I think time makes more sense as a consequence of motion, rather the dimensional basis for it.

Consider; If two atoms collide, it creates an event in time. While the atoms proceed through this event and on to others, the event goes the other way. First it is in the future, then in the past. So which is the real direction? If time is a fundamental dimension, then physical reality proceeds along it, from past events to future ones. On the other hand, if time is a consequence of motion, then physical reality is simply energy in space and the events created go from being in the future to being in the past. Time as consequence of motion means it has more in common with temperature, then space, since they are both descriptions of and methods for measuring motion, rather then dimensional basis for it. This relationship between the matter/energy moving forward in time, as the events created move back in time applies to all scales, whether the earth rotating and creating days, or a cesium atom going through transitions, or strings and their vibrations. This isn't presentism, because as a measure of motion, it would be meaningless to describe time as a point. The only absolute temperature is the cessation of all motion and the same would apply to time.

If energy is perfectly conserved, there is no time function for energy, because it simply is, so the only time function is a consequence of the energy, not the basis for it. Just as temperature is a consequence of energy and when temperature changes, it is because energy is dissipated to, or consolidated from other areas. So with time, when one potential direction of events prevails, others are reduced or dissipated, so the energy consolidates to the events that happen, not alternatives. The energy doesn't collapse, but the information does, as it goes from future potential to past circumstance.

The sun appears to travel from east to west, but it's the earth rotating west to east. To the extent reality just is, a clock to reflect that would have a stable hand to represent what is, with the face rotating the units of time past it. Currently the clock represents the sun moving east to west, so it has hands moving left to right across the top of the clock.

Think about a thermal medium, say a pot of hot water, with lots of water molecules moving about. If we were to construct a time keeping device out of this we would take the motion of one of these points of reference and measure it against the medium it is moving through. The point is the hand and the medium is the face of the clock. Obviously all the other points are hands of their own clocks, but are medium/face for all other clocks. The motion of any point/hand is balanced by the reaction of the medium/face of the clock. At any one moment, the positions of all these points constitute an event, so while any and all of them go from past events to future ones, the medium against which any point is being judged is the overall context, which once created, is
displaced by the next, as all these individual points move around, so the events go from future potential to past circumstance. The illusion of direction is created because the physical reality of the points moves one way through the series of circumstances, though these events go the other way. There are innumerable points of reference describing their own narrative and all this activity exists in an equilibrium, so every potential clock constitutes its own measure of time.

This model defines life as well. The physical brain moves forward in time, but the mind is a record of the events receding into the past. Most motion is at the speed of light, but we cannot process it in real time, so our minds create flashes of perception, like frames of film. Thus to us, time does seem like a series of instants. Of course these thoughts go from present to past, as the brain goes on to the next. Ultimately life amounts to a larger organism that is constantly moving on to the next generation and shedding the old like dead skin. It is the units of our individual lives, like markers on the face of a clock, that start in the future and end up in the past.

Regards,

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