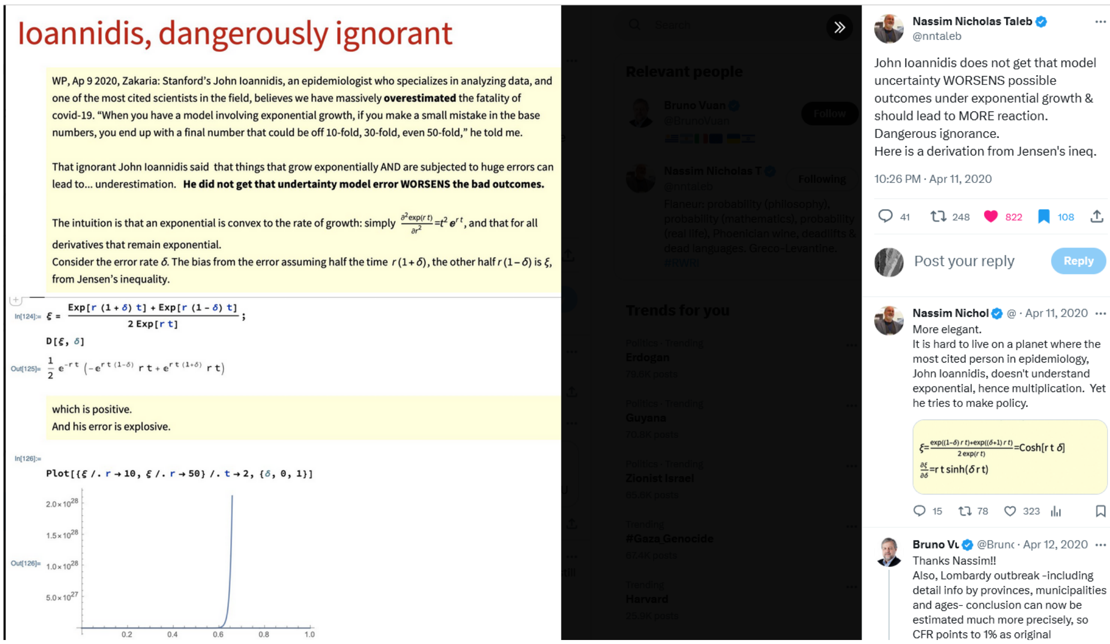
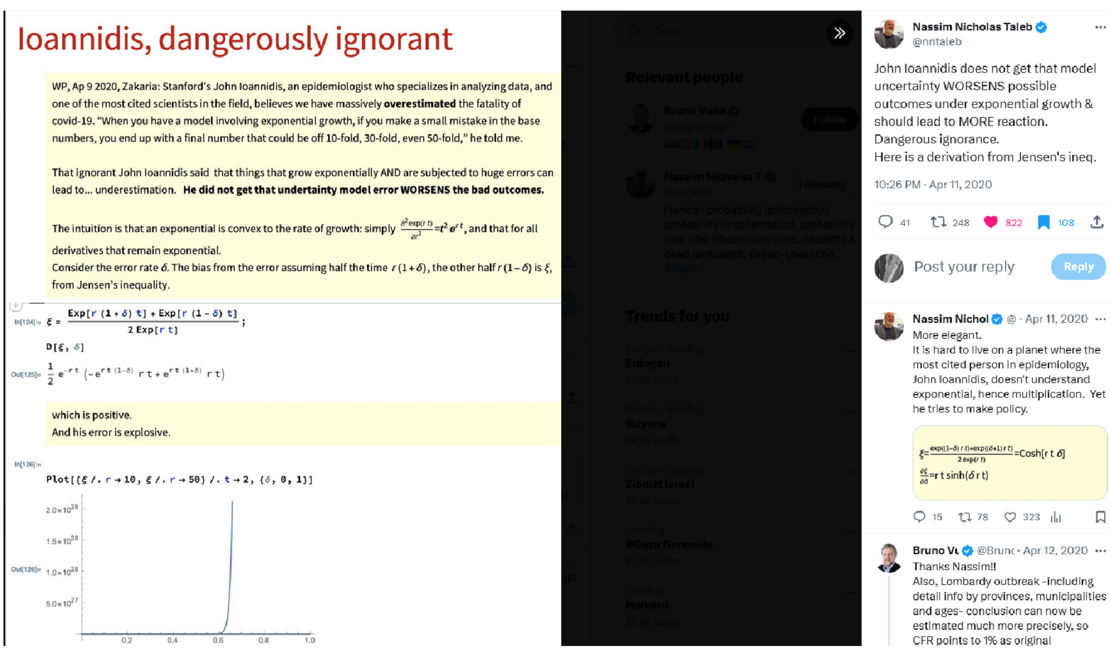
Model Error for Exponential

In[∘]:=



Out[∘]=



Bias from assumption is given as ξ.

In[ ]:= $\xi = \dfrac{\text{Exp}[r\,(1+\delta)\,t] + \text{Exp}[r\,(1-\delta)\,t]}{2\,\text{Exp}[r\,t]}$ // FullSimplify

Out[ ]=

Cosh[r t δ]

Take rate of change of this.

In[ ]:= D[ξ, δ] // FullSimplify

Out[ ]=

r t Sinh[r t δ]

In[ ]:= Plot[{ξ /. r → 10, ξ /. r → 50} /. t → 2, {δ, 0, 1}]

Out[ ]=