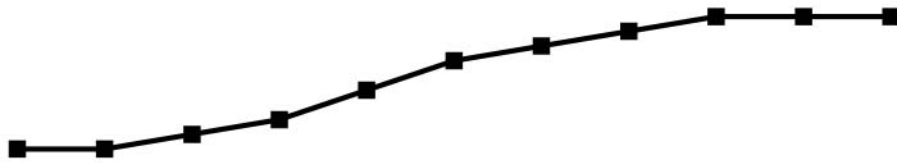


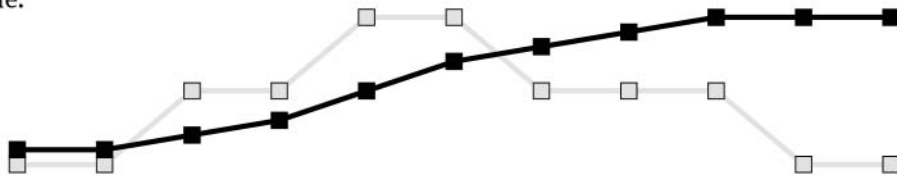
Time Derivatives: summary by a non-physicist

This is one of those ones that I haven't put enough time into yet but I want to get it on the wall, so I'm sorry that this is going to be a little more jargony and confusing than it needs to be.

Time derivatives are the name for the measurement of more fundamental measures over time. For example, speed is the first derivative of position over time: your speed is equal to the amount of change in position that happens over any given unit of time.

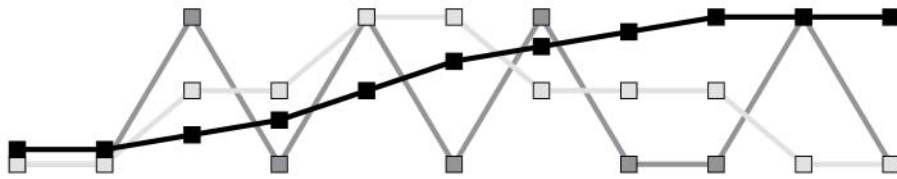


Acceleration is the second derivative of position over time: acceleration refers to the amount of change of speed, so it's two steps removed from the value outside of time.



The third derivative of position over time is called "Jerk." This is the one I want to focus on: It's the rate of change of acceleration, and it's the one that humans actually feel as a sensory experience.

When you slam on the gas in your car, you feel jerk. While you're speeding up, if you're doing it at a steady rate, it feels the same as standing still. Then when you get up to speed and your rate of acceleration declines to maintain that constant speed, you feel that change too.



You have to get three steps away from position before you get to a phenomenon that a person experiences bodily.

Time Derivatives: applied to value

There is a long and unpleasant history of applying physics research to economic theory. Economists tend to think of money as a pure material that obeys consistent and predictable laws, when really it's more like a sociological phenomenon, in that its most fundamental behavioral qualities can vary wildly based just on how people feel about it at the time.

So I'm not proposing that value is a fundamental force. Instead, I'm proposing that pacta (corporations, governments, large clubs and organizations -- see "What Are Pacta?" zine) have a sensory experience of value.

I don't have a great name for the first derivative of value, but let's call it "worth," as in net worth. The worth of an organization is the total amount of value it controls over a period of time.

The second derivative is easier: This one is "growth." It's the rate of change of worth over time, and it's a big deal with companies: the common understanding is that companies always aim to grow.

That's where the third derivative of value comes in. I don't have a name for this one at all, but it's analogous to jerk in that it's the thing that pacta feel.

To a pactum, a constant rate of growth feels the same as standing still. It's 'normal.' It's when the rate of growth changes that they feel like something's up: growth slowing feels the same as losing money.

Since pacta always start out growing, very few end up in a place where they're more-or-less stable and want to stay that way. Usually when they're approaching the point where that would be feasible, when growth starts to slow, they feel it like it's loss, and they panic.

Let's define "Panic" as a state in which one prioritizes safety and survival to the exclusion of all other goals. When a pactum panics, it will make decisions that serve its well-being, even when those decisions compromise the sense of moral duty felt by its constituent humans.

Over time, this will happen to every pactum, over and over, and while some pacta (like some humans) may learn how to manage fear in the face of an apparent threat, most will at every crisis drift further towards a tendency to behave always and exclusively in the interest of self-preservation.

This matters because we tend to think of pacta either as having no sensory apparatus, or having the same ability, and the same type, of sensory experience as their constituent humans. But they do have perception, and that perception operates by rules that don't match human intuition, but that humans can learn and understand.