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SPEAKERS

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Welcome. In this lecture I'm going to go to the logarithmic scale, which is a way of, a lot of times we have exponential growth and, and you want to kind of chart what's going on, a lot of times it's much easier to do this with a logarithmic scale, but it's often very confusing. So we'll go through it. I would say that, so the chart that we're looking at was made by John Burn-Murdoch of the Financial Times. And the example was found by PhD student Rebecca Carter. So the chart is on the logarithmic scale. So the chart is on the logarithmic scale. And what that means for us is that, so what's going to happen is that exponential growth looks linear.

Okay? So and how can you kind of think of that is that where I have exponential growth, right, then what can look like $Y = e^{Kt}$. So we have $Y = e^{Kt}$, right, where K is my growth constant. Okay, will turn into, so in linear growth this turns into the, right, so we would end up taking the natural log. So in this kind of log scale, what we end up having is the natural log of e^{Kt} , which is equal to Kt . Okay, so what we end up then having is that we get the line, so have the line $Y = Kt$. Okay? So this Y is going to, this function, like if we had it charted like that would translate on a logarithmic scale to something that would look like this so that we would get this line. And now K would be the slope. So now K is the slope.

Okay, so I hope that it helps a little bit in understanding why you might actually want to use the logarithmic scale, like if you have something exponential, now it can turn it into something that's linear, so it's going to, you can actually fit it onto a chart. And that at the same time, oops I'm wanted to put this here too, you can look at the growth and if it's, if you're getting a line of a particular slope like this, and you can translate that back into understanding what the function actually was. Okay, so I hope that made some sense, and I will see you in the next lecture.