Tom Seaver: Hey Yogi, what time is it?

Yogi Berra: You mean now?

Everyone knows this: If you drop something yummy, like a chocolate fudge brownie, on the floor, the nasty floor microbes gather around it, hovering, for precisely three seconds before storming in. This is why you can pick it up and eat it if less than three seconds have elapsed. How the microbes know to wait precisely three seconds is one of those unsolved mysteries, I guess. I’ll get back to this ‘three-second rule.’ But now I want a chocolate fudge brownie.

Over the past year, I suspect that at least some of you have practiced what has come to be known as ‘mindfulness.’ This is a form of meditation, stripped of any spiritual trappings (although often not) that is purported to have health benefits, and it very well might (although I haven’t fully evaluated any randomized trials; actually, I haven’t looked up to see if there are any). My watch frequently alerts me to do a minute of deep breathing, which is one approach to this state (there are many others). But, despite the new(ish) term, mindfulness is not new. Back in the 1970s, Baba Ram Dass [born Richard Alpert] famously taught, ‘Be here, now.’ And he was teaching ideas from several cultures that have existed for many centuries (the ideas, but also the cultures). My father, as it turns out, was best friends with Richard Alpert’s older brother, Leonard, when they were kids. Richard and Leonard’s mother called Richard, ‘Baba Rum Dum,’ something I believe to be true despite not being mentioned on his Wiki page. Wait, what were we talking about? ‘Mindfulness, Mole.’ Oh, right. As you can see, I’m full of it. (Wait, that didn’t come out right.)

‘Being here, now,’ is the act of being exclusively in the present, as in, ‘the present time.’ And as it happens, the present, as subjectively perceived by humans, exists in discrete blocks of about three seconds. Really. When I say, “Now!” your subjective experience of the present time is about three seconds. I don’t know about you, but this blows my very mindful mind.

It was the cognitive scientist Ernst Pöppel who figured this out in a series of studies that he summarized in his ‘A hierarchical model of temporal perception.’ Here is a summary of his findings in his own words: “A mechanism of temporal integration binds successive events into perceptual units of 3 s duration. Such temporal integration, which is automatic and pre-semantic, is also operative in movement control and other cognitive activities. Because of the omnipresence of this integration mechanism, it is used for a pragmatic definition of the subjective present.”

The studies are creative and elegant, and to my eye, pretty convincing. In one study, he examined spoken poetry across cultures, including English, German, Japanese, and Chinese. A spoken line of poetry, regardless of culture, ranged in time from about 2.4 to 3.3 s (in English poems, this is 2.8–3.2, depending on the meter). Of course, poets never conspired to make this the case. Pöppel suggests that it just ‘feels right.’ And this is because a line of poetry represents a moment in time. A ‘moment’ that takes about three seconds.

Oh, here’s another one. If you look at a Necker cube (this is a two-dimensional representation of a three-dimensional cube – if you don’t know what a Necker cube is, Google it) your perception of the cube’s perspective shifts – one corner moves in front of and then behind another corner. Experimentally, he found that this perceptual shift occurs approximately every three seconds.

So, the reason why we feel we can pick up our chocolate fudge brownie and eat it if it was only on the floor for three seconds could very well be because the two brownie ‘states’ (floor/inedible, hand/edible) exist at the same ‘moment.’ It’s just an idea. But a really cool idea.

I do have a point. (“I knew that Mole,” you say, because you’ve seen me do this many times. And because you’re very smart.

“Mindful,” you say, sarcastically. I seem to be having a conversation
with you. Wait, where was I? “Your point, Mole,” you say. Right. Thanks). It’s about blood clots and COVID vaccines.

In my country, the one that is now led by an actual president and not a mascot for a large hamburger chain, we went through a ‘pause’ in the administration of one of the vaccines due to rare blood clots in a small number of patients (a little less than 1 in a million). This pause has come under a lot of criticism, since it has escalated many people’s reluctance to become vaccinated. Critics point out that blood clots are relatively common (I did the calculation based on numbers from the CDC – in a cohort of 5 million people, fewer than received this particular vaccine, venous thromboembolisms and pulmonary embolisms, that is, blood clots, occur about 13.7 times a day).

But the blood clots occurring in the vaccinated individuals were not these types of blood clots. They are cerebral venous sinus thromboses, a much rarer condition, and there is reason to think that they actually are linked to the vaccine. After careful deliberation, it was concluded that the risk of contracting this condition versus contracting lethal coronavirus infection is so small that the vaccinations would continue. (To put this in some perspective, the number of deaths from automobile accidents in the same cohort of 5 million people is about 150 per day).

None of this matters, though, because, well, three seconds. When we hear or read the words ‘blood clot’ and ‘vaccine’ in the same sentence (or ‘line’) these terms are packaged into the subjective present – the same moment in time – and become inexorably linked. If you think this is just me being my Mole-ish self, how did you feel when you read the bit above about the vaccine probably causing cerebral venous sinus thrombosis (I bet you thought, ‘I’m glad I didn’t get that vaccine.’ “No, I didn’t Mole.” Well, I bet someone thought that.) The actual numbers and risks might be analyzed by the process of slow thinking, as described by the cognitive scientist Daniel Kahneman, while the clot/vaccine concept is accessed by fast thinking. And it is sometimes hard for slow thinking to beat out fast thinking. Dr Kahneman’s thinking about thinking is worth reading (and thinking about).

I’m bringing this up because you have a job to do. If you know someone who is hesitant to get a vaccination that has a very, very small chance of causing a rare blood clot, understand that they might well understand how small the risk is, while also being hesitant. It is a different mental process that understands one while feeling the other. You can tell them all about the risks of being incapacitated by or even dying from the virus, you can compare the risks to driving in a car or eating a hamburger, and they may get all this and still feel uncomfortable. But, and it’s just a suggestion, maybe if you explain why they feel this way, it might help. Give the slow thinking a chance to supersede the fast thinking. Let them create a new subjective present, one in which they will decide to get the shot. It can all happen at the speed of thought.

Now, I’m going to go get a chocolate brownie.