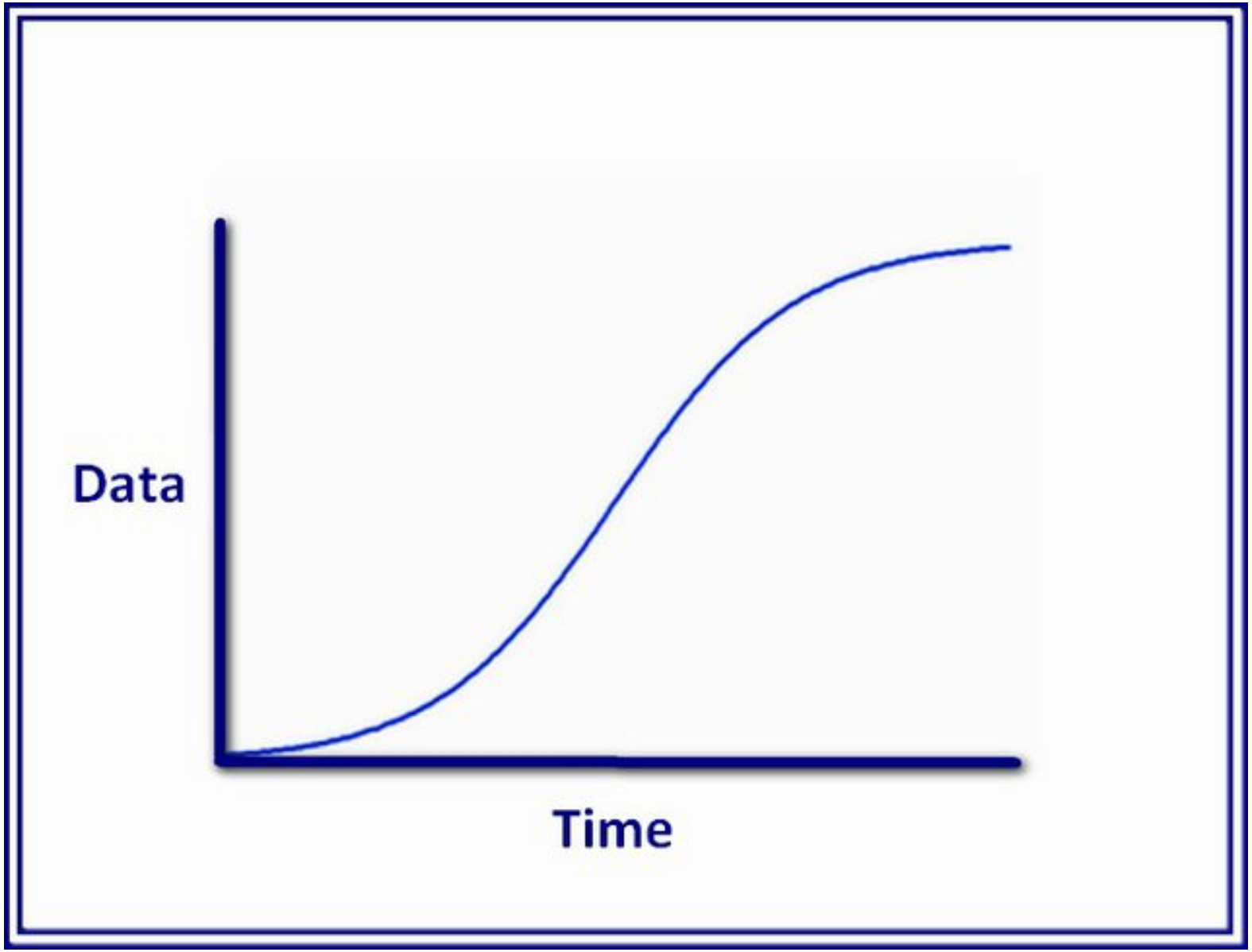
Volatility and Flux

Json

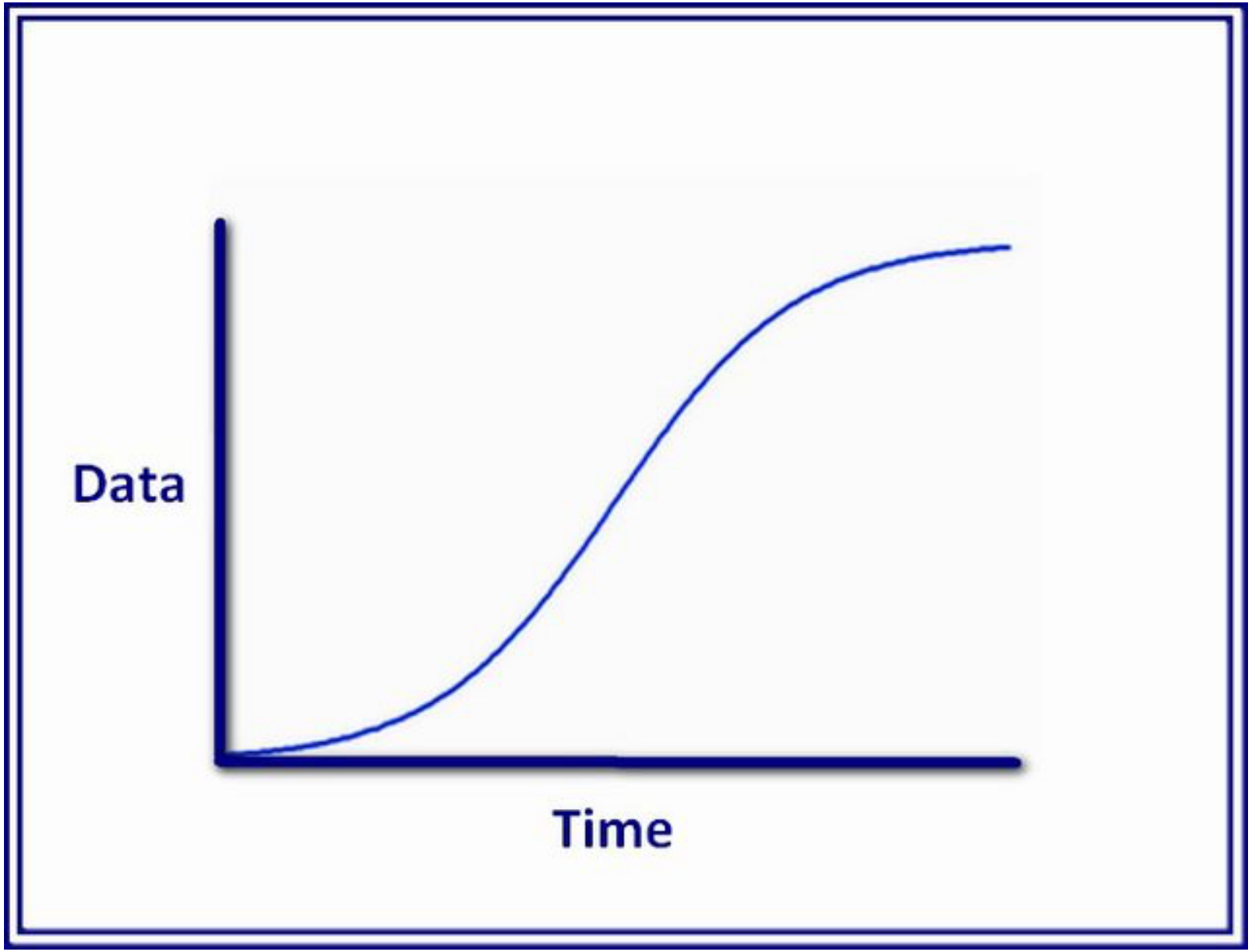
Standard S Curve



Standard S Curve

This is intended to be a rise in an index

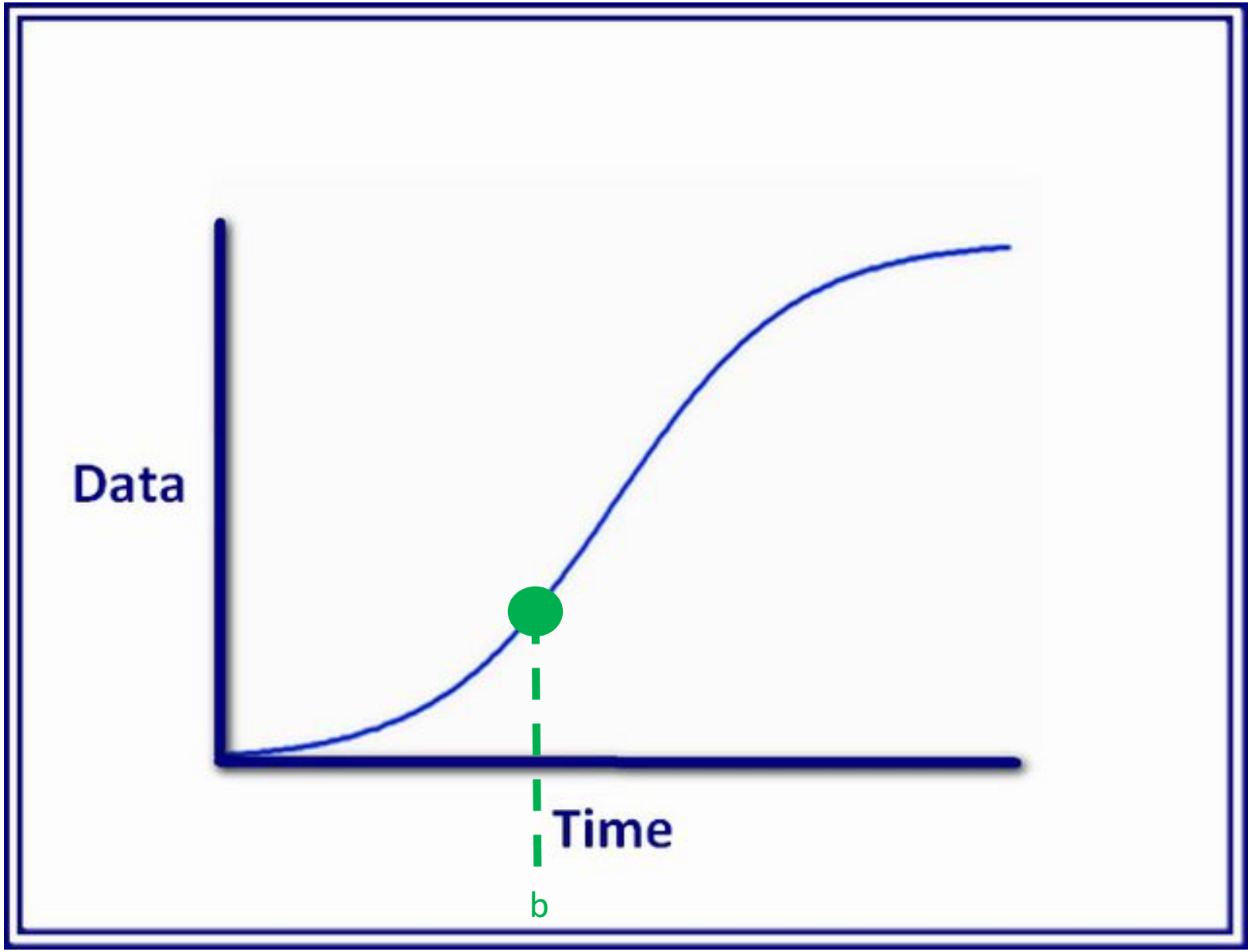
(Time Series)



Volatility

Let’s Look at a point in time before the inflexion point

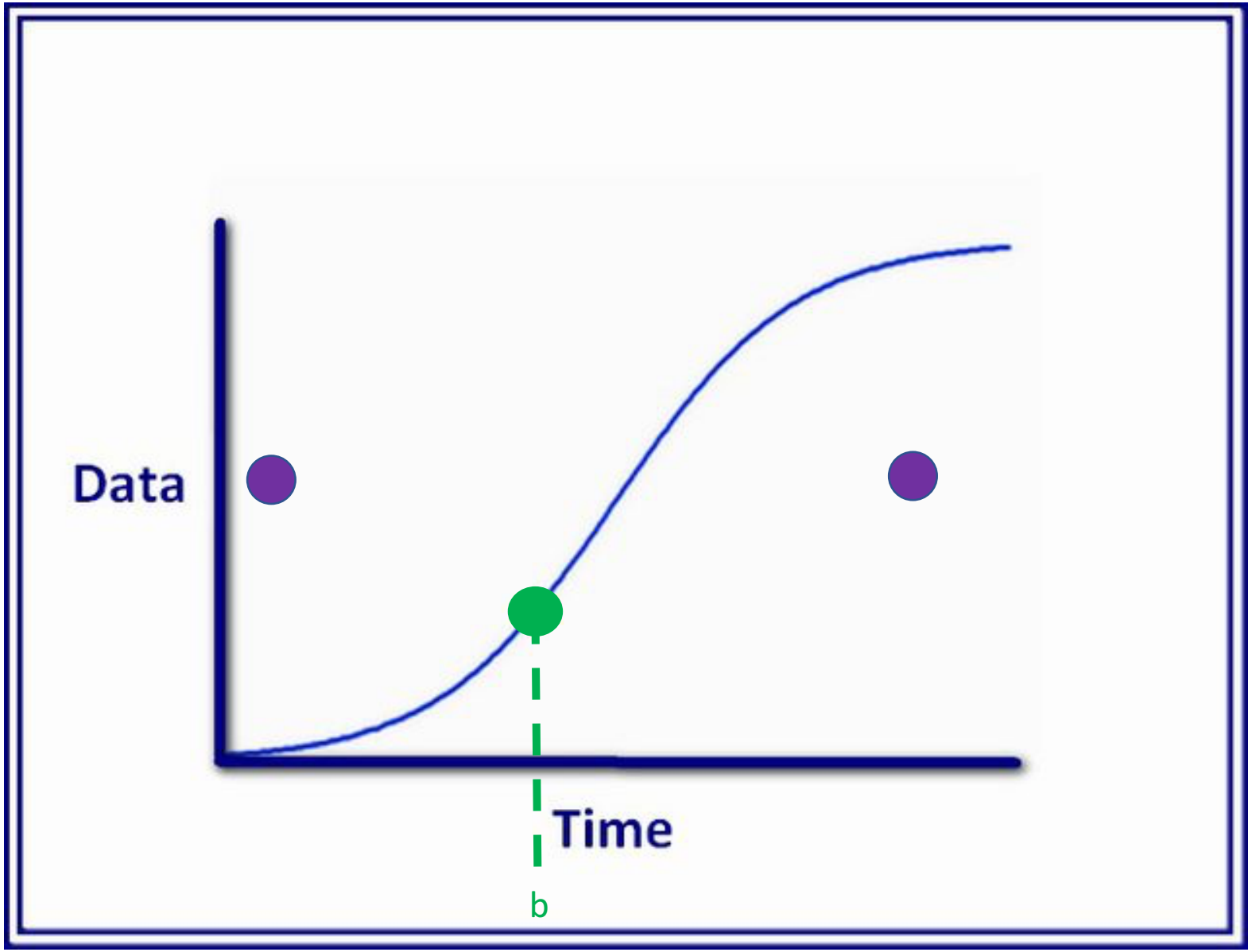
Time b



Volatility

Now I will draw in the "sources" of force which "cause" the movement of the index

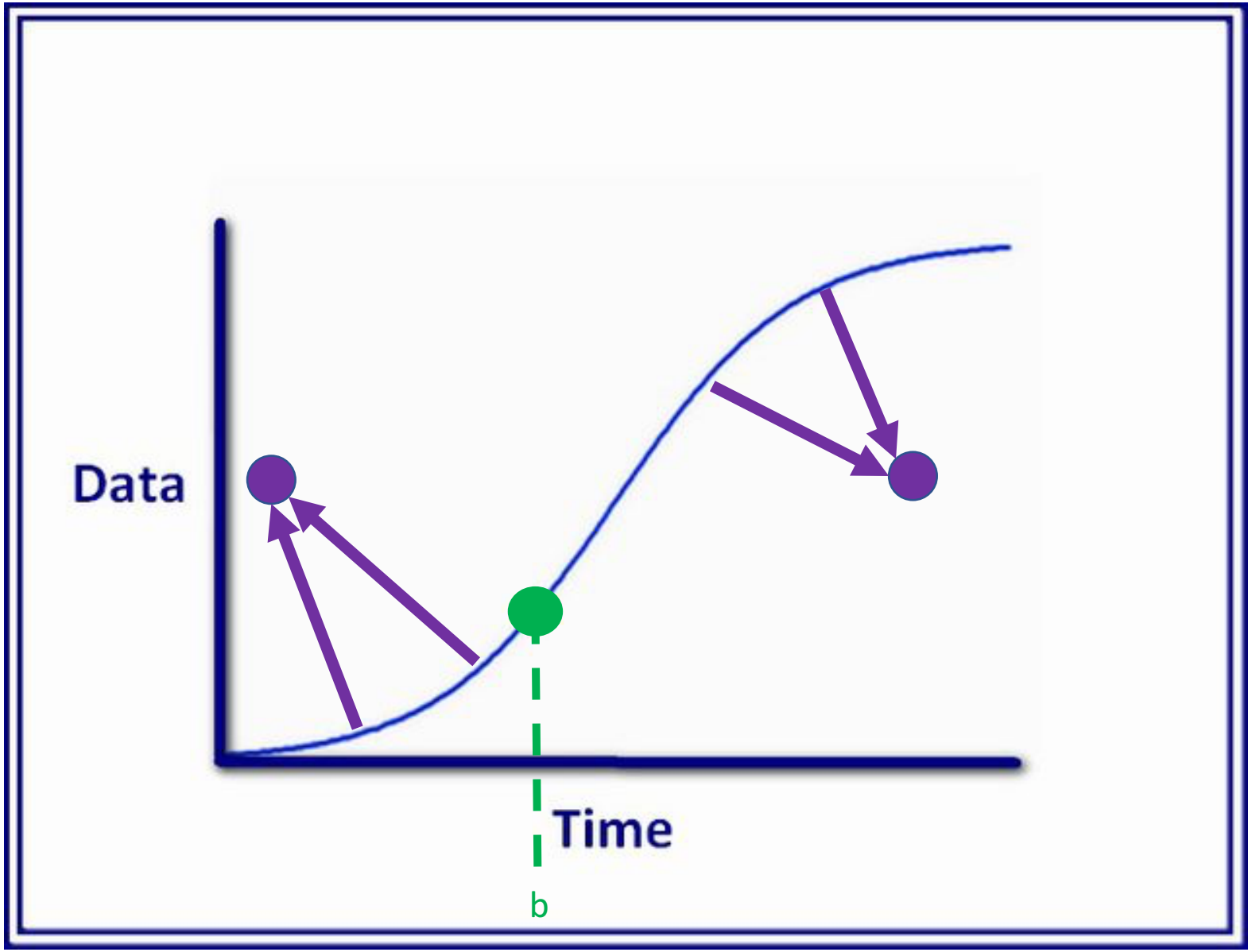
(Rough Estimate)



Volatility

These force vectors could be called:

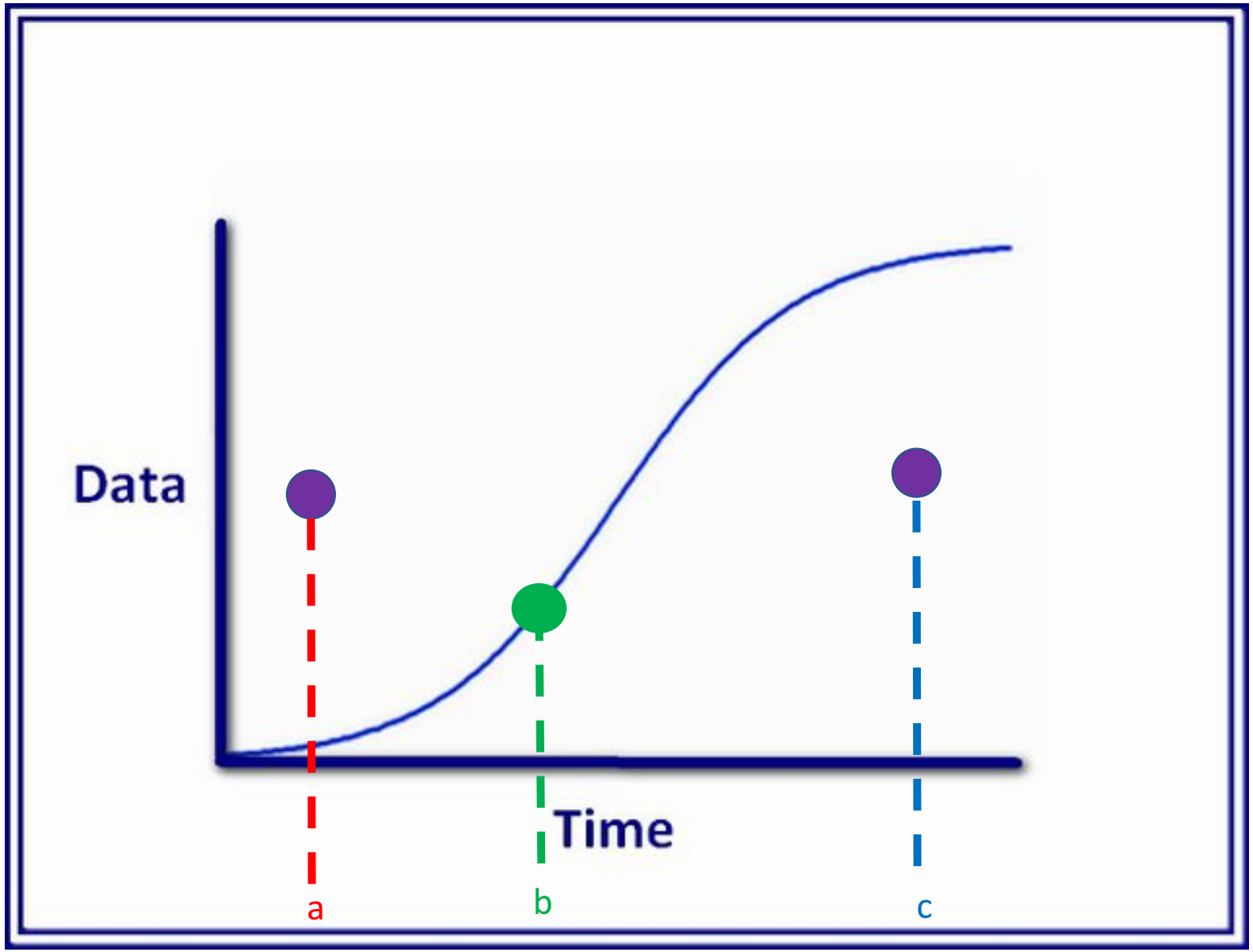
Centripetal



Volatility

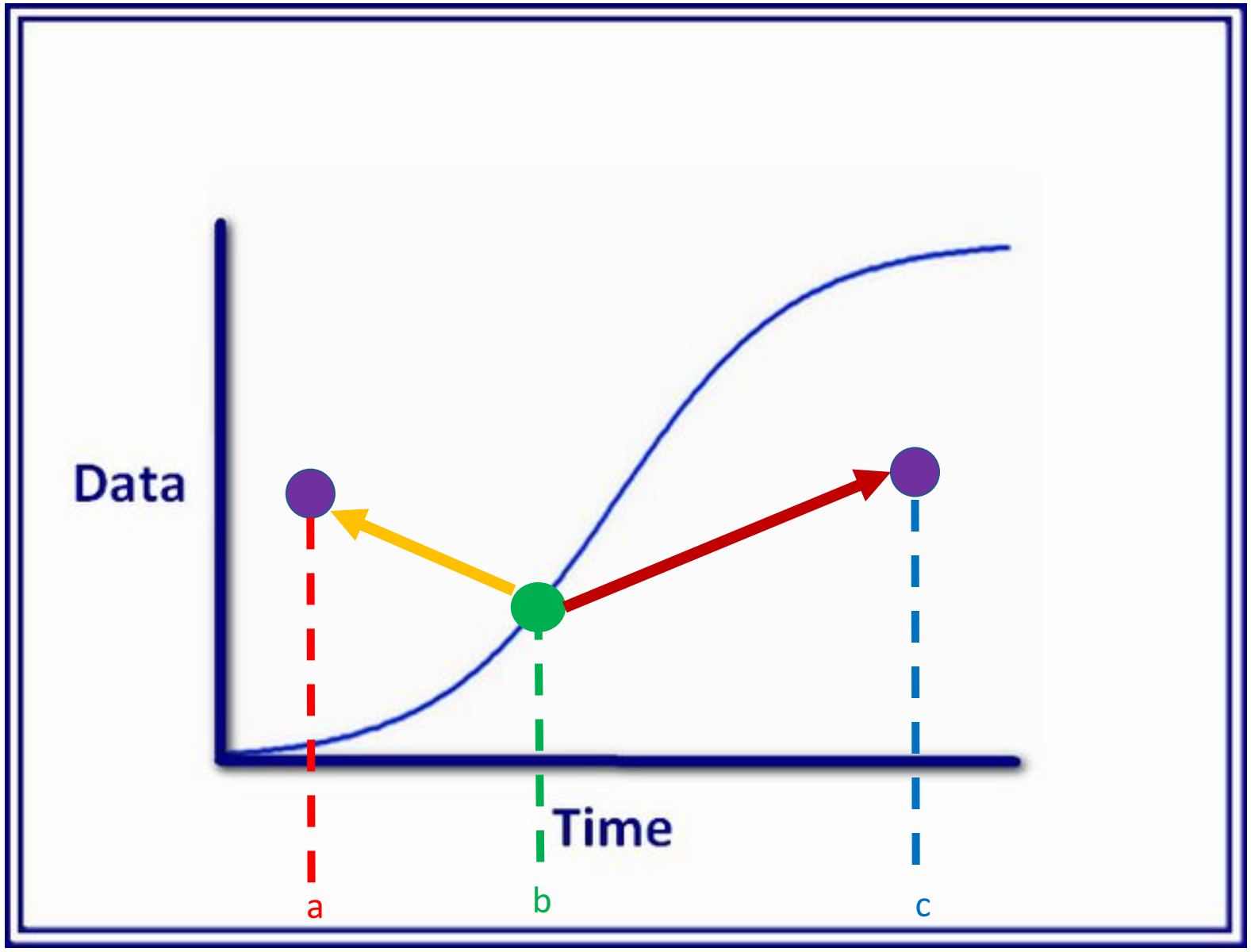
The time of these points could be called:
Pseudo
Centripetal
Events

Because the events are comprised of unknown variables



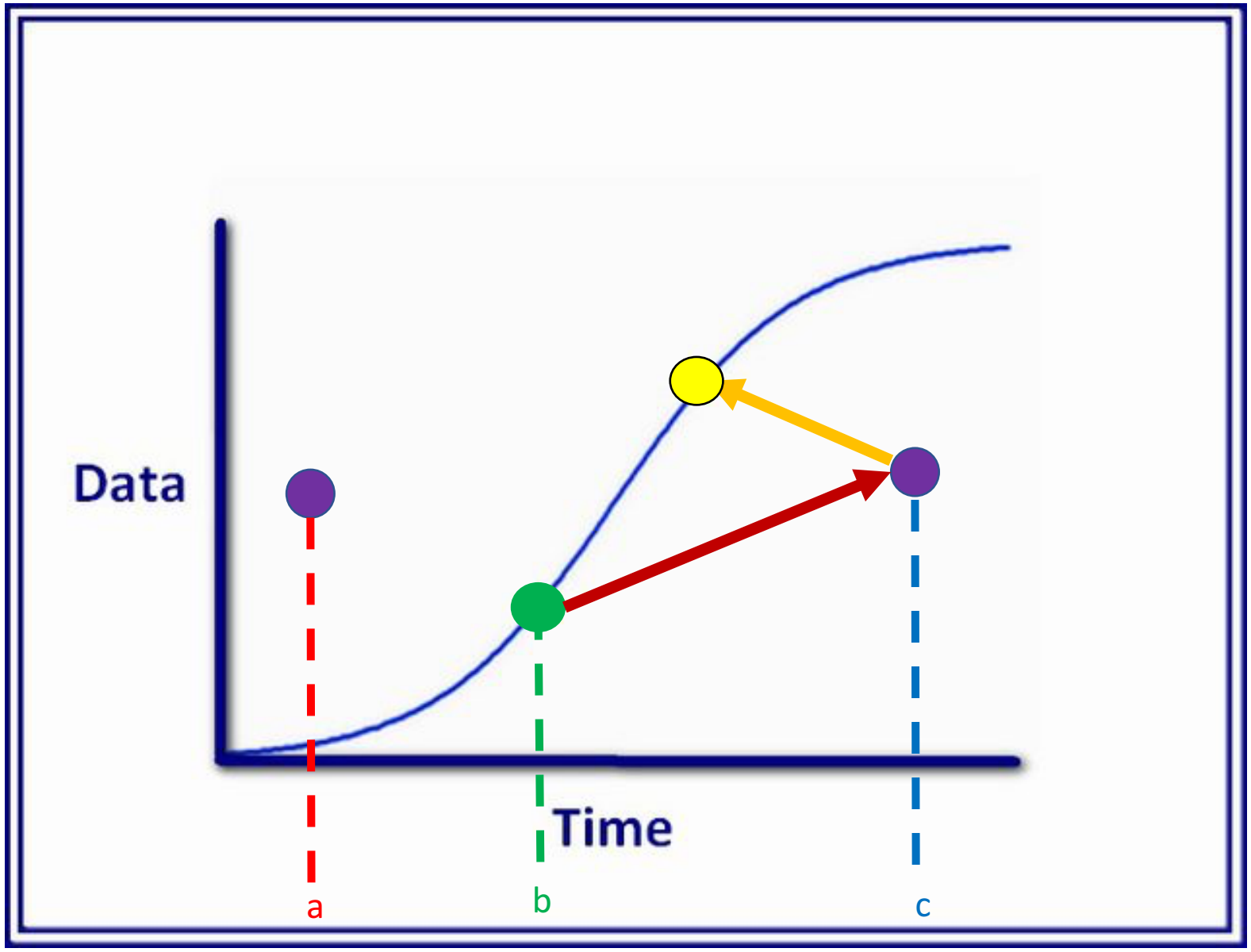
Volatility

Notice What happens when I draw in the centripetal forces



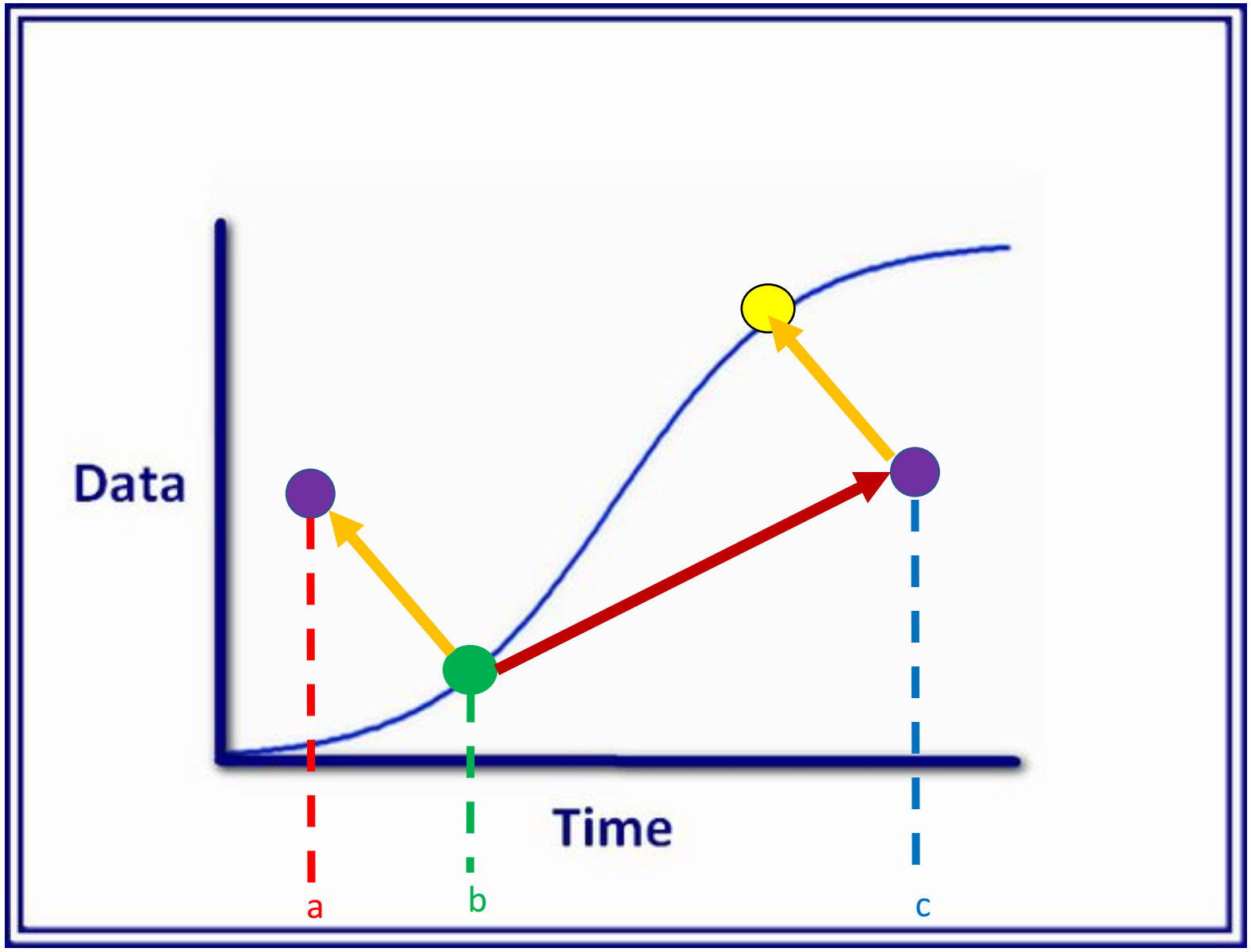
Volatility

The vector addition points to another event which lies roughly on the curve



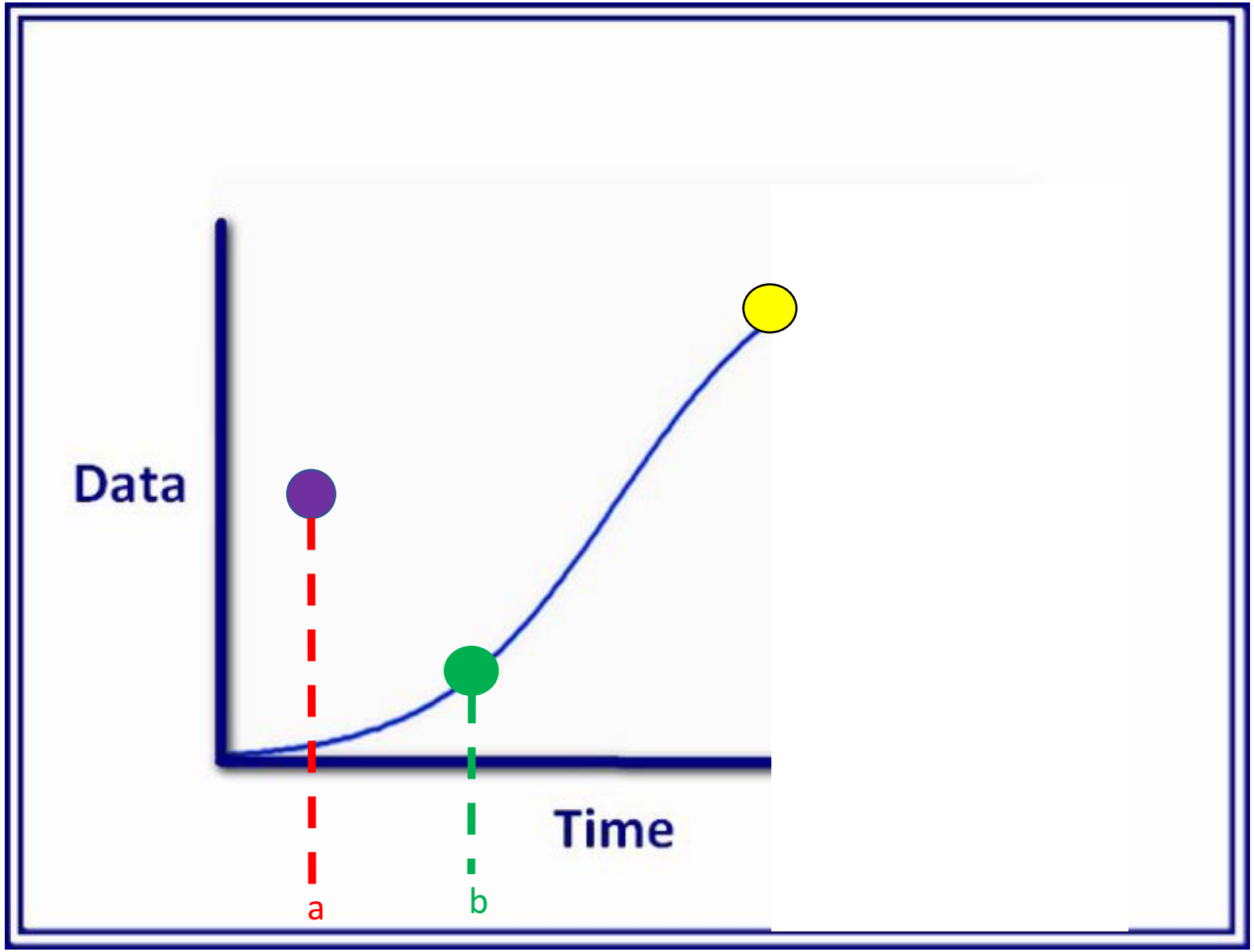
Volatility

I'll do it again with a different b



Volatility

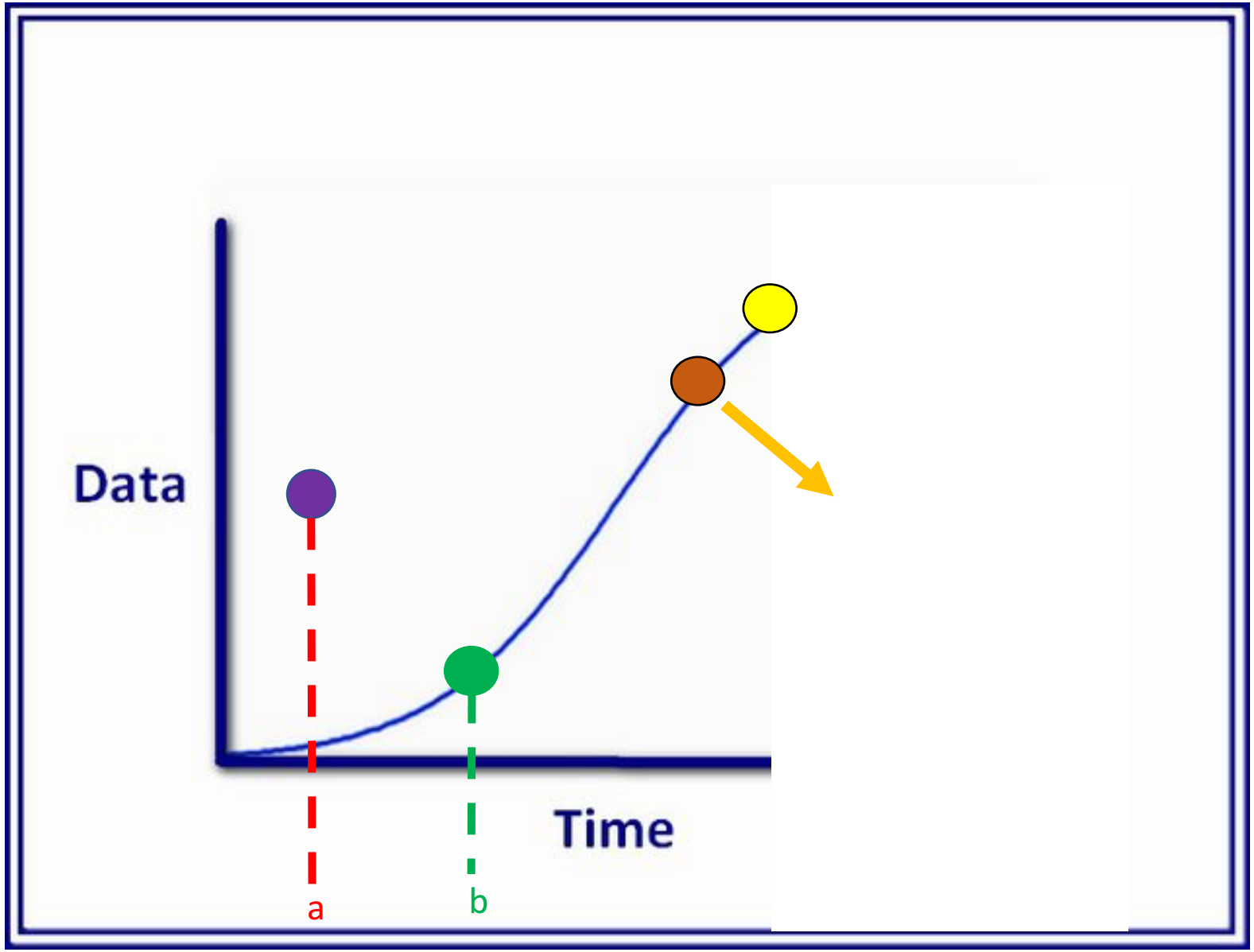
Say we know the yellow point but we cannot determine event c because we do not know where the stock is going



Volatility

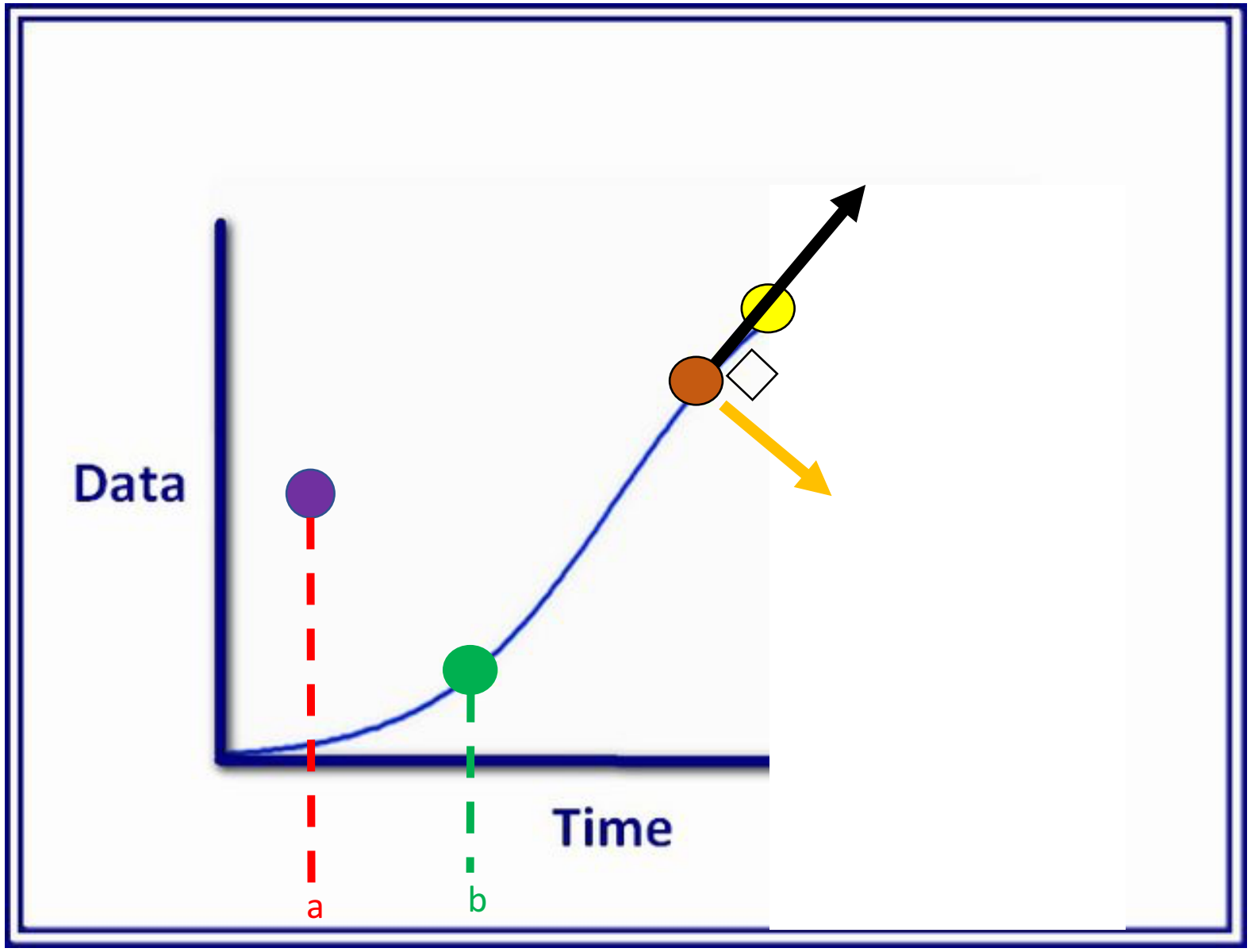
If we choose a point right before the yellow point on the curve, we can calculate a vector called the:

Normal Acceleration



Volatility

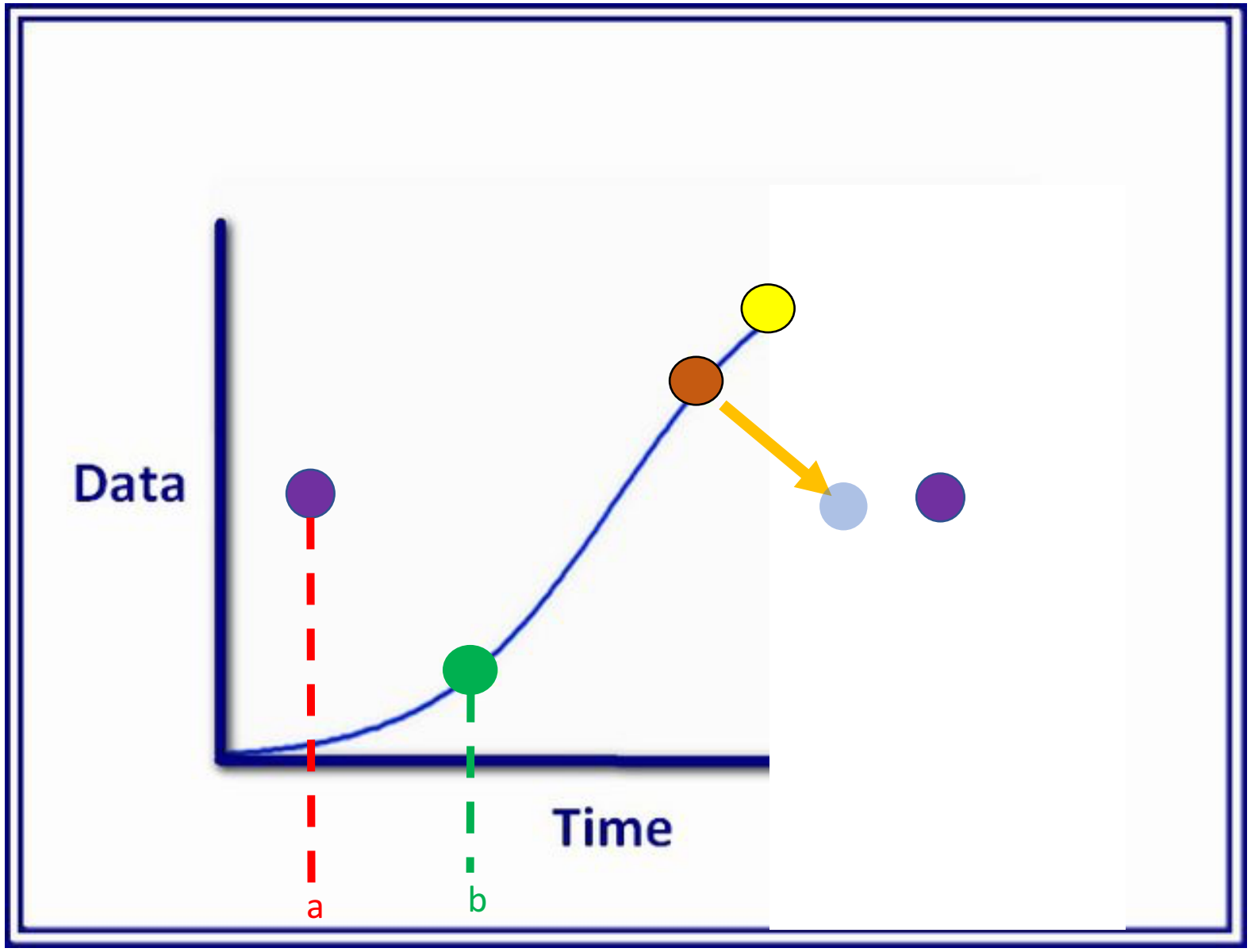
Normal Acceleration is at a right angle to the velocity



Volatility

This gives a current future pseudo event

But, as we know, this is not the correct pseudo event



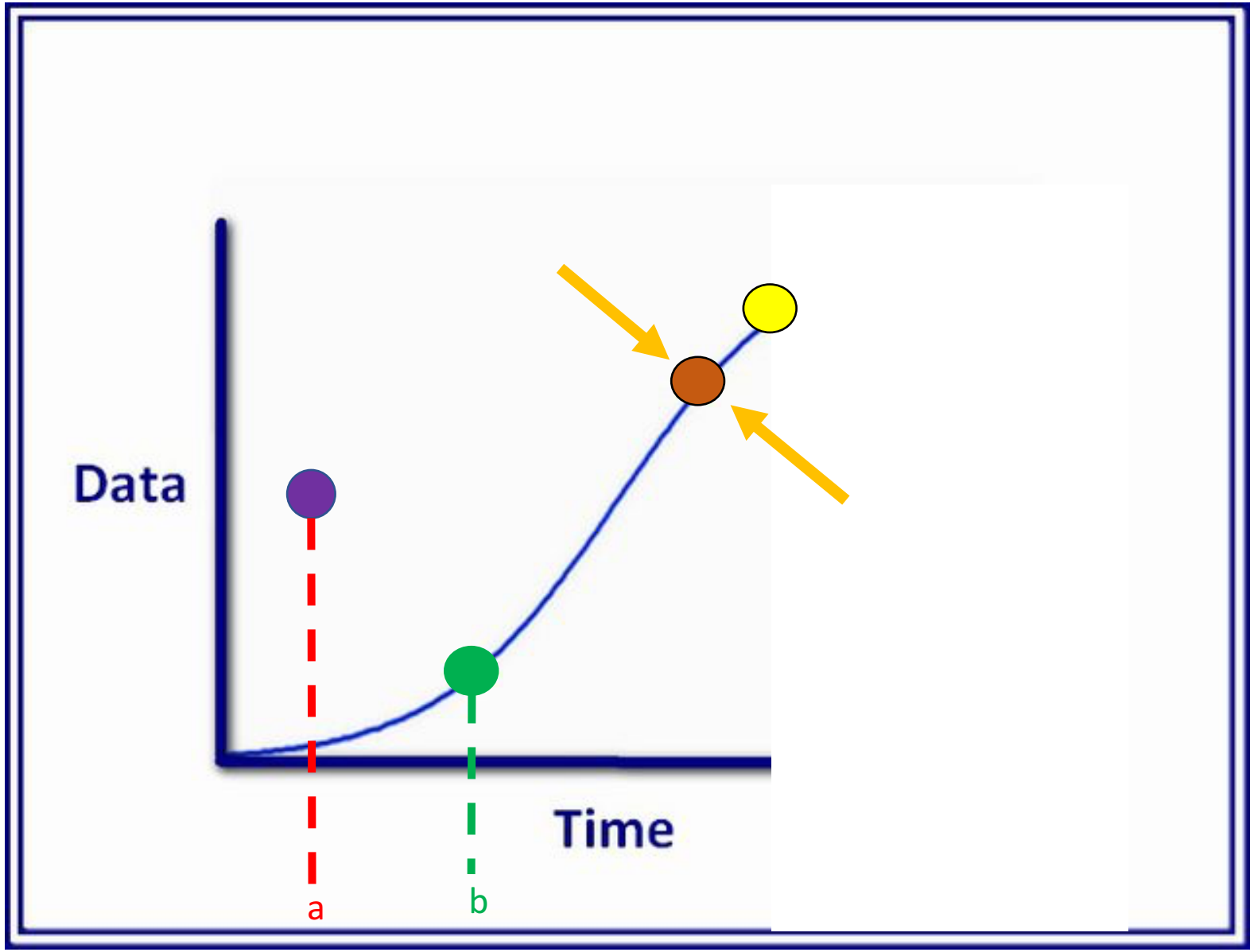
Question

What is the best way to figure out when the Pseudo Event will occur?

Volatility

I first imagine two potential forces

They are perfectly normal (right angle to the tangent) to the point of interest



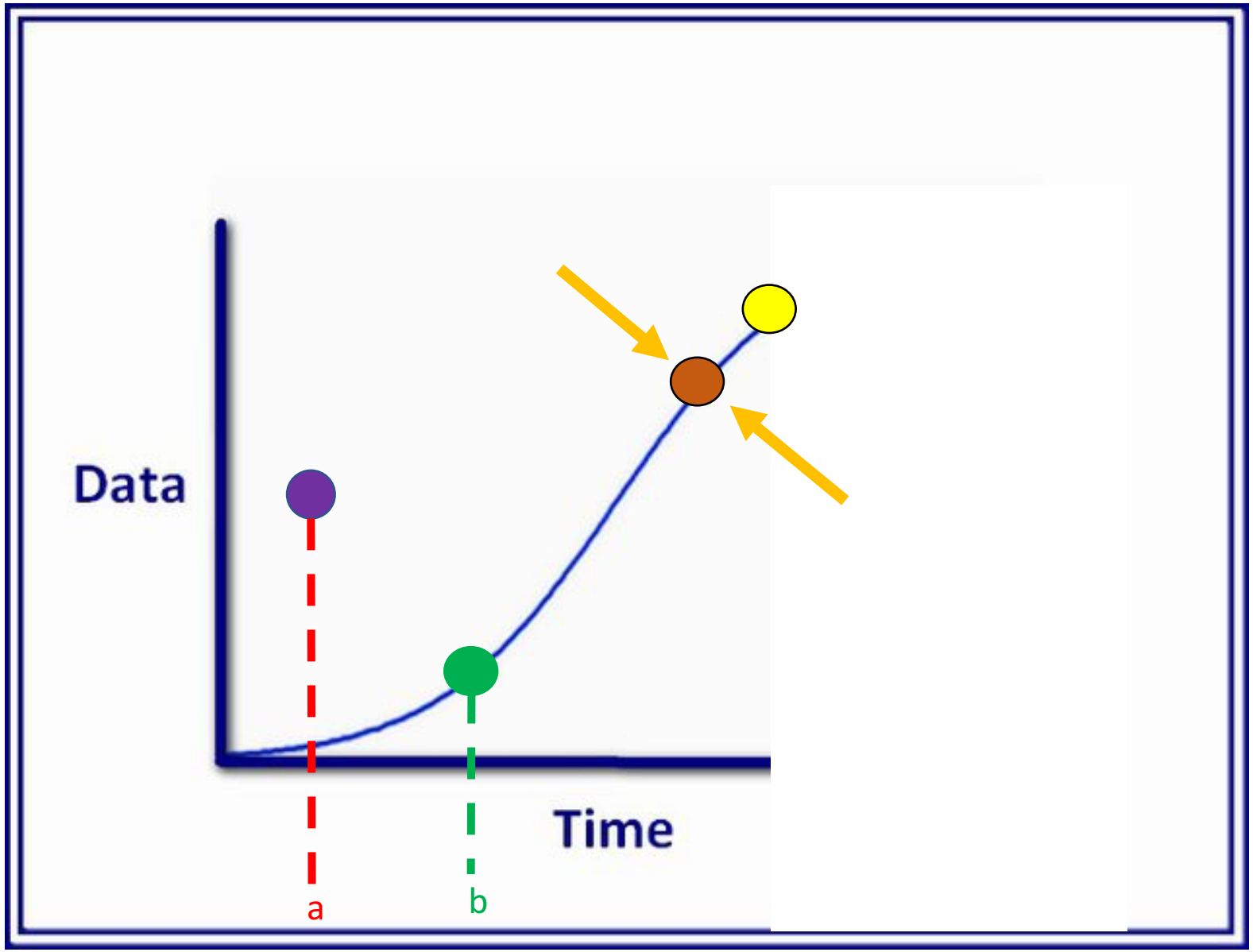
Volatility

I then calculate a measurement called:

Flux

At that point

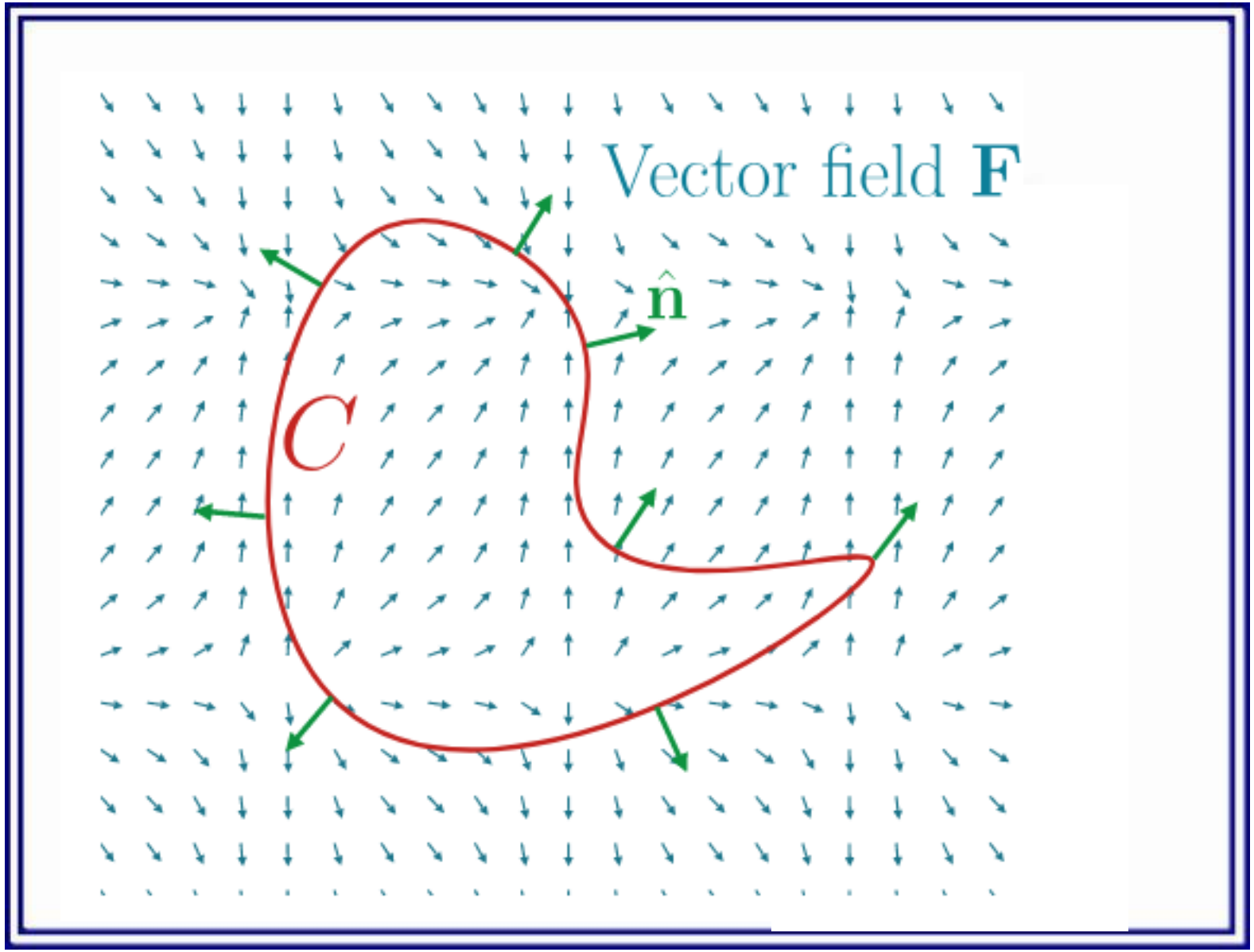
$$\iint_S \vec{F} \cdot d\vec{S} = \iint_S \vec{F} \cdot \vec{n}\, dS$$



Volatility

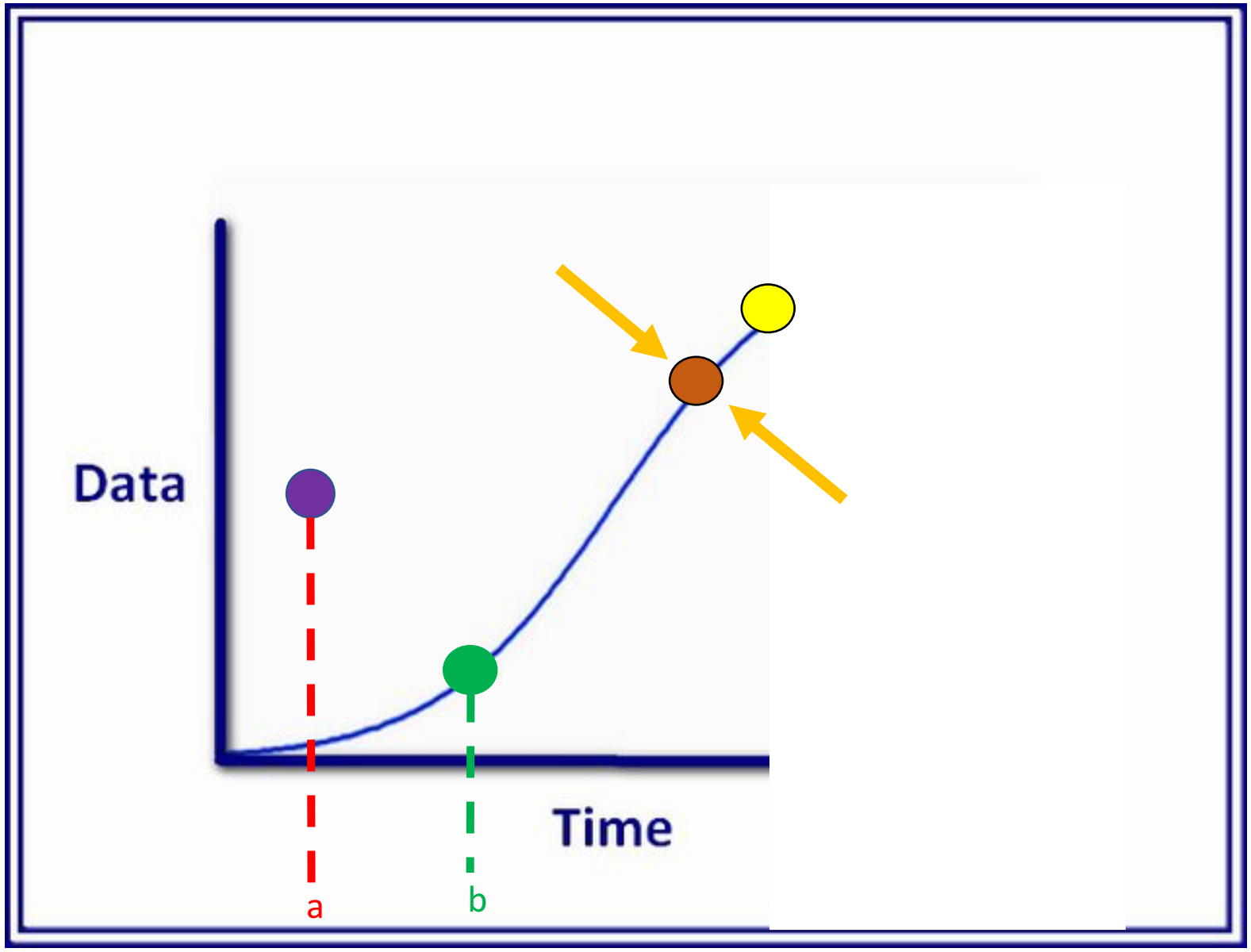
It is required to know the force field at this point

$$\iint_S \vec{F} \cdot d\vec{S} = \iint_S \vec{F} \cdot \vec{n}\, dS$$



Standard S Curve

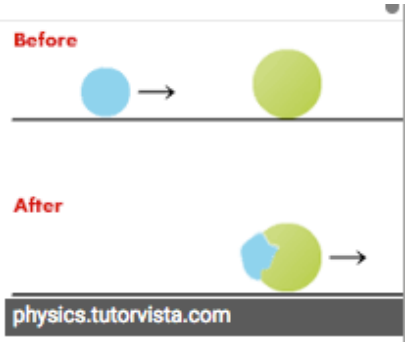
Back to the forces acting on this point



Think about how the collision of a force upon the point of interest would be somewhere between perfectly elastic and perfectly inelastic

An **inelastic collision**, in contrast to an elastic **collision**, is a **collision** in which kinetic energy is not conserved due to the action of internal friction. In **collisions** of macroscopic bodies, some kinetic energy is turned into vibrational energy of the atoms, causing a heating effect, and the bodies are deformed.

Inelastic collision - Wikipedia
https://en.wikipedia.org/wiki/Inelastic_collision

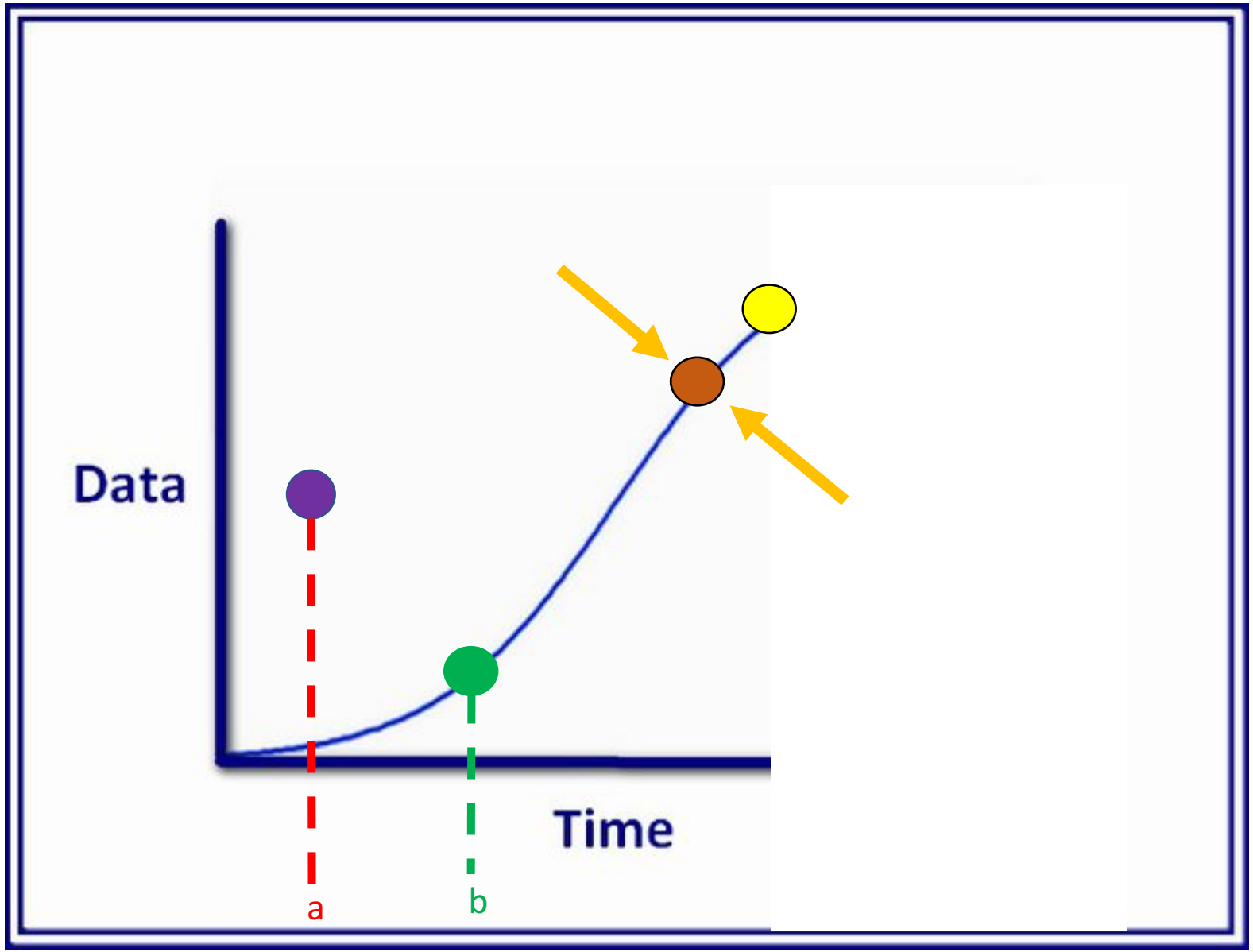


Volatility

Essentially the FLUX indicates the volatility of the index at that time

But

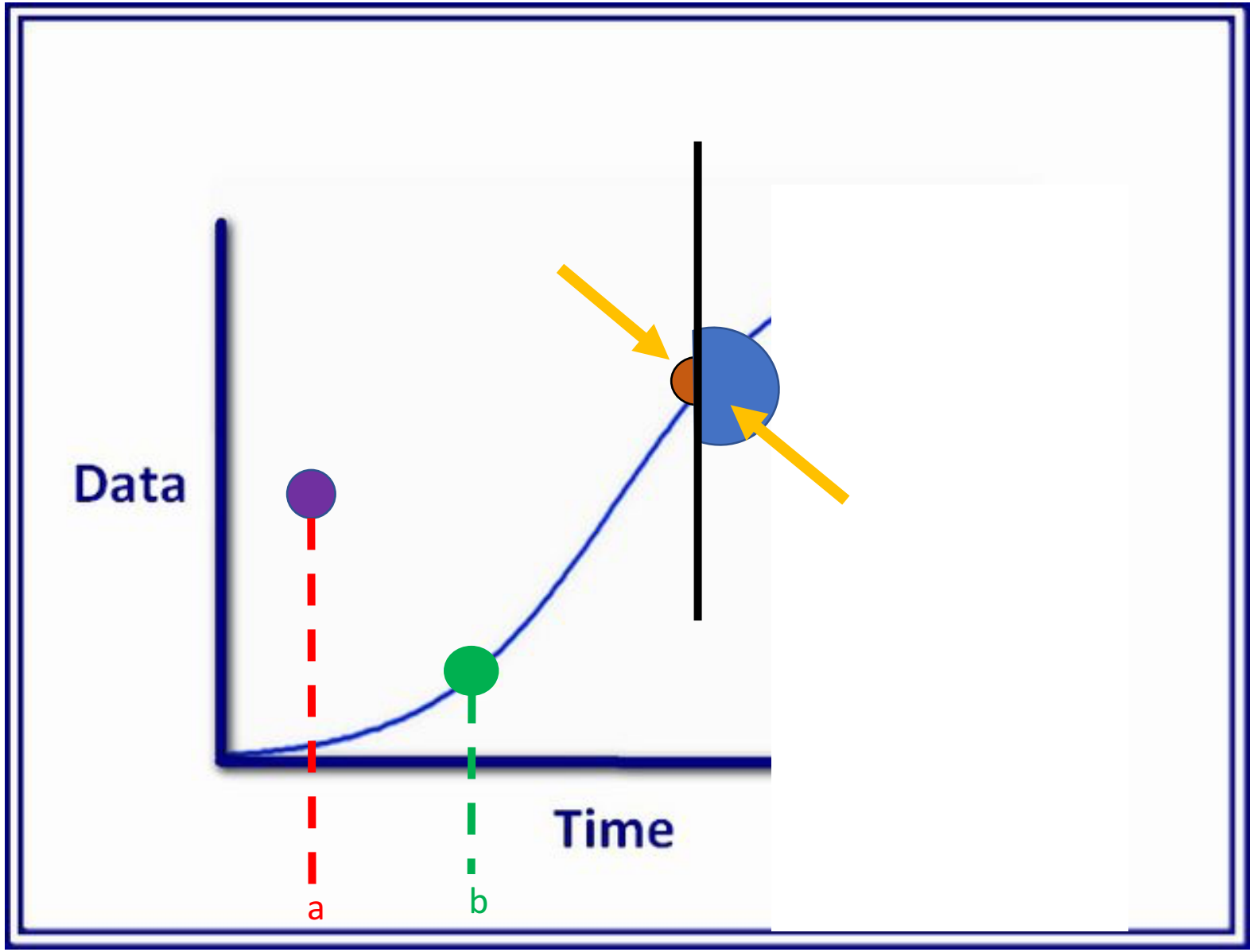
If the collision is inelastic, then the outside force may not have an easily measured effect



Volatility

So what do we know?

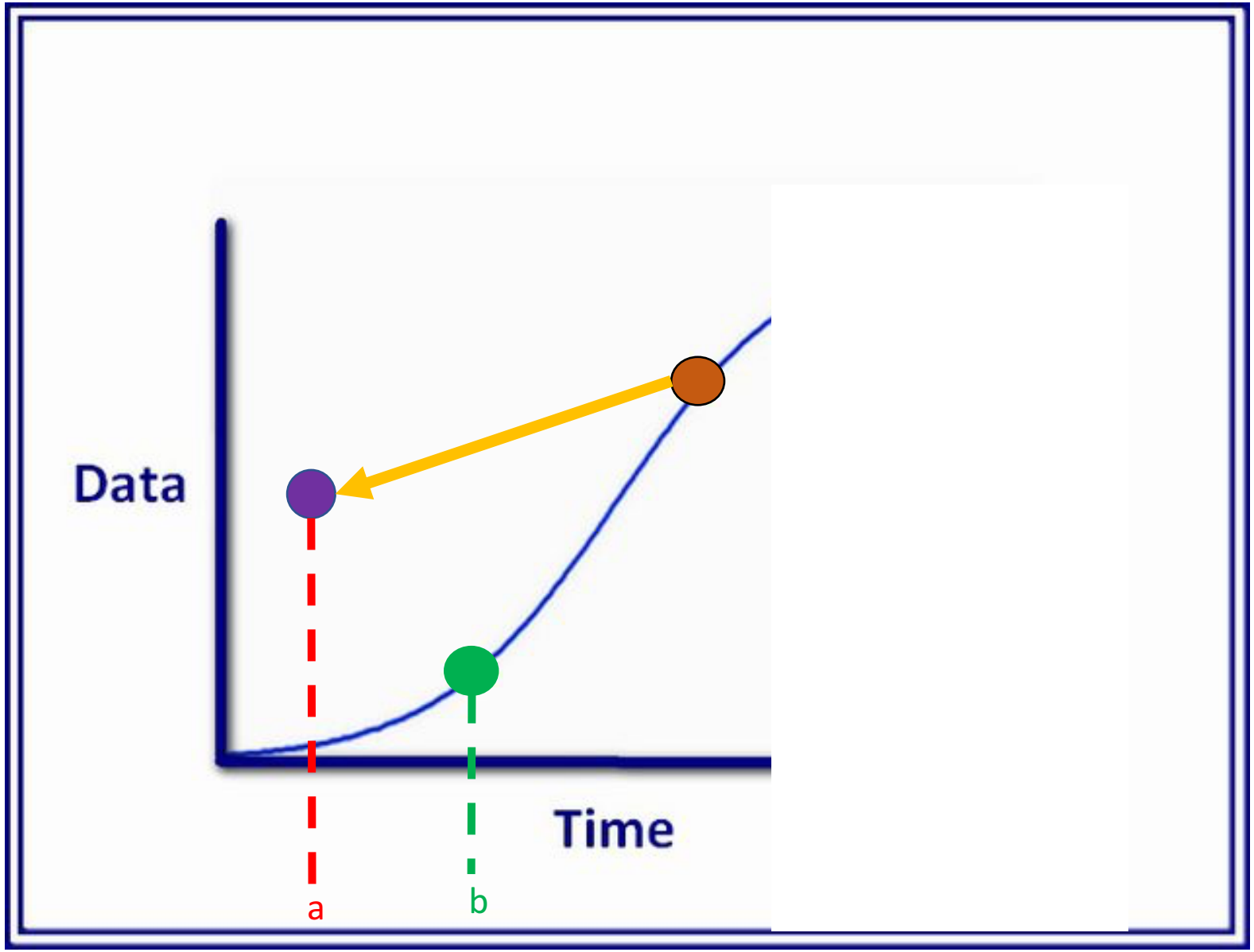
The point cannot move backwards in time
So the event horizon is 180 degrees:
The point goes somewhere between up and down and to the right



Volatility

So what do we know?

Events in the past still ”cause” forces on the index

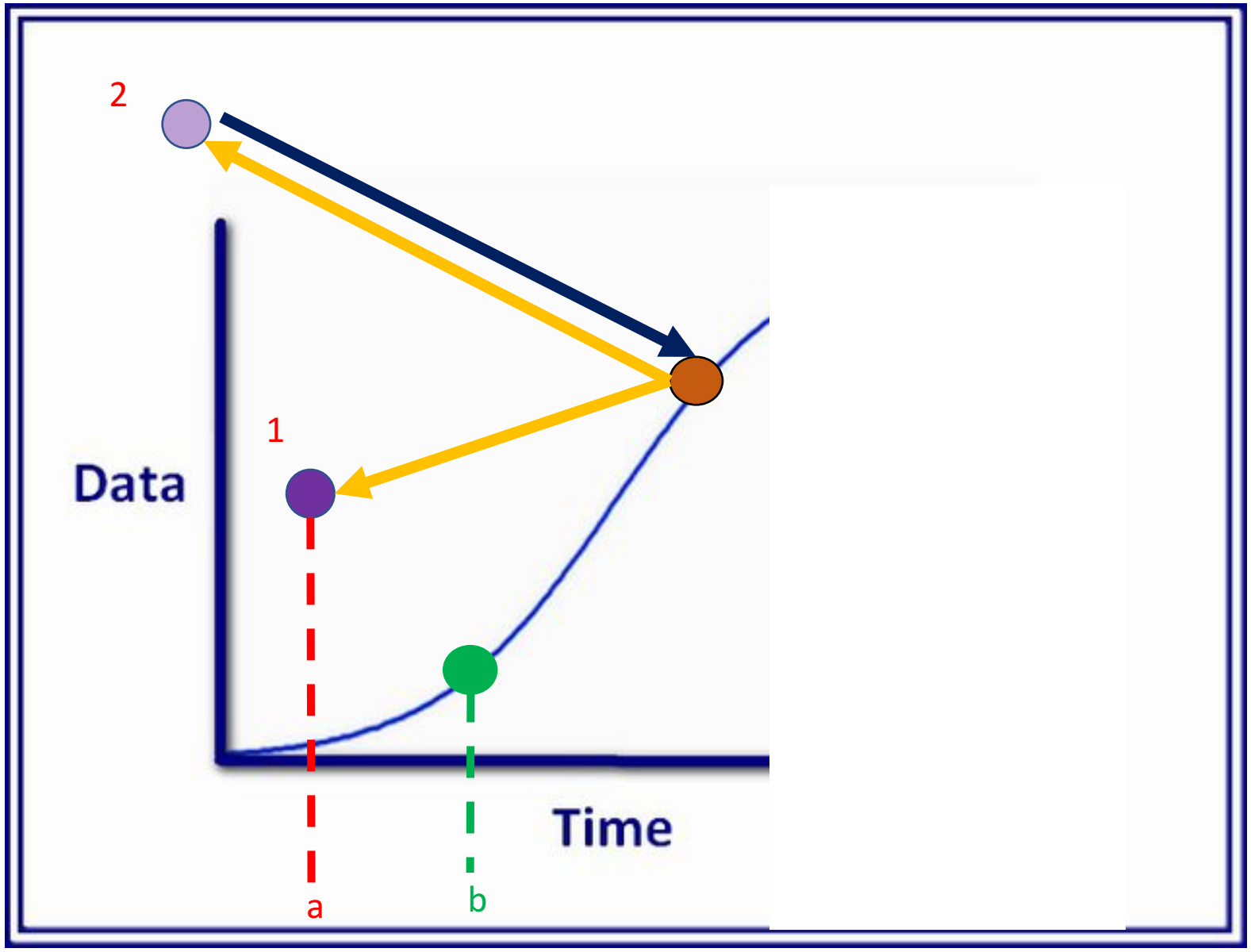


Volatility

So what do we know?

We know pseudo event 1 must be a pulling force

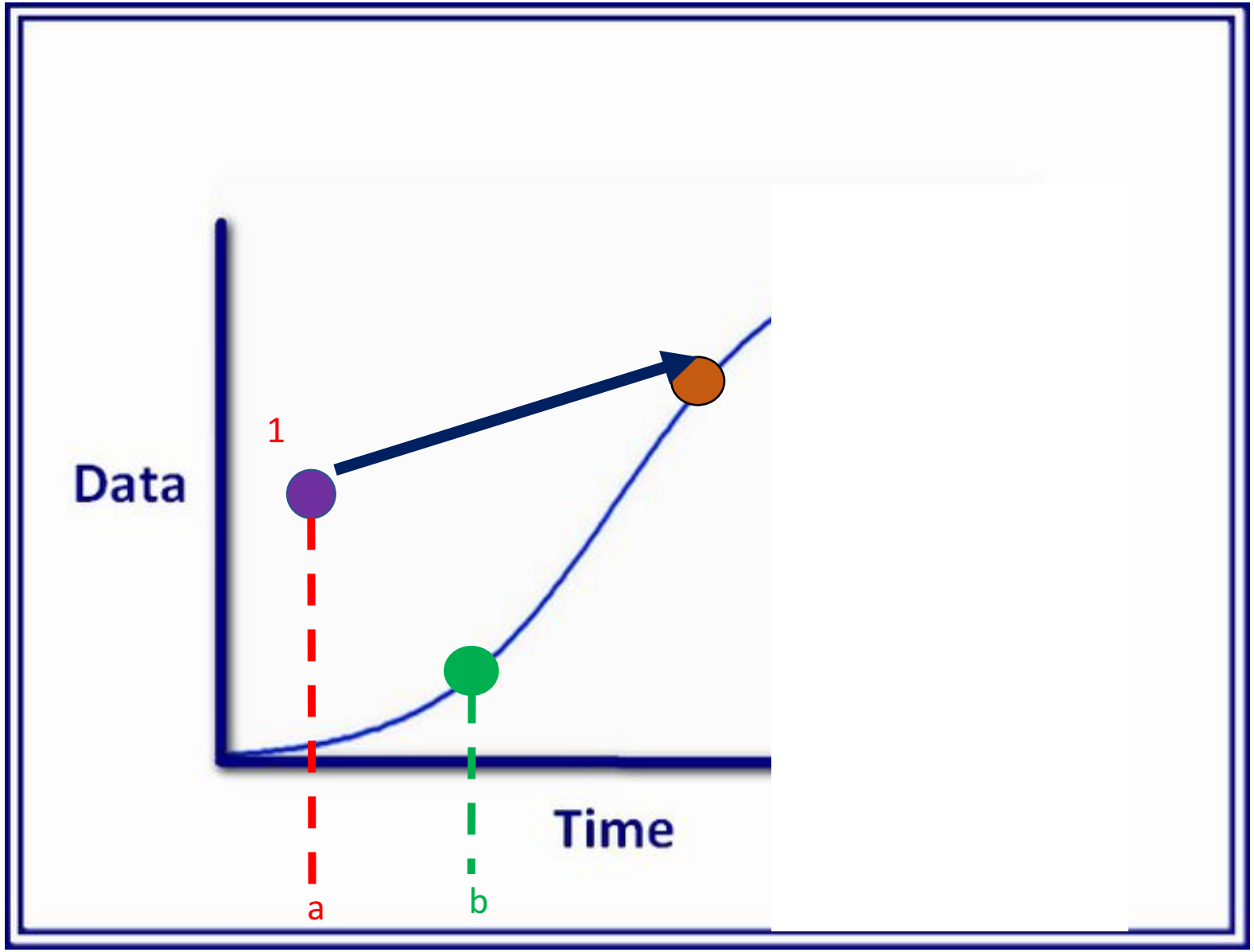
But event 2 could be either pulling or pushing



Volatility

So what do we know?

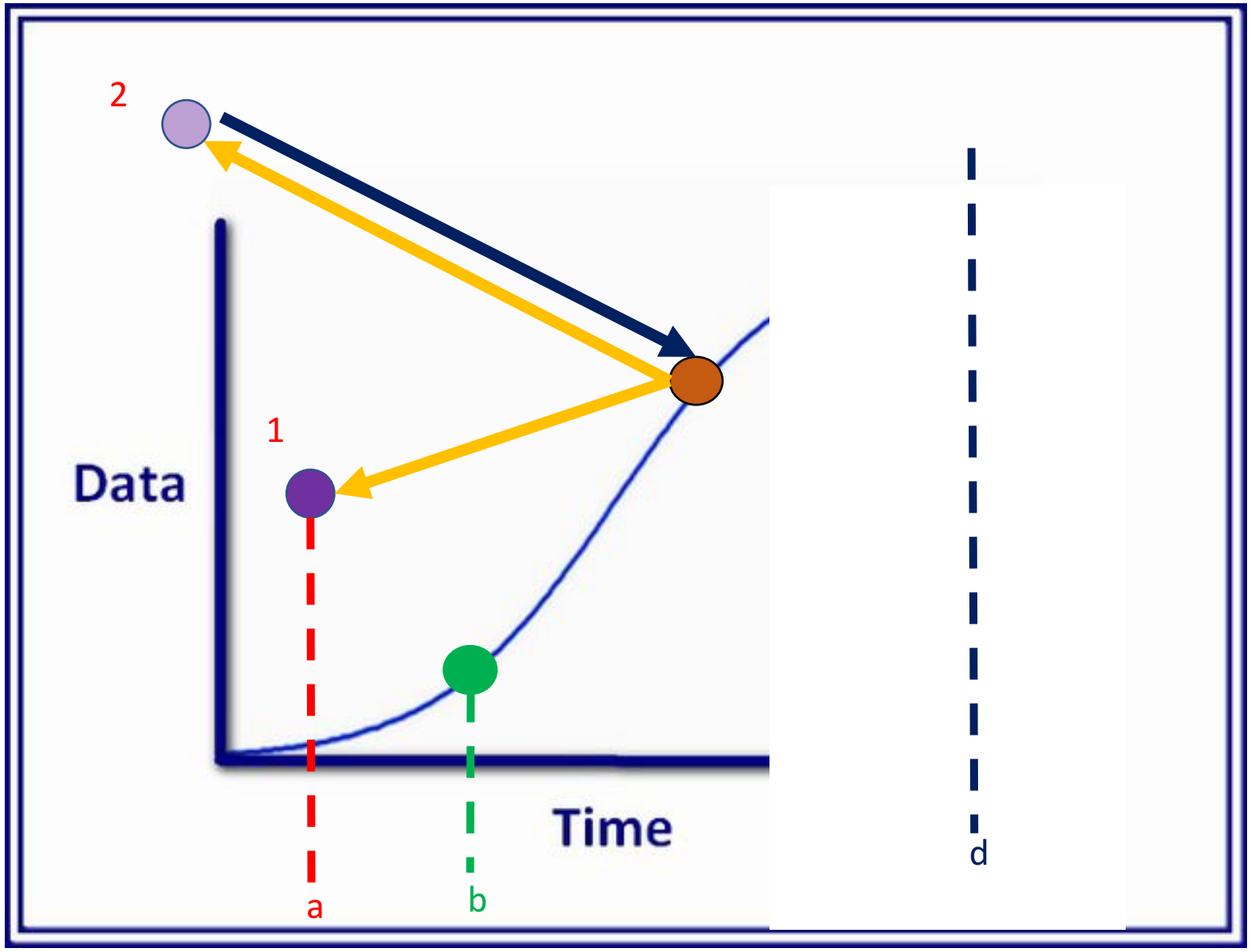
For that matter, events can shift from pulling to pushing



Volatility

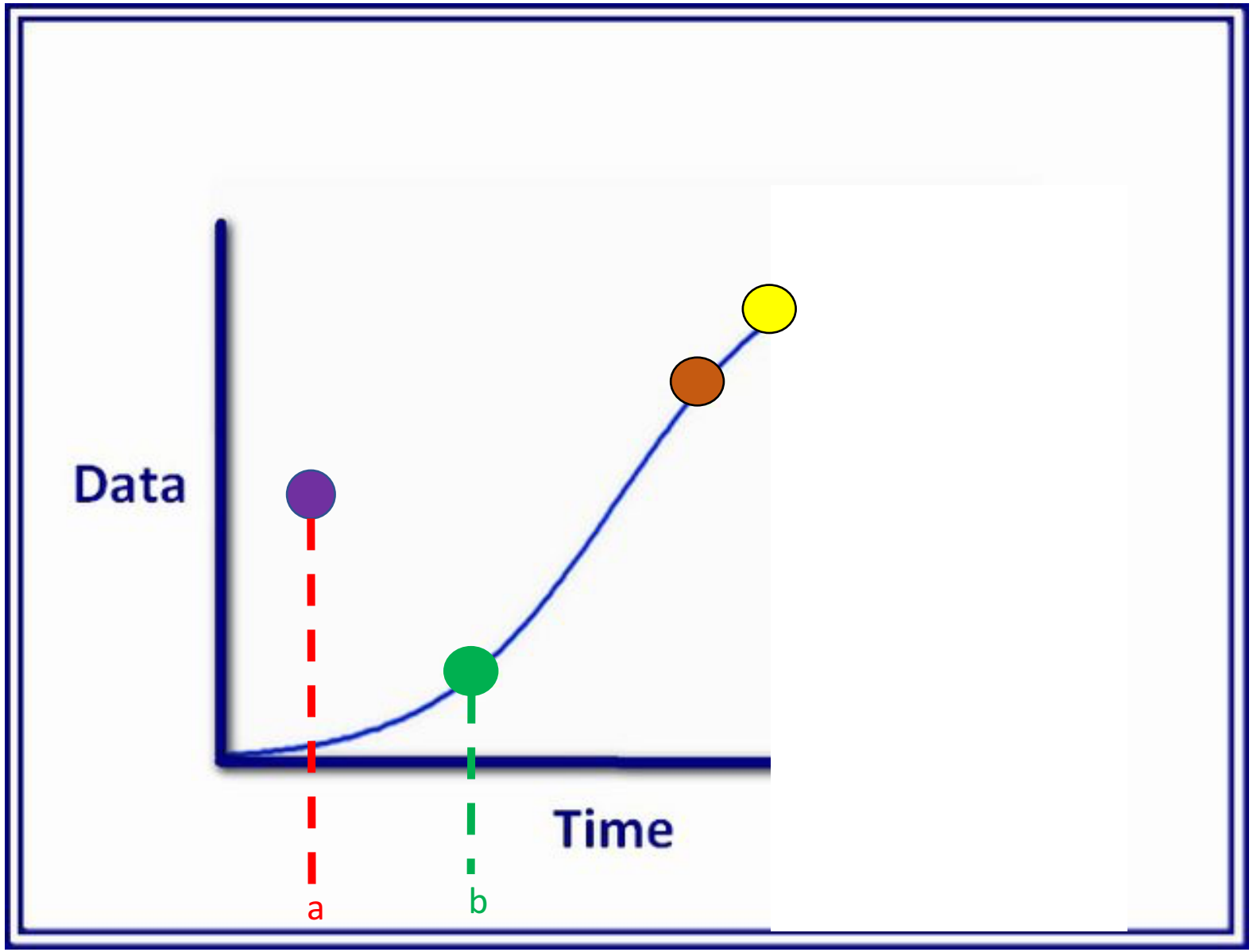
So what do we know?
And in terms of when events have an impact:

Event 2 could only be realized at time d



Volatility

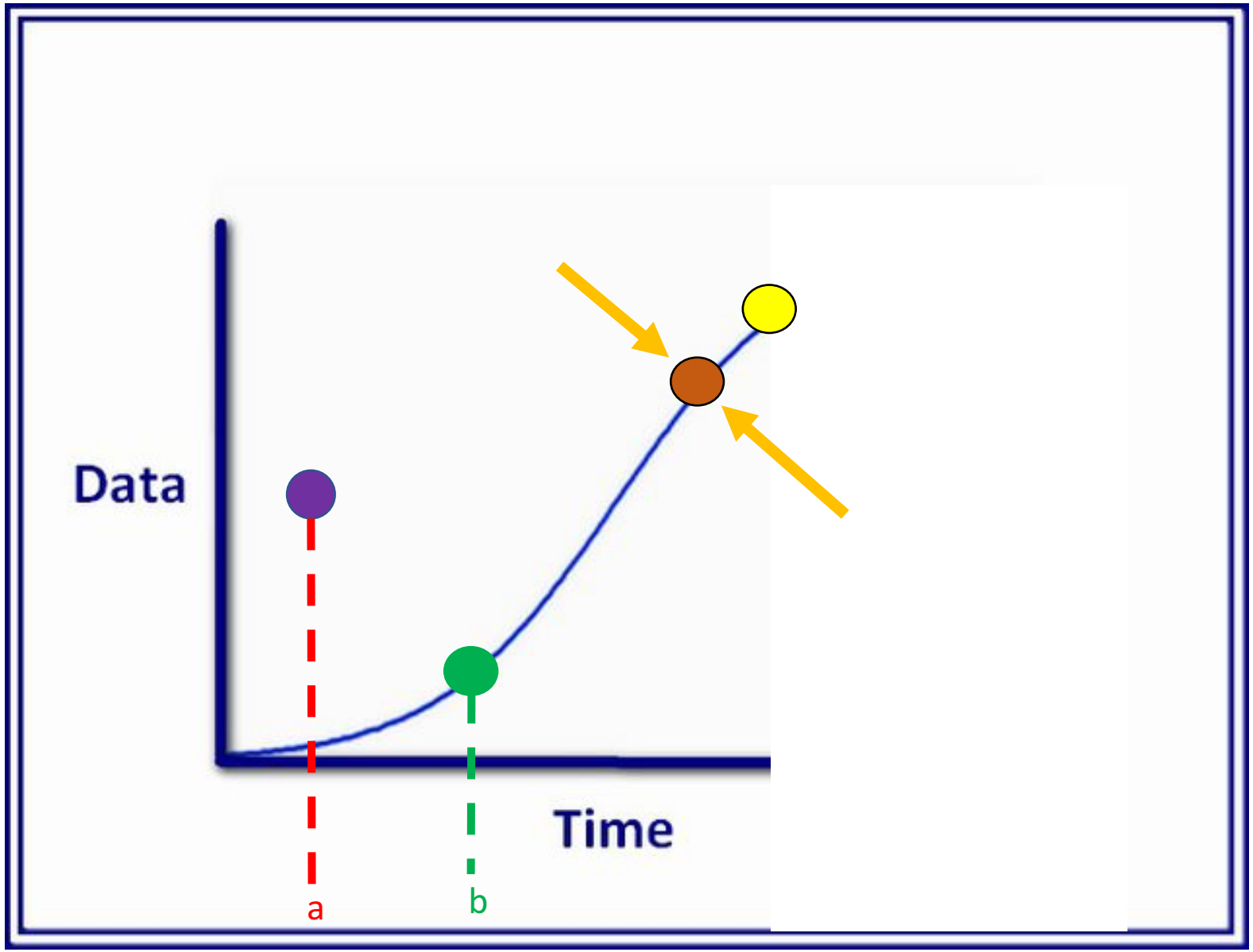
My hypothesis is that calculating flux (and more) at a point directly before the yellow point can indicate where the yellow point is headed



Volatility

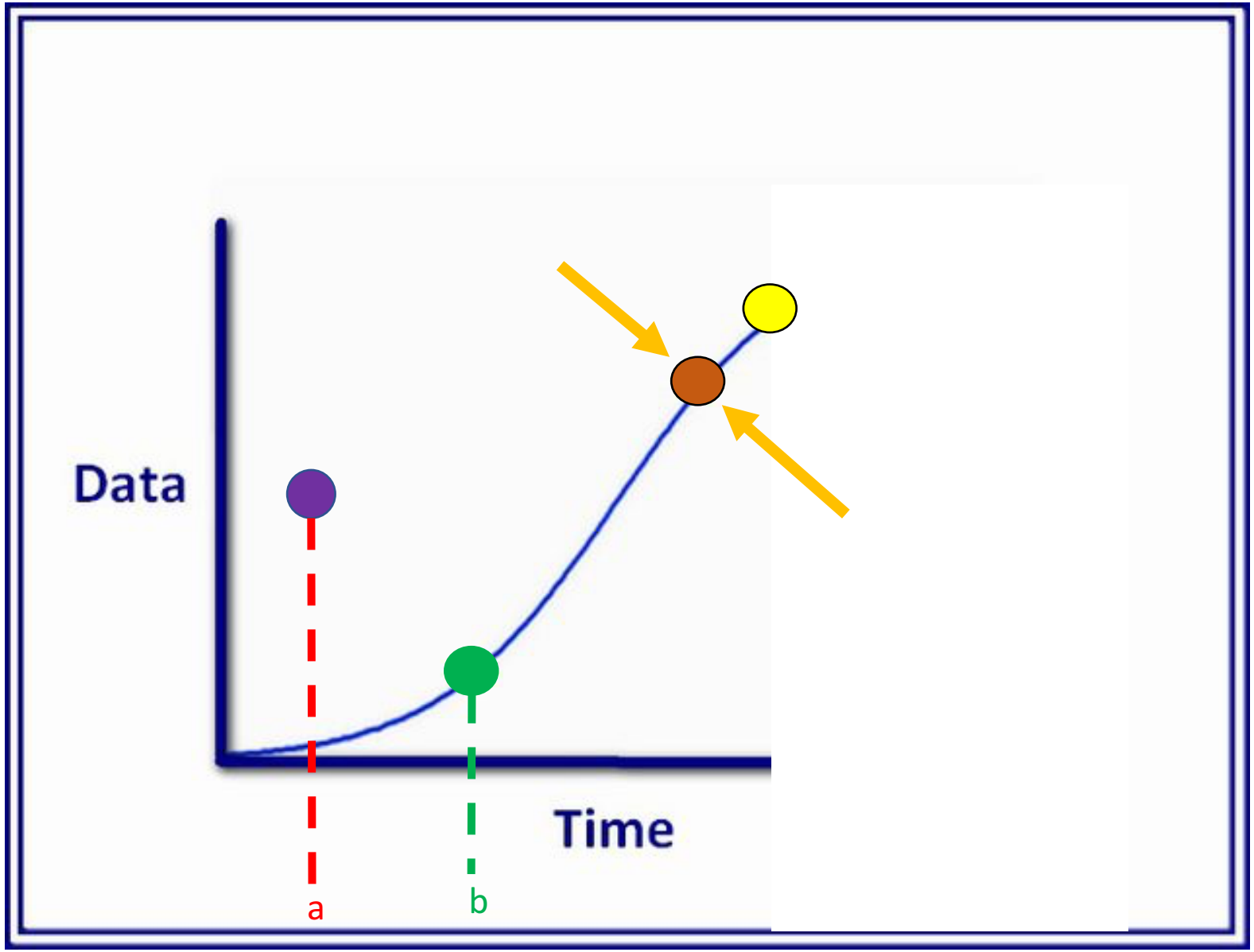
We would be asking:

Where would the stock go if a force impacted the orange point a perfectly normal direction?



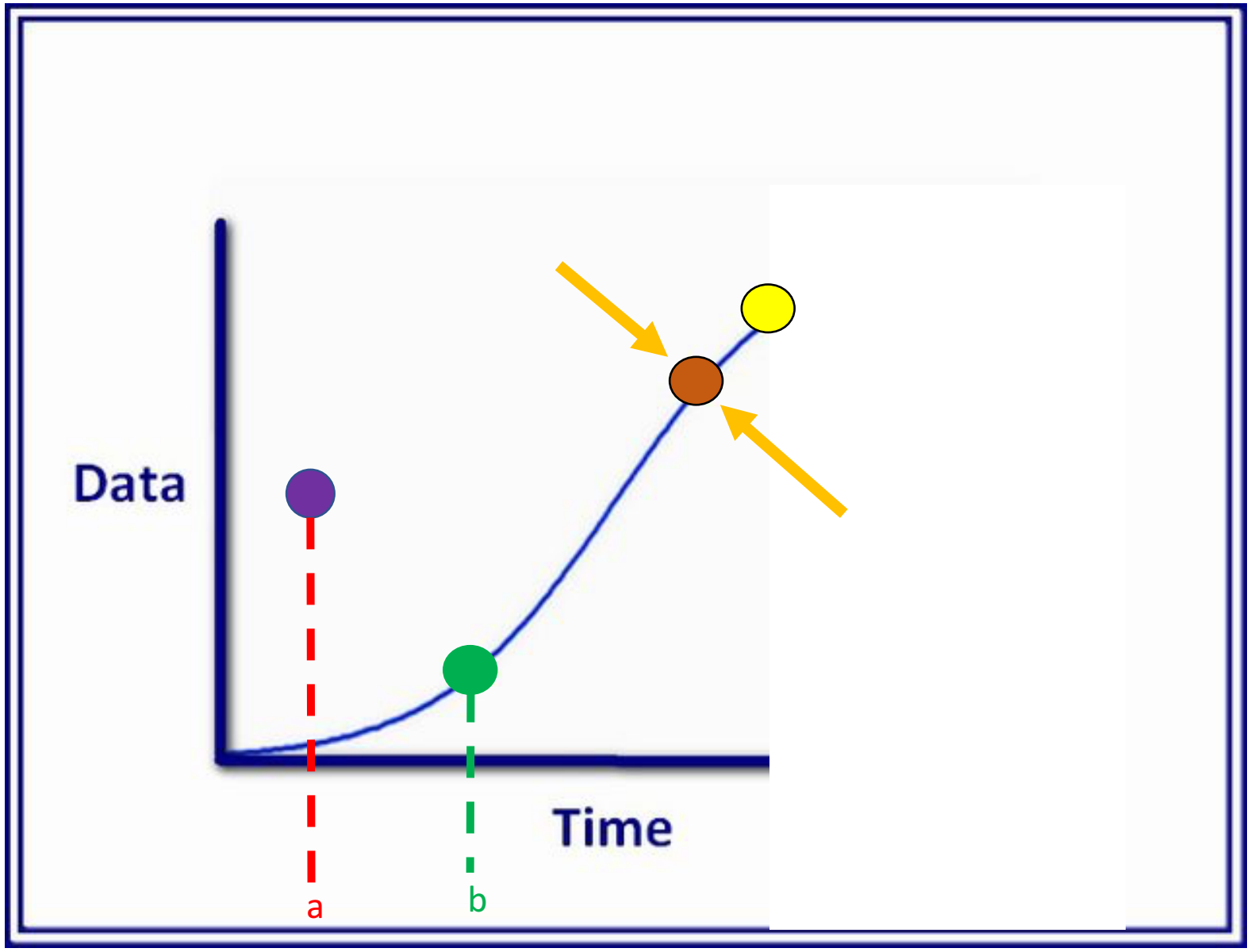
Volatility

A perfectly normal direction is literally considered as another dimension because the orange point is not moving in normal direction at all



Volatility

In other words, we would be considering what happens if a force came in “from left field” or if the force “came out of nowhere” or if the market “threw a curveball”



Volatility

Remember, the goal is to calculate the time when the actual centripetal pseudo event will occur and then identify it