

COOL FACTS FRIDAY #18

Dave Asprey:

You're listening to Cool Facts of the Day, part of the Human Upgrade Podcast with Dave Asprey.

Cool Fact #1

This cool fact is about ancient feces, actually ancient paleofeces, which makes it way cooler.

Turns out that ancient fecal samples, which are called paleofeces, reveal that about 2,700 years ago, people living in what we now call Austria or lockdown central, they drank beer and they ate blue cheese. And that surprised researchers because they were exploring an iron age salt mine and they realized that human feces doesn't usually stick around for 2,700 years, but it does in caves. They used analytic techniques to get down to business with the poop and they looked at the microbes, the DNA, and the proteins that were present in the ancient paleofeces. Gives a whole new meaning to the word paleo diet, doesn't it?

They came across two different fungal species that are usually used in blue cheese and beer production and said, well, let's put two and two together. These guys were eating their blue cheese and getting drunk on beer. That means that prehistoric diet and cooking practices were a little bit more sophisticated than we really believed and that techniques like fermentation have always played a major role in food history.

What does that mean for you? Well, it means that you probably were wired to eat some fermented foods already and that by removing bacteria from your life by spraying soil with glyphosate, by giving you antibiotics, whether taking them directly or putting them in the meat that you eat, and then over sterilizing everything by pretty much marinating and hand sanitizer, perhaps you're trashing your health. That also doesn't mean that everything fermented is good for either, but it does mean you shouldn't be afraid of fermented foods.

Personally, I don't think cheese is the best one and I don't think beer is the best one, but if that's all you've got because you work in an Iron Age mine, go for it.

Source: <https://www.sciencedaily.com/releases/2021/10/211013114028.htm>

Cool Fact #2

Here's a cool fact about detecting whether your brain is going off the rails early. When most people get diagnosed with dementia, the damage is already there and it's hard to find an effective treatment for it. So if we could find blood markers that give you a warning signal when dementia's going to happen later, it could change the fate of your diagnosis and it could also save you a lot of suffering.

With that idea in mind, researchers at the German Center for Neurodegenerative Diseases, which is racing with Australia to be the most oppressive center for neurodegenerative diseases, well, they combined human studies and laboratory experiments to look for biomarker clues. They found something called microRNA, which is not the same as mRNA in case you're worried about that. And microRNA is present in the blood at higher levels in both humans and animals that are in cognitive decline.

And they believe that higher levels of microRNA mean that you're developing dementia about two to five years before you get symptoms. MicroRNA influences inflammation and neuroplasticity. What that means is that since microRNA looks like it influences inflammation and neuroplasticity, that means it probably plays a role in disease progression. It is what I said before.

What does this mean for you? It means that we are very close to being able to give you a lot more blood test than you get today to tell you, oh, you're five years out from dementia unless you do this. You're 10 years out from Alzheimer's unless you do this. You're already starting diabetes. You must do this now. Oh, you have an undetectable cancer, but we found it in a liquid biopsy. All of these are happening right now.

And what your job is, is to lobby with your doctor and more specifically your insurance company if you have one of those oppressive institutions controlling your access to healthcare to say, hey, it is my right to have these tests that help me stay healthy and strong instead of waiting till I'm really sick so you can sell me your goddam drugs. It's time to start biohacking.

Source: <https://www.sciencedaily.com/releases/2021/10/211011091258.htm>

Cool Fact #3

Here's a cool fact about team flow as a unique brain state. You know what it's like when you get together with a group of friends or your team at work or maybe a sports team or maybe playing music, and everyone gets into sync when you're working through a problem. It seems like you're all in the zone. Neuroscientists consider this an actual brain state, and it's called team flow, which is different than individual flow, which I've talked about a lot on the show. Researchers at Toyohashi University of Technology in Japan found certain brain waves and regions that are sensitive to team flow. They are different compared to teamwork that isn't engaging or different than solo flow.

One of the most important signatures of team flow is increased beta and gamma brain waves in the middle temporal cortex. And this is a kind of brain activity linked to information processing. So you're doing team flow work and you're turning on your information processing in addition to other flow machinery in the brain. And that's really, really cool. And researchers also found that when you're in this team flow, teammates have more synchronized brain activity in other parts of the brain.

What does that mean for you? It means that we now know which part of the brain to train with which types of brainwaves in order to increase your ability to enter team flow. And because I happen to run 40 Years of Zen which has had more than 1,000 entrepreneurs and top performers come through for brain upgrades, this gives me information about what to do when people are there when they're looking for more team flow in their life. The problem is that most neuroscientists will tell you that you can't really train gamma brainwaves very well, if at all, but it turns out you can, but it's how do you know which gamma brainwaves we're in conjunction with, which beta waves and which alpha waves and what do you want to suppress and what do you turn on? That's the hard part of neuroscience, but that's the important part of increasing brain performance.

I believe that this is a breakthrough study because in areas where human performance and really frankly, fun matter, things like business, where you want to solve a problem creatively, like how do you name a new line of coffee, for instance, or sports or music, or even playing video games together. What's your brain doing? How do you make your brain do it better? This is part of the next step of human evolution and it's really important.

Source: <https://neurosciencenews.com/team-flow-brain-19405/>

Cool Fact #4

The next cool fact is about why trauma-focused psychotherapy works for PTSD. If you're a long time listener, you've heard me talk about how I had birth trauma. The umbilical cord was wrapped around my neck when I came out. So my biology learned that this might be a threatening place and it

only took me three decades to figure out that was part of what was going on with my biology and to hack it. It turns out trauma isn't something that has to be that big. It can sometimes be smaller things happened a long time ago that we didn't like at the time that stuck with us and changed our behavior today. And when it's a big deal, you get that PTSD where your body flips into a fight or flight response without your permission at times when it just doesn't make sense.

Trauma-focused therapy is something where a trained therapist helps you directly face your fear either in real life or in your imagination. And they've shown that it can heal trauma, but we didn't understand how it worked. Researchers at the University of Texas figured it out. Trauma-focused psychotherapy creates changes in brain connectivity by weakening the connection between the areas of the brain responsible for emotions and the areas responsible for logic and thinking. The researchers said that this restructuring of brain communication might be a unique signature of PTSD recovery.

What does this mean for you? Well, it means that if you know that you had some traumatic experiences or if you react to things in a way that doesn't make sense that you don't like, you might want to explore whether trauma played a role in it and understand that trauma therapy in all of its different flavors, many of which you've learned about on the show, has legitimacy and it has a way to change how you behave and how you show up in the world. I've done a lot of my own work on trauma and it's been transformative. Every time you waste electrons on trauma, it means you're not using those electrons to live longer or do something that matters for yourself or others.

Source: <https://www.sciencedaily.com/releases/2021/01/210127093223.htm>

Cool Fact #5

The next cool fact is about MDMA, also known as ecstasy, and its connection to PTSD symptoms. If you're a longtime listener, you heard when I interviewed the founder of MAPS, Rick Doblin. MAPS is the Multidisciplinary Association for Psychedelic Studies. It is a nonprofit group that is doing the most legal work in order to allow scientists and researchers to study MDMA specifically for trauma. New research that they funded shows that MDMA drastically improved symptoms of PTSD in people who have had it for several years. It was a trial that had 90 participants working with therapists for 18 weeks. And people in the study had three eight-hour long sessions where they took MDMA and combined it with talk therapy.

At the end of the trial, 67% of the participants who took MDMA had improved so much they no longer qualified as having PTSD. We don't understand how the drug changes the brain, but some imaging studies suggest that MDMA dampens activity in your amygdala, which is the brain structure involved in fear and some other things, some of which are good for you. Other results from my studies hint that MDMA may open a window of heightened social learning. And that's a scenario that may strengthen the relationship between the patient and the therapist. So there's more trust.

PTSD is considered a medical disorder that you suffer from for life. That is not how it works, but that's what medicine still thinks today. You go back 25 years, they thought the brain couldn't change at all and neuroplasticity was a myth. So we're breaking these notions and these assumptions every single day with research like this. Typically, if you have PTSD, you're going to get a prescription for Zoloft or Paxil. And those don't work for 40% to 60% of people. This trial paved the way for a powerful treatment and potential cure for a debilitating condition that really people think is untreatable even though it is.

Source: <https://www.sciencenews.org/article/mdma-ecstasy-ptsd-symptoms-psychedelic-psychology>