}$$

$z =$

$Y - c_1 Y_1 = z_1$

$Y - c_2 Y_2 = z_2$

$Y - c_2$

$= \cancel{\Sigma \eta \Sigma\eta}$

$$\Rightarrow z_1 + c_1 Y_1 = z_2 + c_2 Y_2$$

$$= z_3 + c_3 Y_3 + \cdots$$

$$(I - \Sigma\eta(\eta^T\Sigma\eta)^{-1}\eta^T)\Sigma\eta^{tt}$$

$$\Rightarrow Y_1 = \frac{z_2 + c_2 Y_2 - z_1}{c_1}$$

$\boxed{\text{all you have is } Az}$

$$= \Sigma\eta^{tt} - \Sigma\eta = 0$$

so $\eta^T y \perp\!\!\!\perp z$!

$$z = \begin{pmatrix} Y - c_1 Y_1 \\ Y - c_2 Y_2 \\ | \\ Y_n - c_n Y_n \end{pmatrix}$$

z $\quad Y_2 - c_1 Y_1 = z_2$

$$A = \begin{pmatrix} 1 & -1 & & \\ & \ddots & \ddots & \\ & & & \end{pmatrix} \qquad b = \begin{pmatrix} c \\ c \\ \vdots \\ c \end{pmatrix}$$

$$\Rightarrow Y = Y(Y_1)$$

$$Y_1 - c_1 Y_1 = z_{11}$$

$$\Rightarrow Y_1 = \frac{z_{11}}{1 - c_1} \; !$$

So here Az is z up to a sign change on each element.

so z determine $\underline{Y}$.