Send ~~b~~ $t \to -\infty$

$$b = F^{-1}(\Phi(t)) \qquad b \to -\infty!$$

$$t_- = -t \; !$$

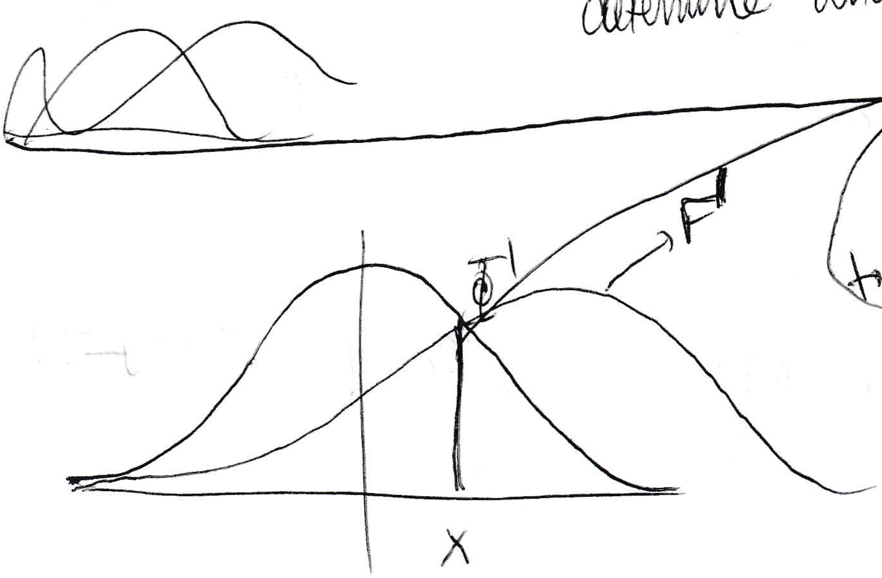
$$F'(a) \leq \frac{(2-t)^2 a +}{(a-b)^2} + \frac{(2-t)}{a-b}$$

need expressions for the lower tail of F to

whynt:

determine what happens here!

As the sup always has a positive skew



just need to ensure that above X there is a bound on F'

Note $X > 1/2$ always!

i.e. exists a point X s.t. $\forall\, y < X$

$$F'(y) < \Phi'(y)$$

as the sup of Gaussians puts less weight on lower tails.

as can scale so that marginally all distribution of $\nabla^3 Y(s) \mid \nabla Y(t), \nabla^2 Y(t)$ are $N(0,1)$!

This combined with prior results may work.